

military and commercial, and the latter as for external and for internal commerce. In such a classification the primary object of the road was kept in view, as of course military roads could be used for commercial purposes. Thus the grand trunk road from Lahore to Peshawur is designated under the military class, because, the army being massed along that line, its primary object was for military convenience; it is, however, an important highway of commerce. In reference to roads most important in a military point of view, the following occurs in one of the recent Punjaub blue-books:—"The construction of the grand trunk road from the Beas to Lahore, and the earthen and masonry viaducts crossing the drainage courses of the Baree Doab, have been completed. A straight line of road has been carried from Umritsir to the new cantonment of Sealkote, which is further connected with the Peshawur road by a branch road to Wuzeerabad. The military and commercial roads from Lahore to Mooltan, and from Lahore to Ferozepore, have been opened. An important military line, passing through a very mountainous and rugged track, from Attock to Kalabagh, *via* Rawul Pindiee, has also been opened, to connect the frontier force stations with the northern cantonments of the regular army. The difficult road leading through the Kohat passes into the Peshawur valley has also been improved."

Lines of road for the external commerce of the Punjaub were planned and put in progress by Sir Henry, and in some cases completed by Sir John, who, as Mr. John Lawrence, assisted his brother in the commission of the "country of the five rivers." Two great lines were planned by Sir Henry—one to connect Dera Ismail Khan with Lahore, and another to start from the same point, and to run across the Scinde Saugor Doab, and thence across the Baree Doab to Ullohur, to meet the Delhi road, the internal lines carrying the traffic down to Mooltan. The importance of these lines will be obvious, from a consideration of the commercial position of the Punjaub, which is a thoroughfare through which the commerce of Central Asia passes to the plains of India, and to Scinde and Bombay. The caravans which travel from Ghuznee to Delhi (which were once the rival and the sister capitals of the Mohammedan empire) were forced to follow a very difficult as well as circuitous route. Emerging near Dera Ismail Khan from the Submanee passes, they winded their weary way to Mooltan, through the wastes of the Scinde Saugor Doab, and then turned northward to Lahore, thence proceeding to Ferozepore or Loodiana,

or else they traversed Bhawalpore and other independent territories from Mooltan, paying heavy transit duties. The plans of Sir Henry Lawrence and his officers met these difficulties, and opened up feasible ways for the "external commerce" of the country. The "internal communications" of the territory whose affairs they so judiciously administered, were also provided for by those two gifted brothers. Their plans comprehended the connection of Mooltan with Jhelum by a line along the bank of the river of that name and Wuzeerabad, and Sealkote by a line along the banks of the Chenab, passing by Jhung. These were the first improvements, and they were followed well up by others.

In territory such as the Punjaub, making roads is not the only matter to be considered when planning lines of communication. Wells and other accommodation for travellers have been provided along these commercial lines. Without them, the roads would be useless. There are scarcely any important lines which do not, during part of their course, traverse arid and desolate tracts. Literally a fleet of ferry-boats were built, to facilitate the passage of the rivers, and, with a prompt and ready forethought, mooring chains and anchors were provided to prevent accidents. These ferry-boats bridged the rivers in winter by the assistance of these chains and anchors, while in the summer they bore passengers across for a small toll. Iron pontoon bridges were recommended by the commissioners as applicable, not only to the Punjaub, but to India generally; but the home government, upon consideration, did not approve of the extensive adoption of these media of passage.

It would be unjust in a popular history which comprehends the men and the measures of our times, not to notice the names of the persons to whose talents the detail of the stupendous undertakings in the Punjaub are to be attributed, and in some cases the original suggestions. The commissioners have themselves made the following handsome acknowledgment of the services of the officers by whose assistance and personal superintendence so many important works were brought to a happy termination:—"For the energetic and able manner in which these important works have been executed, as well as for the zealous co-operation in all engineering and military questions, the board are indebted to Lieutenant-colonel Napier, who has spared neither time, health, nor convenience, in the duties entrusted to him. For these valuable services the board cannot too warmly express their thanks. Colonel Napier has brought to the favourable notice of the

board the zealous assistance he has derived from his assistants generally, and especially the valuable services of Lieutenant Taylor, in charge of the Lahore and Peshawur road; Lieutenant Dyas, in charge of the great canal; Lieutenant Anderson, of the Madras engineers, who has examined the Mooltan canals; Major Longden, her majesty's 10th regiment, in charge of the Huslee Canal; the late Lieutenant Paton and Lieutenant Crofton, both of the engineers, and employed on the new canal; and Lieutenant Oliphant, of the engineers, in charge of a division of the Peshawur road; and Lieutenant Lamb, 18th native infantry."

Looking at the general operations throughout India during the last ten years, in the completion of good roads for caravans and wheeled carriages, the results are truly wonderful; and the programme of operations of a similar nature, intended for immediate commencement, had not the mutiny deranged for a time the plans of the directors, was such as deserved the gratitude of India and of England.

RAILWAYS.—This is a subject to which the attention of the English public is especially directed. It is impossible to place the progress of railways before our readers in a more condensed form than in the report of the directors themselves. It is, however, to be observed, that the railways of India are constructed by private capital; the land, and a guarantee for interest, are given by the company. Four thousand one hundred and fifty-eight miles of railway have been sanctioned, and measures are being taken for their construction by various companies, viz.:—

By the East Indian Railway Company—from Calcutta to Delhi, with branches from Burdwan to Raneegeunge, and from Mirzapore to Jubbulpore, 1400 miles.

By the Eastern Bengal Railway Company—from Calcutta to the Ganges at Koostree, near Pubnah (130 miles), being the first section of a line to Dacca, with a branch to Jessore; which, when completed, will form the basis of a system of railways for Eastern Bengal.

By the Madras Company—from Madras to the western coast at Bey pore, 430 miles; and from Madras, *vid* Cuddapah and Bellary, to meet a line from Bombay at or near the river Kistna, 310 miles.

By the Great Indian Peninsula Company—from Bombay to Callian, thirty-three miles, with extensions, north-east to Jubbulpore, to meet the line from Mirzapore, with a branch to Oomrawuttee and Nagpore, 818 miles,

and south-east, *vid* Poonah and Sholapore—to the Kistna River, to meet the line from Madras, 357 miles.

By the Scinde and Punjaub Company—from Kurrachee to a point in the Indus, at or near to Kotree, 120 miles; and from Mooltan to Lahore and Umritsir, in the Punjaub, 230 miles.

By the Bombay, Baroda, and Central India Company—from Bombay to Surat, Baroda, and Ahmedabad, 330 miles.

The estimated outlay required to complete the several lines sanctioned is £34,231,000; and the total amount of capital at present issued by the sanction of the East India Company is £22,814,000. In addition to this assistance by way of guarantee, the land for the railways (including compensation for all buildings thereon), and for their termini, has been given by government. The value of this may be estimated at more than £1,000,000 for the above extent of line. The lines in course of construction have been chosen for commercial quite as much as for military and political objects. In every case the existing channels of trade have been followed. The chief cotton-producing districts are provided with railway accommodation; and in some instances,—such as the railway which connects the great cotton-field of Berar with Bombay, and the railway through Surat and Gujerat,—the principal object is to develop the agricultural resources of those districts, and to bring their produce into communication with the sea. At present only a small section is open in each presidency, making about 400 miles in all; but 3600 more are being constructed almost simultaneously. The works for the trunk lines above described have been made suitable for locomotive engines, and are of a solid and permanent character, so that an uninterrupted communication will be maintained throughout the year. The mileage cost of the lines which have been completed has been:—*East Indian*—Calcutta to Raneegeunge, 121 miles (including double line to Burdwan, and terminal stations), about £12,000 per mile. *Madras*—Madras to Arcot, sixty-five miles, about £5500 per mile. The data in respect to the lines now open in the Bombay presidency, constructed by the Great Indian Peninsular Railway Company, are not sufficiently complete to enable the actual mileage cost to be ascertained.

It is, perhaps, premature to judge of the success of Indian railways as commercial undertakings; but the line from Calcutta to Raneegeunge is already realising a profit of nearly seven per cent., being two per cent. beyond the guaranteed rate of interest.

In addition to the lines specified above, the court have sanctioned the construction of one by the Calcutta and South Eastern Railway Company, from Calcutta to the Mutlah River, upon the same terms as to the provision of land, but without any guarantee of interest.

ELECTRIC TELEGRAPHS.—Even more important as a means of communication than railways, is the electric telegraph; the use of which, at the commencement of the late disturbances, may be said with scarcely any exaggeration to have saved our empire. Having already, in a wonderfully short space of time, connected the seats of the different governments by lines of telegraph upwards of three thousand miles in length, the government of India is now engaged in establishing additional lines of about the same extent, by which the most important places on the line of route will be brought into communication with each other. The lines established, and in course of construction, are:—

1st. From Calcutta, *via* Benares, Cawnpore, Agra, Meerut, Delhi, Umritsir, and Lahore, to Peshawur; with a branch to Lucknow.

2nd. From Bombay to Agra, *via* Indore and Gwalior.

3rd. From Bombay to Madras, *via* Sattara, Bellary, and Bangalore.

4th. From Bombay, along the coast, by Vingorla and Mangalore, to Cannanore.

5th. From Bangalore to Ootacamund and Mahableshwar.

6th. From Benares, through the centre of the peninsula, by Mirzapore, Jubbulpore, Nagpore, and Hyderabad, to Bellary.

7th. From Bombay, by Surat and Baroda, to Kurrachee.

8th. From Kurrachee, by Hyderabad (Scinde) and Mooltan, to Lahore.

9th. From Calcutta, by Dacca, Akyab, and Prome, to Pegu and Rangoon.

10th. From Calcutta to Madras, by the coast; and—

11th. From Madras, along the coast, by Pondicherry, Tranquebar, and Ramnad, to Ceylon.

The lines already established have cost, upon an average, about £50 per mile. Besides their inappreciable value to the government for political and military purposes, they are freely used by the mercantile community. Though the charges are very moderate, the revenue, in the first year of working the lines, exceeded the expenses, and since then the receipts have been steadily increasing.

During the sepoy rebellion, the utility of the electric telegraph was tested; its existence at that period was of more importance

than the presence in India of 10,000 additional soldiers.

HOSPITALS AND DISPENSARIES.—The government has done much to bring the instrumentalities of medical relief within reach of the people everywhere. The regulations in practice in reference to this provide an hospital or dispensary in every town where the inhabitants will bear a certain proportion of the expense.

LIBRARIES.—The establishment of public libraries in the provincial towns will appear to most Europeans as an effort to benefit the people in a manner they are not prepared to appreciate. This plan of extending civilization in India has been going forward for a considerable time, but, notwithstanding the sanguine opinions and more sanguine expectations of many of the friends of India, no great results have been procured.

In the return made to an order of the Honourable the House of Commons, dated the 7th of August, 1857, the budgets of public works in India for the years 1853-4, 1854-5, 1855-6, have been presented; also an estimate for 1856-7. This return embraces churches, public offices, jails, and miscellaneous buildings and works; embankments, roads and bridges, lighthouses, dockyards and harbours, inland navigation, irrigation works, railroads, charges for government officers, and for land supplied to the private companies working under government guarantee; electric telegraph, military, and certain unclassified works. The returns comprise the expenditure for Bengal, Madras, Bombay, the north-western provinces, the Punjab, and the Pegu and Straits settlements.

For the year 1856-7, the amounts authorised in statement No. 1, for public works in the departments of military, public, judicial, ecclesiastical, educational, revenue (general), revenue (irrigation), marine, political, were for Bengal—rupees—7,09,492; Madras, 21,55,233; Bombay, 6,70,047; the north-west provinces, 6,30,892; the Punjab, 7,32,644; the Straits settlements, 40,000; Pegu, 1,61,619; Tenasserim and Martaban provinces, 7,600; Hyderabad, 4,938: making a total expenditure of 51,18,665. This outlay was sanctioned by the government of India. Under statement No. 1 there is a budget of expenditure recommended to the court of directors exclusive of the foregoing, amounting to 17,54,849.

Statement No. 2, gives the expenditure on all works previously sanctioned, and on new sanctions by local governments, the amount of which is 1,64,34,334. Under statement

No. 2 for repairs the total is 52.08.257. The total amount authorised for the year 1856-7 was 2.20.15.420. Under orders of the 17th of October, 1856, all civil, military, and marine buildings intended exclusively for the use of the government and its establishments, and works not coming within the term works of public improvement, can be proceeded with without other limitation than that of the sanctioned estimates; but the expenditure on works of public improvement—such as works of irrigation, canals, roads, bridges, and harbours—is restricted to one crore of rupees, the sum allotted by the honourable the court of directors, for such works during the official year 1856-7. This sum has been divided among the several local governments and administrations in the following proportions:—To Bengal, twelve lacs; Madras, twenty-two lacs; Bombay and Scinde, fourteen lacs; the north-western provinces, fifteen lacs; the Punjaub, twenty-one lacs; Oude, five lacs; Pegu, four and a half lacs; Tenasserim and Martaban provinces, half a lac; Hyderabad, three lacs; Nagpore, two and a quarter lacs; Straits settlements three quarters of a lac. By this report, made from the India-house at the close of 1857, the most recent expenditure on public works is presented.

Under the head of public works certain expenditure is classed, which would seem more properly to be represented as bounty or encouragement to agriculture and commerce. Thus the growth of cotton has received the patronage of the company. In 1840 ten experienced cotton-planters from the United States were engaged to conduct certain experiments in the cultivation of the finer description of cotton. The climate proved unsuitable where most of the trials were made, but in parts of South-western India the experiments were successful, and a large cultivation of American cotton is now being conducted there. These districts are near the coast, and have roads. Measures are being taken to facilitate the transport of cotton from the places where its culture is most successfully carried on. The servants of the East India Company, especially their medical servants, have of late years given much attention to climatology, and more especially in its relation to vegetable productions, from which the cotton cultivation has derived much benefit. The East India Company, in 1849, offered a reward of 5000 rupees for an improved cotton-cleaning machine, and great efforts in the cleaning department have been made—an essential matter to the improvement of Indian cotton. The East India Company have also expended money upon the culture of such fibrous plants as might be made sources of profitable

commerce. The results of the experiments made in this department have surprised the company, and all interested in the enterprise.

In previous chapters notice was taken of the encouragement given by the government to the cultivation of tea; it is therefore unnecessary in this place to express more upon the subject, than that considerable hill tracts, suitable to its culture, have been set apart by the company in favour of the cultivators. The government has also thought it expedient to patronise the working of iron ore. This subject seems first to have seriously engaged the attention of the court of directors so recently as 1850; but in 1854 extensive inquiries and investigations were instituted, which issued in important results. In 1855 a report was made to the public-works department by Lieutenant-colonel Godwin, chief engineer of the lower provinces of Bengal, which was highly encouraging as to the prospects of iron mines being worked, and iron extensively manufactured, in India. In 1856 experiments were made, under the company's auspices, in the manufacture of superior iron with some success.

Of course a considerable outlay in connection with public works will, by the necessities of the country, be expended on barracks and jails. The latter appear to be admirably managed and conducted, especially in the Punjaub. The barrack department is probably worse conducted than any other. The European soldiers are frequently quartered in unhealthy situations, and the barrack accommodation afforded to them is inadequate; the late Sir Charles Napier, a friend of the soldier, repeatedly expressed his disapprobation, and even indignation, at this circumstance. The vast impulse which has been given to public works in India may be judged by the facts, that one hundred thousand tons of railway materials, and a million of sleepers, were landed at Bombay alone in 1856-7. In March and April, 1857, twenty thousand tons of castings for the Vedar Water-works were landed in that port. During the same time the imports of iron were represented by the Bombay papers to be seven thousand tons. In 1856 the great Indian Peninsula Railway imported thirteen thousand tons of iron. The *Queen Victoria* steamer was announced by a publication of Bombay, in April, 1857, as arriving with eighty tons of locomotives for the great Indian Peninsula Railway, and the Vedar Water-works.

The improvement and enlargement of docks and harbours claim some especial notice. Taken in connection with the recent efforts

for cultivating the lands lying seaward, more immediately those set apart for cotton culture, and the lines of road opened up from the great seaports into the interior, this subject assumes much importance. The development of internal communications, and external outlets, have in all civilized lands kept pace. This is not only true of countries possessing a good seaboard, but of such as, like the Punjab, are dependant upon a river navigation through other countries for communication with the sea: the remark is even applicable to nations that are completely inland, for their roads and river means of internal intercourse will always converge upon those points which are thoroughfares into neighbouring states. Bombay, notwithstanding its vastly increasing commerce and its important relative position, has been left deficient in docks or any similar provision. The number of square-rigged vessels that entered the Bombay port during the year 1855, was 311, besides 218 steamers, with an aggregate tonnage of 279,805. The trade of the port for 1854-5, is stated to have been 735,562½ tons, and to have increased in the following year to 912,140½ tons. For this large commerce no adequate accommodation has yet been provided. The officiating commissioner of customs for salt and opium gave the following evidence upon the cost of loading and unloading vessels in the port of Bombay:—"On making inquiries from the several merchants, I still experienced great difficulty in procuring the required information, as there is no uniform system or practice adopted by them. One firm, perhaps, contracts for boat hire alone; another contracts for the goods being discharged from the ship, and landed on the wharf; while another, perhaps, contracts for the removal of the goods from a ship to the depositing of them in the merchant's warehouses, including the cost of guarding them, &c. Petty pilferage and damage from wet during the monsoon, are among the casualties to which goods thus treated are said to be exposed. The petty pilferage is stated to have been proved, a few years since, to amount to 1,600,000 rupees."

The following testimony to the difficulties of transacting the enormously increasing business of the port, and the necessities for more suitable accommodation for shipping, was borne by one well competent to pronounce an opinion:—"The average expense of bringing goods from a ship's side and landing on the wharf, is one or two rupees per ton, and for

heavy machinery two rupees per ton; but the latter is now a losing rate, because the quantity to be landed exceeds the capabilities of the boats, and of room for their discharge, and boat-hire has risen 75 per cent. within the last six months. The collector of customs has found it necessary to threaten a withdrawal of their licenses from all boats above sixteen tons, on account of the large space they occupy alongside the wharf."*

The attention of the government has been directed to this state of things, and on the 17th of March, 1855, a committee was appointed to determine a locality for the docks. Out of this investigation proposals arose for two schemes, one of which has the sanction of government; the other is deemed by the commercial community the more feasible, although neither is generally considered at all adequate. The whole community of Bombay is alive to the necessity; and the government was giving its most earnest attention to the subject, when the breaking out of the mutiny stopped short the progress of improvements in so many respects. In the meantime, important publications are guiding and forming public opinion.†

On a former page a description was given of the port of Kurrachee, and its importance in relation to all North-western and Western India, and in its relation to the overland route. In connection with the schemes for the Scinde and Punjab Railway, and the improvement of the navigation of the Indus, this port is receiving such improvements as will develop all the advantages of its position. Although Calcutta possesses so many circumstances in its favour, especially in connection with the seat of government, even there it has been deemed requisite to improve the facilities afforded to commerce in the condition of the port. At Madras the unfavourable nature of the locality seems to bid defiance to any very decided improvement; but the enterprise which marks the proceedings of the board of works, inspires hope that something will be done to abate the dangers to which shipping, and passengers in landing, are now exposed. When harbours, docks, and wharves have partaken of the attention and outlay of the government, as roads, rivers, and irrigation have done, the prosperity of India will be much promoted.

* Bombay Quarterly Review.

† *Papers relating to a Project for Wet and Dry Docks in the Harbour of Bombay*, printed for Government at the Bombay Education Society's Press, 1856; *On Docks and Wharves for Bombay*; *Proceedings of the Bombay Mechanics' Institution*, session 1857.

but such are also made to the infantry. The cadets are passed through the cadet-office of the India-house, a department under the able direction of John Hollyer, Esq., and enter the seminary, where they study for two years, keeping four terms. The age of admission is from fourteen to eighteen, but gentlemen may be candidates for direct appointments up to the age of twenty-two. The cadets at Addiscombe pay the company £100 a year each for the expenses of their education and maintenance. The additional expenses of each student are hardly met by an addition of £50 per year. The course of study is admirable. The professors are men of the highest attainments, and "apt to teach." The examinations are conducted with impartiality, and the degree of attainment developed by them is truly astonishing. The author of this History has attended examinations, and inspected, with surprise and pleasure, the military drawings and modellings of fortifications exhibited, which displayed great ability and evidence of study on the part of the pupils. Generally, on these occasions, the chairman of the court of directors presides, and of late years the Archbishop of Canterbury has frequently addressed the students. Rewards are liberally bestowed. The Pollock medal and sword are prizes eagerly contended for; and the competition is keen, victory or defeat being almost always generously and nobly borne. The friends and relatives of the pupils, and a large concourse of privileged spectators, chiefly consisting of superior officers, or civil servants of the company, are present on these occasions. The presence of men of genius, of military or legislative renown, whose names are prominent in the history of our country, is a great stimulus to the efforts of the students, although it not unfrequently represses the energy of the more shy and nervous, who may, nevertheless, be among the most highly gifted. It is an affecting sight to witness a mere youth, clad in the simple uniform of the company's cadets, retiring from the place of examination, bearing swords, medals, and other badges of honour, amidst the generous cheers of his unsuccessful competitors, and the plaudits of an auditory comprising the most famous men of the day. The author has seen more than one fine youth, who had gone through his examinations with unflinching self-possession in the face of the crowd of honoured or titled persons before him, completely subdued by his emotions in the moment of success. Whatever objections may be made to these examinations in some respects, the advantages far more than compensate them, and the scenes presented on such

occasions are likely to live for ever in the memories of those young soldiers, and to prove, far off from their country, a stimulus to exertion and courage on the field of their future trials and glory. Distinguished officers of the company, whose names are known throughout all the nations of civilized man, and throughout every uncivilized nook of Southern and Central Asia, have declared to the author that they attributed to these occasions much of the stimulus which enkindled the passion for glory within them, and that these scenes remained vividly impressed upon their hearts amidst the labours, perils, and grave responsibilities of Indian warfare and Asiatic life. The most proficient students are nominated to the department of engineers, and, after having left Addiscombe, proceed to Chatham for a further course of study of one year, after which they proceed to India as officers of engineers. While at Chatham, however, they draw pay from the company. The second class of proficient are nominated to the artillery, and proceed, on leaving Addiscombe, direct to India. Such as do not succeed in attaining a position in either of the first two classes, or as do not choose the engineer or artillery services, are designated to the infantry. The number of students in May, 1858, was a hundred and fifty.

The general character of the officers of the East India Company's army has equalled, if it has not surpassed, that of the officers of any other. This will especially hold good of those who have been educated at Addiscombe.

The engineers have been probably the most intelligent body of officers the world has ever seen. They all know that upon real service depends promotion, honour, and emolument, and that these advantages are sure to follow good service. A large number of this class of officers are appointed ultimately to the civil service, where, as civil administrators and civil engineers, they can be of even more use—in time of peace, at all events—than in the military department. Accustomed at Addiscombe and Chatham to habits of study, and to regard military life from an intellectual and professional point of view, rather than from one merely social, they go forth to their duties earnest and thoughtful as well as brave soldiers, and hence much of the distinction to which they have attained both as soldiers and men of science, and the reputation they have won for their country and for the particular army in which they serve. It is impossible for any one to observe the class of young men who gain at Addiscombe the appointments to the engineer service, and not predicate of them future eminence, not only in the per-

sonal distinctions to be won, but the national services to be rendered.

The artillery of the East India Company has also attained a high character for efficiency in the field. Many of its officers have studied for the engineer department, but, from health failing them, domestic troubles, slip of memory under examination, some concession to the temptations so potent with the young, or change of purpose, they have entered the artillery service instead. During the various wars in the East, when the officers of the royal artillery have served with them, they have borne a high testimony to the superior skill and soldier-like deportment and spirit of the company's artillery officers. The following extract from a letter by Sir Charles Napier to an officer of the Bengal artillery, who wrote to him from Kumaon, on the borders of Nepaul, offering certain suggestions, will show the opinion which that celebrated officer entertained of the Indian artillery service:—

Simla, November 5th, 1846.

I approve much your report on the state of defences in Kumaon; and though Jhung Bahadoor has told my wife in London that he loves me more than any man living, still, as lovers sometimes quarrel, I should like to be prepared for him, and your suggestions shall be pressed on the attention of government.

What you say about the deficiency and frequent change of officers with the reserve companies of artillery is but too true. I did intend, had I been able, to reform the whole system; but I am of no use—no more power have I than a lance-corporal. I believe, however, I have succeeded in moving the head-quarters of your regiment into these provinces, either to Delhi or Meerut.

I think very highly of your officers generally, but especially of the young officers. When I have found fault, I have invariably traced it to the "system," and I have vainly represented this; but pray understand that in condemning the system of the Bengal army I always say this—that the artillery I believe to be, at this moment, the first in the world.

Notwithstanding the superior education and attainments of the company's officers, defects have crept into the military system of the company which need correction, and which no doubt conduced to the unfortunate sepoy revolt of 1857. Some of those evils depend upon the general management of the army; some upon the infantry regimental system; others upon the character of the men enlisted in the native armies: and all these causes combined operate unfavourably on the efficiency of the whole service. As to the general management of the army, the chief faults appear to be the great draft of officers from the military to the civil service: not that this in itself would prove an evil, if officers, in sufficient numbers for the proper discharge of regimental service, were appointed to supply the places of those withdrawn, although even then some inconvenience would ensue, as the

more intelligent and talented men are those drafted off to staff, civil, civil engineering, and political appointments. Out of this circumstance arises an incompetence on the part of regimental officers. The native officers become the instructors of their European superiors—superiors only in rank and the indomitable spirit which belongs to the British. The more intelligent officers—such as were best acquainted with the native languages—being so frequently withdrawn from regimental service, those who remained were less acquainted with the men, and with the character of the classes of natives from which the recruits were generally drawn; they were also less competent to form acquaintance with them from lingual deficiency and short residence in the country. In the Bengal army more particularly these causes operated—at all events, the relaxation of discipline was most marked in that, although, from the character of the soldiery, it required more careful attention than the armies of the other presidencies. The men were chiefly recruited in Oude, and in the upper provinces, and consisted of high caste Mohammedans and Brahmins. As a consequence, it was difficult to assign to them any duty the performance of which did not interfere with their caste; and they were far more afraid of infringing upon its obligations than upon those of the articles of war. Striking illustrations of the inconvenience of the high caste constitution of the native army, especially of Bengal, have occurred when operations at sea, or for the execution of which sea voyages were necessary, were required. On some occasions the Bengal regiments have landed in China half-starved, because the men would eat nothing cooked at sea, preferring to sustain themselves on bran and water. When, in 1858, a Bengal regiment landed in China, for service at Canton, they would not prepare their own quarters, because it was contrary to caste, and Chinese coolies had to be employed as their servants. Operations out of India were so distasteful to the native army of Bengal on this account, that there were generally symptoms of mutiny whenever they were ordered beyond the confines of India. When operating with the Bombay army in Scinde, their caste prejudices nearly created feuds between the two armies. The Bombay soldiers, being for the most part low caste men, performed various important labours assigned to them, which the Bengal soldiers considered *infra dignitate*; and not content with refusing to work themselves, they taunted the Bombay sepoys perpetually for doing so. Sometimes this had the effect of incensing the latter against their Bengal companions-in-arms, but in other

instances the Bombay men were made dissatisfied, and either grumbled as they pursued their work, which otherwise would have been cheerfully performed, or threw it up with a disposition to mutiny. In the Punjab similar indications were offered of the general bad spirit of the Bengal sepoys, and the chronic interference of caste prejudices with the performance of their soldierly duties. In Afghanistan the cold of the country during the winter rendered impossible those ablutions which form a part of the daily religious ceremonial of the Brahmin, and by neglecting which he considered himself deprived of caste, and deprived of it by the action of the government who sent him there. When the cold became intense, some of the officers, pitying the sufferings of men inured to a warm climate, gave sheepskin jackets to them. The necessities of the occasion constrained them to wear them, but they were filled with indignation at the officers who distributed them, although of their own bounty, and regarded the government as untrue to them for placing them in a condition which tempted them to wear the skin of dead animals, and so lose caste. When these troops came back from Afghanistan they were regarded with horror by their brother soldiers and co-religionists; among civilians as men without caste—worse spiritually and temporally than if they had never known caste—men who had refused to perish rather than violate their religion; and the people considered them like certain apostates described in the New Testament—"twice dead, plucked out by the roots." This circumstance spread more or less disaffection through the whole Bengal army, and the high caste men lived in perpetual apprehension of being ordered to some new field of enterprise, where caste must be sacrificed to military duty, or they themselves become victims to military rigour. Undoubtedly the terms upon which these men enlisted were that their caste should be respected. Whether it was expedient to take men on such terms or not, these were the conditions upon which they enlisted, and they were jealous to the last degree of any infringement of them. That the government, and particular officers more especially, were not considerate of this stern bond there can be no question. The greased cartridges alone proved that. Nothing can be better known than that the Mohammedan has a conscientious scruple against the flesh of swine, and that the flesh of kine is abhorrent to the Hindoo. The cartridges for the Minié rifles were greased with preparations of fat from both. As soon as the soldiers came to know the fact, they became, in their own conscience, justified in revolt against a

government which had betrayed them, violated its covenant, and inflicted upon them the greatest injury in their opinion possible—a deprivation of their ceremonial sanctity, their religious and social status, and their hope of a happy hereafter. The withdrawal of the cartridges, and the proclamations of the government, all came too late. The soldiery no longer believed in the government, and the severe means adopted to put down the first discontent fanned the flame of sedition. The imprisonment and severe treatment of the cavalry at Meerut in a cause which made them martyrs in the eyes of their fellow-soldiers precipitated an aggravated revolt. The whole course of procedure on the part of the officers of the government, civil and military, appeared to be infatuated. They were either unaware of the extent and depth of the high caste prejudice, or conscience, as one may call it, in reference to ceremonial uncleanness, or, knowingly, they adopted means most calculated to aggravate the passion which their provoking measures had excited. It was wrong to order high caste sepoys beyond Indian territory, where, in the nature of things, caste must be compromised. It was wrong to grease cartridges with cows' or pigs' fat, or in any other way wound prejudices or convictions which the government was pledged to respect. If it be said that the government was compelled to do these things by the necessities of the cases, the defence admits that the covenant ostensibly made with the high caste soldiers was *ab initio* improper; that such men were unsuited to the British Indian army; and that, however well they served in some instances, it was an error to employ them while a man could be obtained from any other quarter. Either such men ought not to have been recruited, or, having been recruited, faith should have been kept with them and their caste in all its inconveniences and its absurdities, and military incongruities should have been scrupulously and honourably respected.

Among the causes of inefficiency in the native army was that of too much confidence in native officers, whose sympathies were always with the high caste sepoys: and the Mohammedan officers were ever jealous of British ascendancy. Both to officers and men promotion has been extended too late in life. When the energies of men were gone, they were appointed to posts the duties of which they were not then able to discharge. There was too much respect for the seniority principle in the whole military administration of the company, and too much—perhaps unconsciously—of the bias of the aristocratic principle among our officers in the preference

for high castes evinced in the selection of the soldiery.

Some of the evils here stated were seen by the late Sir Charles Napier, and led to the resignation of his high officers in India. That general was very unsparing in his censures, as well as sometimes lavish in his encomiums, and much allowance must be made for his characteristic strength of expression when perusing his opinions. Sir Charles, in a letter to an artillery officer, thus expressed his opinion of the condition of the army, and the causes of whatever inefficiency he perceived in it:—"Delhi is the station where I should desire to see European battalions cantoned, but many say it is unhealthy. Men from all parts of Asia meet in Delhi, and some day or other much mischief will be hatched within those city walls, and no European troops at hand. We shall see. I have no confidence in the allegiance of your high caste mercenaries. I have seen a 'sweeper' show more bravery in battle than a Brahmin and a high-named Mussulman. A high caste man cannot be attached to a Christian government. There are many errors of system which a commander-in-chief sees, but cannot change. The governor-general takes two-thirds of the power which the commander-in-chief ought to exercise, and the military board takes the rest! I cannot change the character of this army, which is bad and faulty as regards the system of discipline, and therefore I resign. Many of the old officers of infantry have been habituated to a bad system, and get into a routine of neglect from which the devil himself could not drive them. Look at the nightly guards in the Bengal army—the sentries are alone, and all the rest go to bed! The whole Bombay army does not present such anomaly, and it arises from the 'system' being bad. Still there are several very excellent disciplinarians in the Bengal army—men who take a line for themselves. Look at Gilbert, at Wheeler, at Huish, and a score of others. In the regiment of artillery I myself know at least a dozen first-rate officers. The Bengal army has no want of good officers, but it has want of a better system of discipline; and as I cannot introduce one, coupled with other causes, I have resigned. Lord Ellenborough wisely abolished Lord Auckland's injudicious system of 'politicals.' Young officers commanding old ones, and war carried on without any plan! A happy-go-lucky mode, which ended in Cabul, and the same system revised by Lord D——." It would appear either that Sir Charles was not always consistent in practice with his opinion, or else he found the necessities of his situation strong enough to overrule them, for he is said

to have preferred military men to civilians for political, and even strictly civil, employments, when his own administrative functions gave him the opportunity of making selection. Mr. Thomas Campbell Robertson, late a member of the supreme council of India, and lieutenant-governor of the north-western provinces, declares that no person so largely used the power of appointing military officers for civil purposes as Sir Charles Napier himself. On this subject Mr. Robertson, with great show of reason, remarks:—"The practice of thus draining the army of its cleverest members has certainly been carried too far, but it was the encouragement afforded by the prospect of such advancement that made Malcolm and others what they were, by stimulating them to qualify themselves for the highest political offices. The evil, too, it must be remembered, is not one inherent in the system, but might at any time have been corrected by each successive governor-general, if he had perceived the mischief now alleged to have thence resulted. But, in truth, no Indian ruler, when he wants aid in the management of a newly-acquired territory, can resist the temptation to employ the fittest available person he can find; and this will generally be a military man, because the civil service has few hands to spare from the duties of the original settled provinces of our empire. No man in this way did the thing against which he wrote more than the late Sir Charles Napier, who not only drew military men from their regiments to act in civil capacities, but drove away six of the ablest civilians who were sent to his assistance in Scinde. The practice, if it be an evil, is only one of the many attendant on the too rapid growth of our empire; and it would probably be best corrected, not by debarring young military men from all hope of political promotion, and so preventing the development of much latent talent, but by rendering the command of a battalion so lucrative and attractive, as to induce the juniors to remain with their regiments, in the hope of attaining to that post. But it is not so much on the number as on the character and capacity of the English officers present with a sepoy battalion that its efficiency depends. In former times, when the attachment between them was at its height, the officers were, we believe, fewer in proportion to the men than they are now; but then they were almost all good colloquial linguists, or in the way of becoming so; and though somewhat wanting in the graces of European society, had obtained an insight into the social system of Asiatic life, such as their more accomplished successors seem to think it beneath them to

acquire. The sepoy officer of the present day, equal to his predecessor in courage and conduct in the field, and generally his superior in book knowledge, in manners, and perhaps in morals, falls far short of him in point of real acquaintance with those under his command. This defect, though in some degree imputable to the system which makes escape from his regiment the great object of every young officer's ambition, is still mainly attributable to the increased facilities of intercourse with England. Young men who are frequently refreshing their acquaintance with their mother country cannot settle down to India as their home in the same way as was done in the bygone days, ere steam was known, and a return to England was looked forward to as a remote and barely possible contingency. Tastes acquired in Europe do not readily conform to exclusively Asiatic pursuits: the native nautch is more than insipid when the opera lives in recent recollection; and thus there is no community, even of amusement, to bring the European and the native officers into something like social intercourse with each other. It is impossible here to conceal the fact that the increased number of our fair countrywomen in the East has probably made the separation between those classes wider than it was before. It is alleged, we know not with what truth,—but it is alleged by natives, that their best friends among European functionaries are lost to them from the moment of their marriage; and they generally impute the colder reception they meet with at any but business hours to the influence of the lady of the house.*

The gentleman last quoted, although an advocate of the East India Company, has conceded that laxity of discipline had inflicted injury upon the Bengal army, and admits the full force of the statement made on a previous page—that making the sepoy liable to serve beyond India was one of the most fruitful sources of disaffection in the native army, preparing the minds of the sepoys for being more speedily and intensely acted upon by the advent of the cartridge question. "In so far, therefore, as mere discipline is concerned, there, perhaps, is some truth in the assertion that the sepoy has been overleniently dealt with at times when there was a call for rigour; but, as regards his scruples of caste, it can only mean that the government have adhered to the conditions on which the high caste men have entered its service. One of the first of these stipulations is that of not being obliged to embark. When service beyond the sea was in prospect, volunteers were ever to be found for the duty. Certain

regiments, called 'general service battalions,' were raised, upon an understanding that they were to embark when required. Of late years it has been ordered that all recruits are to be enlisted on this understanding. This order practically excludes the relations of half the men in an old regiment—men who served as much in the hope of being able to push on their kinsfolk as to advance themselves. This order, therefore, savoured of bad faith, and must have tended to add strength to the distrust of our designs, which, however engendered, was, during this period, excited by the malevolence of the native and the extravagance of the European press, until at last 'the cartridge' appeared, with its alleged pigs' and cows' fat, to cement the union of the two classes of our subjects against us." It is worthy of remark that the issue of the greased cartridges was not the order of the East India Company, but of the crown. The company's officers, civil or military, would have known too well the certain effect of such a procedure to issue any such order. It emanated, like many other orders of late years, in the disposition to act irrespective of the company, or to overrule it, which has been shown by governors-general and the Board of Control. It will illustrate the spirit with which the board has ruled India to state the exercise of its patronage in reference to cadets. The appointments by the directors have been distributed among all ranks of the middle classes in England, more particularly among the sons of professional men; but the directors have ever kept in view, as the chief objects of their patronage, the sons of those who served India or served in India. The cadetships given by the board have been chiefly to the sons of *queen's* officers, clergymen, and of persons who could easily purchase into the queen's service. No one can be acquainted with the facts without being well aware that the influence of the imperial government, as distinguished from that of the company, has been injurious to the Indian army.

Major-general John Jacob, of the Bombay army, has published a series of tractates on the deficiencies of the Bengal army before the mutiny had destroyed it. These were entitled, *Tracts on the Native Army of India*. He affirmed that the Bengal army was without order; that its officers were incapable generally of enforcing it; and that their treatment of the men rendered discipline impossible. The general is so high an authority, that his exact words will no doubt be preferred by the reader:—"The officers of the Bengal army are formed exactly of the same materials as those of the other armies of India;

* *Political Prospects of British India.*

their native soldiers of material in its raw state perhaps somewhat better than that of the others; but from the hour he enters the service, the Bengal officer *is trained to sink the European, and adopt the Asiatic*. In the Bombay army the 'feeble Hindoo' becomes half European, and adopts the feelings and ideas of Europeans, as far as they refer to his position as a soldier, till they become his own. In Bengal the European becomes half Hindoo, and thus the commanding influence of superior energy and superior moral character (I deny any superiority of intellect) is in a great measure lost. This pervades the whole society in Bengal, but its effects are most glaringly apparent in the army. In the Bengal army there is a constant studying of the men's *castes*, which the EUROPEAN APPEARS TO THINK AS MUCH OF, AND TO ESTEEM AS HIGHLY, AS DO THE NATIVES THEMSELVES; and the sepoys, instead of looking on the European officers as superior beings, are compelled to consider them as bad Hindoos! Instead of being taught to pride themselves on their *soldiership* and discipline, the sepoys are trained to pride themselves on their absurdities of caste, and think that their power and value are best shown by refusing to obey any orders which they please to say do not accord with their religious prejudices. It is a grave mistake to suppose that religious feelings have any real influence on these occasions; it is a mistake, which would be ridiculous, if its consequences were not so serious; but it is certain that the Bengal sepoy is a stickler for his imaginary *rights of caste* for the *sake of increased power*; he knows well that government never intended any insult to his creed, however absurd it may be; but he knows that by crying out about his caste, he keeps power in his hands, saves himself from many of the hardships of the service, and makes his officers afraid of him. This is proved by what takes place in the other armies of India. In the army of Bombay, even a Purwarree may, and often does, rise to the rank of subadar by his own merit; in Bengal such a man would not even be admitted into the ranks, for fear of his contaminating those fine gentlemen, the Brahmins; yet in the Bombay army the Brahmin (father, brother, or son, may be, of him of Bengal) stands shoulder to shoulder in the ranks—nay, sleeps in the same tent with his Purwarree fellow-soldier, and dreams not of any objection to the arrangement! If this subject be mentioned to a Bombay Brahmin sepoy, as it is sometimes by *Bengal* officers, who are always asking the men about their caste, the ready answer is, 'What do I care; is he not a soldier of the state?' The reply speaks

volumes; and shows a state of affairs which the officers of the Bengal army *cannot conceive*. The system of promotion in the Bengal army is exactly in keeping with the principle of the immutability of caste. No individual merit can advance, no individual incapacity nor misconduct (unless actually criminal) can retard the promotion of the Bengal sepoy—seniority alone is considered. What is the consequence? The men, not feeling that their prospects of advancement in the service depend on the favourable opinions of their European officers, want the most powerful stimulus to good conduct. They are never disciplined (as I understand the word), are often mutinous, and never acquire the knowledge of their profession which may qualify them to hold commissions with advantage to the service. The Bengal native officers are always totally inefficient, and necessarily so under the present system, because they are chosen without any regard whatever to their fitness to hold commissions, and because they are almost always worn out with age before they receive them." This general statement of the inefficiency of the Bengal troops has been controverted by numerous officers of that army. Perhaps the keenest and most plausible of the general's opponents is Colonel Phipps, who has given some striking instances of the courage and discipline of Bengal regiments, not only in India, but in Egypt, the Punjaub, Afghanistan, &c. The colonel wrote early in September, 1857, declaring that 'only such regiments as were badly officered would revolt. It was not then known that the whole Bengal army was in mutiny, and the colonel evidently did not believe that the revolt had extended so widely as the news from India informed us. His statements, however, proved either that the Bengal army was badly commanded altogether, or that it had deteriorated since he was more conversant with it, for on his own showing events rather confirmed his opponent's allegations.

The opinion of General Jacob that no real alarm for their religion actuated the Brahminical and high Mussulman army of Bengal in revolting, but only a desire for power, is not borne out by the facts, nor the observation and testimony of those who were in the midst of the transactions themselves, and whose opportunities of knowing were the very best. Thus the late Mr. Colvin, the lieutenant-governor of the north-west provinces, in a letter dated 22nd May, after noticing his own address to the troops on parade at Agra, adds the following remarks:—"They all at the moment expressed their belief of my communications to them; and I have seen them

in a familiar way on several occasions since. They have undoubtedly been infected by a deep distrust of our purposes. The general scope of the notion by which they have been influenced may be expressed in the remarks of one of them, a Hindoo, Tewarree Brahmin, to the effect that men were created of different faiths; and that the notion attributed to us, of having but one religion, because we had now but one uninterrupted dominion throughout India, was a tyrannical and impious one."

Mr. F. H. Robinson, of the Bengal civil service, describes himself as having been obliged to communicate to an old retired officer of Gardiner's horse, and to a Mohammedan of rank, matters calculated to hurt their religious feelings, when he was startled by the manner in which his communication was received, indicating the loss of respect for the British authorities, and a sense of injury resulting from what was regarded as change of policy, and consequent breach of faith on the part of the government:—"I shall never forget the looks of mortification, anger, and, at first, of incredulity, with which this announcement was received by both, nor the bitter irony with which the old russuldar remarked, that no doubt the wisdom of the *new gentlemen (sahiblogue)*, so they designate the English) had shown them the folly and ignorance of the gentlemen of the old time, on whom it pleased God, nevertheless, to bestow the government of India." It may be true that a love of power was the main element in the high caste disposition to mutiny some years ago, but beginning to deceive others, Brahmins and Mussulmen seem to have at last deceived themselves, for undoubtedly the feeling of the revolvers has been made as plain as anything can be, and it is one of intense and desperate fanaticism. However Mohammedan princes, Brahminical priests, and all sorts of devotees, may have intensified or even created the feeling, it exists. The native press did much to call it forth, fulfilling the predictions of Sir Thomas Munro. But, whatever way accounted for, the sepoys became thoroughly convinced that their best interests for time and eternity were endangered by the zealotry of the English, and they therefore set their lives against fearful odds, revolting where there was no chance of success, and where destruction was so imminent, as to be, humanely speaking, certain. So far General Jacob is wrong, whatever may have been the circumstances which, in the constitution of the Bombay army, or of the Scinde horse, may have emboldened him to adopt the line of strong assertion upon which he has ventured. It is, however, more than probable that had the Bengal sepoys been dealt with *originally*

upon the plan which the general affirms to be the only wise one, no revolt would have ever taken place. General Jacob maintains that the paucity of officers in regiments in no way relaxed the discipline of the Bengal army. He even goes so far as to maintain that native subalterns are always better, and that if companies and troops were commanded by native officers, it would be an improvement, the staff of each regiment being Europeans. Whatever be the merits of that and other matters of detail, the following picture of the Bengal army, drawn by General Jacob years ago, accounts sufficiently for the mutiny, and proves the necessity of reconstituting the army of Bengal upon different principles:—"I repeat that the ordinary state of the Bengal army is such as must appear to an officer of the royal or of the Bombay army to be a state of *mutiny*. The men are *not* taught and trained instinctively to obey orders, and even the European officers are afraid of them. This is not wholly the fault of the regimental officers of Bengal. The evil is produced and perpetuated by the false ideas formed from the first moment a young officer enters the service in the school of errors, which the native army of Bengal is at present; and by the fatal effects of taking all power from regimental officers and concentrating it at army head-quarters, thus producing an artificial sameness of dull stagnation, instead of encouraging the natural uniformity of progressive improvement. In the Bombay army, on the contrary, the native officer is invaluable, and his authority is respected, though he be the lowest of the low in caste; because the practice in Bombay is for the European officers to make the Hindoos *soldiers*; instead of, as in Bengal, the sepoys making the European officers half Hindoos. There is more danger to our Indian empire from the state of the Bengal army, from the feeling which there exists between the native and the European, and thence spreads throughout the length and breadth of the land, than from all other causes combined. Let government look to this; it is a serious and most important truth. The commanding officer of a regiment, with increased power and respectability of position, would feel increased pride in the service; he would do his own duty and make all under him do theirs. At present he has so little power to do good, that in the Bengal army he too often becomes careless of doing evil. The prospects of all under him depending on their own individual merit, a healthy state of mutual support and assistance would soon be established, and no further complaints of the want of a cordial good feeling between the officers and men would

be heard. A discipline founded on mutual respect and advantage cannot fail of success. Without it no number of European officers would suffice to make decent soldiers of the sepoys of Bengal." These are indeed remarkable words, and as they were written long before the breaking out of the Bengal mutiny, they were the expression of no after-thought. It is astonishing how the authorities of the Bengal military service, the governor-general in council, and the directors at home can be indifferent to facts like these. It would, however, be absurd to throw the entire responsibility upon the directors, seeing that the Bengal system was petted by the representatives of her majesty in India—high caste sepoys were the vogue with high caste Europeans, and with none more than those whose duty it was most of all to correct these evils. The late Lord Hardinge had much to answer for in this respect; as governor-general of India, and subsequently as commander-in-chief of the forces in England, his opportunities of promoting amendments were great, and he saw and admitted all the evils. He was not, however, the man who, for the sake of the justice of a cause, would incur the odium of measures unwelcome to those in power; while for good or ill, he stood, with all the tenacity of an inveterate conservative, obstinately in the old ways. But he fell in with the general spirit of governors-general, whose motto has been always in things civil, and to a great extent in things military, "Assimilate with the practice in Bengal." That standard is not likely to be again held up for conformity, and it is yet too early to affirm what will be the new organization of the army of Bengal—perhaps of the army of all India. Dr. Buist, one of the most distinguished scholars and public men in Bombay, has made the following remarks upon this subject, which have been much noticed both in India and in England:—"We never can again have a military force in India in which we cannot confide, which we cannot bring ourselves to trust, or teach our enemies to fear. The extent to which our regular troops were in former days employed in police and escort duties was in the last degree injurious to discipline, while the very rigidity of the discipline and rigours of the forms required for a regular army, unfitted its components for those light and irregular duties where self-reliance, prompt and independent action, are so much more important than the formalities of the line, which not unfrequently stand in their way. The duties of defending our frontiers, of chastising our enemies, and of maintaining order and suppressing or detecting crime among the people, have no more

connexion with each other than this,—that in both cases physical force must be resorted to; in both cases men must have arms committed to their hands, with authority to use them. Yet, for all the great purposes of external defence, half the army until now entertained by us would have sufficed, had the deficiency been made up by police. For this last branch of service the native must always be fallen back upon. He may be made much more useful even than the European, and quite as safe. The sepoy mutiny could never have ripened into insurrection but for the acquaintance of the various corps with each other, the community of their feelings and interests, the identity of their discipline, and the frequency with which they had served together. A police corps is necessarily a local and an isolated thing. Were the ghaurangers to fly to arms, there is no reason whatever why any of the adjoining local corps should sympathize, co-operate with, or join them—very many reasons why it should be the opposite. The knowledge of the fact is quite sufficient to prevent a rising. Were it otherwise, we should just have lost the services of a single insubordinate body, which would be at once exterminated, and there at an end. With sufficient abundance of police corps there seems no difficulty whatever of our keeping India in perpetuity with an army exclusively English, or of maintaining English troops in reasonable good health, fit at all times for service, and without any inordinate amount of casualties, everywhere throughout the country." *

However much disposed to place confidence in the opinions of such a man as the editor of the *Overland Standard*, it is impossible to believe that any arrangements in respect to recruiting in England, or systems of European reliefs, can remove the necessity of trusting in a great measure to native troops. If the government enlist only such men as will serve without any stipulations as to caste, they will be found in sufficient numbers.

The high praise of low caste men written by Sir Charles Napier has been qualified by General Jacob, who admits that the raw material of the recruits from Oude and the north-western provinces is superior to that of which the Bombay army is composed. Colonel Phipps describes the Bombay regiments sent to Egypt as incapable of serving, because of their physical inferiority. The high commendations passed upon that army were not borne out in the revolt of 1857, for several regiments revolted when brought into temptation, so that the authorities could not venture to make very efficient use of that army

* Dr. Buist's *Overland Bombay Standard*.

until towards the close of the revolt. The Madras army, upon which the eccentric panegyrist passed no encomiums, bore the test better than that of Bombay.

In the future military system of India, all these circumstances must be taken into consideration. In the case of Madras it will be best to "let well alone," and, by leaving the constitution of that army untouched, it will be an instructive lesson to the sepoys in the other presidencies, and to the natives of India generally, showing them that there is no disposition on the part of the government either to needless retaliation or unreasonable distrust.

The Bombay army should be modified. It is easy to enlist recruits from the Beluchee, Huzzara, and Affghan hill frontiers, from the doabs of the Punjaub, and from Scinde. A few Rajpoots might also be employed, and also a few native Christians, provided they are not taken from the wretched half-caste Portuguese. In the Island of Ceylon recruits could be found, and, provided they were not taken from the Cingalese who inhabit the low country, but from the inhabitants of the higher inland regions, and especially the neighbourhood of the ancient capital, they would be found good soldiers. The Moormen of Ceylon, although bigoted Mohammedans, would also serve well as soldiers; but they are such a money-loving and trading race, that there would be no likelihood of their enlisting in any considerable numbers. Arabs might also be employed in Bombay.

The Bengal native army should be reorganized chiefly from Sikhs; a few Malays, Dyaks, Peguans, Arracanese, Martabanese, and even Siamese and Birmanese, might be numbered among them. Separate companies of these nationalities could be easily attached to the infantry battalions, and would make good soldiers; as cavalry they would be useless. The Bengal artillery might also receive recruits from some of these races. There is no deficiency of material for an army in Bengal composed of orientals who have soldierly qualities, and would be faithful. A better army could be organized from the heterogeneous materials here named than ever existed in the homogeneous high caste troops of the Bengal service. Considerable attention has been paid to the question whether our Cape Colony would not furnish suitable recruits. The Caffres certainly appear well adapted to the service; the Ceylon rifle regiment is composed of them. They perform garrison duty in that island admirably; and when they served in Madras they displayed spirit and soldierhood. An Indian journal of in-

fluence advocates this measure in the following forcible terms:—"The recent proposition to raise Caffre regiments for service in India is, without doubt, a most excellent one. The men of the Cape—brave, acute, and the best light infantry soldiers in the world—appear to us likely to supersede the untrustworthy sepoy to the greatest advantage. Their manner of warfare, their being equally at home in the dodging of bush or jungle-fighting, in which the keen sight and the unerring rifle decide the fate of the day, and in the deadly hand-to-hand struggle, in which personal strength and courage are of the greatest value; their sagacity, endurance, and habitude to the extremes of heat and cold,—all combine to render them the fitter for our purpose. The Caffre is a barbarian, it is true, but he is in that primitive state of barbarism in which mankind, together with the natural vices inseparable from a wild state, combine all the manly virtues; and we look upon him as far higher in the scale of humanity than the besotted and degraded Hindoo, sunk in effeminacy, cowardly and cruel as the tiger of his jungles, and clinging pertinaciously to the most horrible superstitions that were ever imposed upon the credulity of an ignorant nation by a designing priesthood. Think, too, of the moral effect which the introduction of this new race would produce throughout India;—a race as black as ebony, laughing to scorn the very name of caste (that bugbear of our government), and in all probability anointing their sinewy bodies with the fat of sacred bulls in front of the temples of Vishnu. The power of the natives of India has always lain in the fact of our depending upon native soldiers to garrison the country. Let every sepoy be disarmed and dismissed; let a native soldier become completely one of the things that were and are not, and we can do what we please without reference to caste or any foolery of that description. To effect this, the Caffre must be well treated, well fed, and well paid, but, above all, taught to consider himself far superior to the crouching slaves over whom he is to be the guard. But it will be urged, 'Suppose the Caffres mutiny; what then?' This is easily obviated: make the return to his own country, a wealthy and prosperous man, the clear prospect of the Caffre at the end of his term of service, and we warrant he will serve you faithfully. Avarice is one of their ruling passions; frugality a national characteristic. Give our savage auxiliary his fill of beef, together with a constant supply of tobacco for his pipe, and he is content. Of course they must be officered by Europeans, and reduced to a state of discipline; but this

is easy to effect. It is our province to point out the advantage of the measure, and the benefits to result from its adoption, not to enter into details as to how it is to be effected." *

The employment of Caffres, or any other aliens, in Madras would be impolitic after the loyalty evinced by the Madras army; and if the armies of the sister presidencies be well constituted, modified by the introduction of new elements, and aided by a sufficient force of Europeans, especially in Bengal, there can be nothing to fear from Madras, flanked as she will be by newly constituted armies on her eastern and western confines, skirted by the waters of the Bay of Bengal and the Arabian Sea, and the apex of her peninsula confronted by Ceylon, where a reserve of Caffre troops might always be held available. Independent of these grounds for rejecting apprehensions as to the future peace of Madras, the conduct of the army of that presidency during the revolt gives such promise of future loyalty as to deserve confidence. Officers of that army—men of high culture and extensive military experience—assured the author at the beginning of the great mutiny, that distrust pervaded the minds of officers who before had the most implicit confidence in their troops. The proportion of Mohammedans among the Madras sepoy, and the state of fanaticism in which the Mohammedan sepoys at that time appeared, very reasonably impaired the faith of these gentlemen in the fidelity of soldiers they had so long relied on. Events have shown that the organization of that force, and the relation of officers and men, have been such as to preserve the attachment of the troops to their commanders, and their fealty to the government. The following sketch of the spirit of that army was published in February, 1858, ostensibly by the Sheik Kirdawund, Madras army:—"From the 10th of May until the 10th of November, 1857, a period of upwards of six months, the Madras army passed through the terrible crisis which shipwrecked one army, and sorely tried, and in some measure overcame, the fidelity of another; and out of nearly fifty thousand of native troops not one man was punished for mutiny. On the contrary, wherever called upon to act against the mutineers, they did so faithfully and courageously. Nearly half the infantry regiments, and of the sappers and artillery, volunteered to cross the *kale pane* to act against the rebels, and the other half are ready to go there, or to China, Singapore, Birmah, or wherever else the necessities of the state require their services. Indeed, portions of the 12th, 38th, and 29th regiments are now

* *Bombay Telegraph and Courier.*

with the China force. The Straits settlements and China have been entirely confided to the safe keeping of Madras regiments, with only a wing of a European corps to aid them at Rangoon. The 17th and 27th, with native artillery and sappers, are by this time with Sir Colin at Oude, whilst the Madras Rifles are being pushed up towards the same destination. Nagpore, Rampree, Jubbulpore, and Hoosungabad, in Central India, have been saved by the 26th, 28th, 32nd, and 33rd regiments, nobly aided by the 4th light cavalry, to aid whom, and re-establish order round Saugor, &c., the 6th and 7th light cavalry regiments have been pushed forward in the height of the monsoon, and have by this time reached their destination. Nor is this all: to the eternal honour of the men be it recorded, that, although poor, from their frequent marches and changes of quarters, they repeatedly volunteered a day's pay for the assistance of 'their masters,' the 'sahibs' of Bengal. Whenever Bengal sepoys have been found in the bazaars or public thoroughfares of the presidency our men have instantly brought them before their officers or the civil power, and in several instances where Brahmins or religious fanatics have tampered with sepoys they have been denounced. . . . What is the cause of the coast army remaining so entirely faithful during a crisis which no one out of India, during the period it lasted, can ever appreciate or fully understand—when the empire was shaken to its foundations—when emissaries from Delhi, Lucknow, and every discontented chief throughout the length and breadth of the land, were entering our cities and cantonments, and preaching a crusade against the 'infidel Feringhee,' and promising rewards, titles, jagheers, &c., to all who should assist in the holy cause? It is a matter for deep reflection, and the conclusion to be arrived at cannot vary much from what I now attribute it to—viz., the strict discipline, coupled with the lowness of caste generally, among our Hindoo sepoys: I say Hindoo, for all Mohammedans in our army are alike. We have none of those distinctions so common in the irregulars before Delhi and in the Punjaub, where one Mussulman with great pleasure cuts the throat of another for a monthly consideration of twelve shillings! Affreedees, Persians, Affghans, Beloochees, and Pathans. Our Mussulmen, such as they are, in the infantry branch of the service are in the proportion of one in three, whilst in the Bengal army they number only one in seven. We have Syuds, Sheiks, Pathans—the two latter much mixed up now-a-days; and whilst this revolt is called a Mohammedan one, not one Mohammedan out of our twenty thousand

in the infantry, cavalry, and artillery, has shown a symptom of disaffection. I do not believe either that the Mohammedans of Bengal would, even if they could, have organized this conspiracy in the army. They were greatly in the minority, especially in the infantry, and they had but little influence at any time. The mischief lay with the Brahmins, and them only, until they had gained over the Mohammedans, Chuttees, and Sikhs, the latter, however, in very few numbers. In my own regiment we rejoiced in only one Brahmin (some few years ago), a Mr. Caseram Pandey, who was certainly the greatest black-guard in the corps, and enjoyed more knapsack drill than was good for him, I fear, for he was always going into hospital with pain in the chest! Since that time I find we have admitted another. With reference to the published returns of castes, I may mention that the figures under the head of 'Brahmins and Rajpoots' represent almost entirely the latter class of men in the Madras army. It has been stated repeatedly that each Bengal corps had from five to six hundred Brahmins and Chuttees in it. An average taken in three of the Bombay regiments is three hundred and fourteen; whilst two of the Madras corps number only forty-eight and twenty-eight of these castes respectively. Herein, then, lies the secret of our success; to this, principally, we are indebted for tranquillity. There never has been any undue respect paid to 'caste' in recruiting for our army; if Brahmins and Chuttees chose to enlist, they met with the same treatment as the Pariah, the Telinga, or the Tamiel sepoy; they have invariably given themselves airs, and, going on foreign service, have talked much about their caste, but my invariable practice was to take no notice of their absurd pretensions. . . . When on duty the men neglect the usual ablutions before a meal. Not so in Bengal; off comes not only belts but uniform, and in a state as nearly approaching to nakedness as possible, and generally far away from the guard, the meal is cooked by themselves, and disposed of. If the shadow of an officer or low caste man falls on their food, they throw it away! When I called on General Godwin, in Rangoon, a havildar of my corps came up to me, and reported that the general, seeing him lying down on his carpet in uniform (our invariable rule for orderlies), had asked him why he did not take off his regimentals, and make himself more comfortable! I simply asked, 'Well! what was your reply?' He said, 'I told the general I belonged to the Madras — regiment, that it was not our custom, and that I should be punished if seen by any of the officers.' To which he added, 'The

general bade me do as I liked.' When my corps was ordered to embark for —, the subadar-major was deputed by the men to inquire of me whether I was certain that good water was on board for their use, and they were perfectly satisfied when I assured them I had tasted it, and that it was much better than what they usually drank on the march. When we arrived at our destination a Bengal corps had to be embarked, and the men insisted on the captain's starting the water out of his tanks, and allowing them to refill them with their own immaculate hands! This was done: the ships were delayed for the purpose! The sepoys filled large casks, rolled them down to the boats upwards of a mile, when they were towed astern of the boats to the steamers, and put on board; but when the men, out at sea, came to drink this pure and undefiled element, great was their consternation to find it horribly brackish! The casks in transit had let in the salt water! During another trip on board the *Oriental*, our men, towards the end of the voyage, were served out water which was quite hot. They told me it made them sick unless they kept it in their tins until it became cold! I inquired, and sure enough it was so. The steam was condensed, and the supply barely kept up with the demand! I explained the matter to the sepoys, showing them, with the aid of a good-natured officer of the vessel, how fresh water was being made out of salt! They were thunderstruck, and declared the *hickmut* (invention) was worth going a voyage to see, and that there was no knowing where the English people's cleverness would end: it was their private opinion for some time after that we might, if we tried, dry up the sea. 'Allah only can tell.' The Madras troops, to a man, on the line of march, drink water from leathern bags. The high caste Bengalese would not condescend to wash their feet in it! Sir Charles Napier tells us that the Bengal sepoys are two inches taller than British soldiers of the line. What their average may be I know not, but I believe our corps are very much the same height as the line. We average from five feet seven inches to five feet eight inches in different regiments of which I possess size rolls; and some companies of sappers average only five feet six inches, and of these little fellows Lord Gough in China, Napier in Scinde, Godwin in Birmah, and, lastly and very recently, Outram in Persia, have formed the most gratifying opinion. Some of them are now in Oude, others with the Malwa field force, and I shall be surprised if they do not again win golden opinions from those they serve under. They are generally considered to be very low caste, but this is not quite

correct; there may be a sprinkling of Pariah cook-boys, but the generality of them differ in no way from the infantry, save in greater muscle, the result of their daily labour as sappers. So long ago as the first China war Lord Gough exclaimed, 'These Bengal volunteers give more trouble than all the rest of the army!' (in those days the fleet was carrying a large force, including five Madras native regiments). And why was this? Because their caste required that they should land, perform their ablutions, and then eat, whilst the rest could cook on board ship, and enjoy their fish curry there as much as if they were on land. In Birmah Madras sepoy were employed in draining forts; and one occasion Lieutenant W——, the executive engineer, begged me to come with him to set the men of my regiment at work, 'as he was afraid they might refuse him.' The work required was really that of scavengers—viz., clearing out a choked up culvert under the fort walls. The stench was fearful, but the work was as necessary for the health of the troops themselves as it was for that of the Europeans, and, with nothing worse than a wry face and much laughter, these fellows did the work in two days. I was greatly gratified to hear some time afterwards, from an officer of the Bengal engineers, that Lieutenant W—— had reported to him the good conduct of the sepoy, adding 'that they worked every bit as well as Europeans!' To make the Madras army still more efficient and attached to their officers but one thing is required—viz., the bestowal of greater powers on the commanding officers of corps, and less interference at head-quarters, to which may be added, perhaps, a small quantity of red tape! I will give only one instance of undue interference, which, if continued in, would ruin any native army. A Mohammedan sepoy was tried by a native court-martial, convicted, and sentenced to dismissal for gross insolence and insubordination in the orderly room. He was dismissed; the proceedings were quite formal,—approved and countersigned from head-quarters,—and the man was expelled the regiment. He happened some time afterwards to be at Bangalore, where the commander-in-chief was staying, and, I suppose, by perpetual annoyance and petitions to the gallant old soldier, he succeeded in creating a feeling of pity. However that may be, it resulted in an order for his restoration! He was restored, and a more ill-conditioned brute never handled a musket. Cunning enough to keep himself clear of further courts, he succeeded in ridiculing, with others, his commanding officer."

Whatever confidence may be placed in the

Madras army as it is, or in the Bombay army modified both as to its constitution and composition, it is evident that a considerably increased European force will be necessary for the occupation of Bengal and the north-west provinces, although much of the duty of these territories may be committed to Sikhs, Goorkhas, Beloochees, and that mixed class which may be so readily raised along the Scinde frontier and the country of the Indus. Amongst the various plans put forth as likely to prove effective, there has been none so feasible as that of sending European regiments by the overland route to Kurrachee, whence, by the steam flotilla on the Indus, or the new railway, they could proceed at once to Shikapore, Hyderabad, Lahore, Umritsir, Peshawur, and other posts in the north and north-west of India. Becoming there gradually acclimated, they could descend to the north-west provinces, and, by way of the lower provinces, to Calcutta, sailing thence for the Cape of Good Hope and other colonies, or returning home by the overland journey, having served *en route* at Madras, Ceylon, and Bombay. By this means regiments need not remain too long in India, which has been one of the chief objections to service there, not only because of the difficulty of furloughs from such distant parts, and the expense attending them, but also because long residence in the lower provinces produces disease, incapacitating the soldier for vigorous duty; frequently a few years' service in the lower provinces, or the capitals of Southern and Western India, destroys life, or leaves the seeds of disease or debility, which impair usefulness, if they do not abridge the term of existence. Formerly it would have been impossible to accomplish a scheme like this, but the railway system now in progress in India, and the completion of the line connecting the Mediterranean and the Red Sea, will render it perfectly practicable.

A very remarkable address was delivered at the United Service Institution in April, 1858, by Lieutenant-colonel Kennedy, of the royal engineers, on the influence of railways in India upon the efficiency of the army there, and the economy to the government of adopting a thorough system upon military grounds. If the statements of Colonel Kennedy be correct, then the future military system of India must depend upon the actual amount of railways intersecting the country, and the plan upon which they are constructed. The report of the colonel's address is of such deep interest to the subject of this chapter, and to the general direction of military affairs in our Indian empire, that it does not admit of being abbreviated, its details bear-

ing so directly upon the whole question discussed :—

“Taking the proportion of railways as existing in the United States of America for railways in India of 1 mile of railway to 112 square miles of country, which he considered was the lowest scale that should be applied to any inhabited country even where the general industry was limited to agriculture, if the railways were uniformly laid down in that proportion, the most distant points would be 60 miles from a railway. The proportion of railways in the United Kingdom was 1 mile to about $13\frac{1}{2}$ square miles, and would make the most distant points on the average about $6\frac{1}{2}$ miles from any railway. The population of America averaged 9 to the square mile; the population of India, 124 to the square mile; and of the United Kingdom, 226 to the square mile. The density of the population in India was 14 times greater than in America, and therefore as many times greater was the necessity for railways in India. According to the American scale, about 12,493 miles of railway were absolutely required for India. So urgent did the considerations of railway communication in India appear to him, both as regarded its industrial progress and military protection and defence, that on his return from that country in 1852, after having held the appointment of military secretary to the commander-in-chief, as well as that of consulting engineer to the supreme government in the railway department, he felt bound to address a report, dated the 15th of September, 1852, on the subject of railway to the home government of India, in which he fully explained the advantages of railway communication for military purposes, and stated that in India marching or campaigning in summer was out of the question, except at a fearful expense of life and health to European troops. It was shown in that report that a proper system of railways (while increasing the efficiency of the army) would enable a reduction to be made in the military establishment of India equal to £2,332,482 per annum. This would represent a capital of £58,312,000, if raised at 4 per cent., and if invested in railways, at an average cost of £6000 per mile, would furnish 9718 miles of railway. The report was sent by government to India, and circulated to the authorities there, and it was likewise laid before parliament. Had the principles therein urged been adopted with the energy exemplified in the United States of America, 2000 miles of railway per annum might have been opened during the last three years in India, which would have placed the authorities in a condition to deal effectually

with the mutiny of the Bengal army, if it would not have altogether prevented the occurrence of that mutiny. In 1857 the force of the British government in India was 246,872 men of all arms, of whom 42,500 were Europeans, and 204,372 natives, distributed at 228 stations, giving a ratio of native troops to European troops of nearly 5 to 1. By another return made to the House of Commons in April, 1852, the queen's and company's European troops amounted to 49,408 men, the company's native troops, including contingents, to 276,432 men, making a total of 325,840 men, and giving a ratio of above $5\frac{1}{2}$ natives to 1 European. The same return stated the military resources of native princes at 398,918 men, making the gross ratio of company's and native princes' troops to European troops $13\frac{1}{2}$ to 1. It likewise stated the European artillery at 7436 men, the company's native artillery at 9004 men, and native princes' artillery at 12,962 men, making the company's and native princes' artillery together compared to European artillery as 3 to 1. The European cavalry were stated at 4133 men, the company's native cavalry, including contingents, at 39,758 men, and the native princes' cavalry, at 68,303 men, making the ratio of company's and native princes' cavalry to European cavalry over 26 to 1. The average of four years showed that the annual military charges for the 325,840 men, not including buildings, amounted to £10,106,680. He assumed from the experience they had had that henceforth the native troops in the Indian army should not be allowed to exceed those of Europeans, but that they might be safely employed in equal numbers, the artillery, engineers, and sappers, however, being exclusively, or, at all events, chiefly European. Even under these arrangements the force, although secure, would not be as effective for occupation purposes as the larger proportion of natives would make it in consequence of the effects of climate on Europeans. With a proper system of railway intercourse the operations and strength of the army would be greatly increased, by enabling troops rapidly to penetrate every district, so that the most distant points of the country might be on the average only 60 miles from the nearest railway. This would require but six ordinary or three forced marches to reach any point from the railway, or base of all military operations in India—a base of extraordinary strength, from the rapidity with which every part of it could be furnished with the required amount of troops, provisions, and stores. About 12,000 miles of railway,

as before mentioned, would suffice on that scale, 6000 miles being main lines, along which the army might be assumed to be distributed at equal intervals in brigades. The length of those intervals would depend upon the aggregate strength of the army. The remaining 6000 miles would consist of second class lines, branching from the main lines of railway to provide communication throughout the local districts. On comparing the power of concentrating troops efficiently provided with provisions and military stores upon the most decisive point or points of India in the shortest time and at the smallest cost, with and without railways, he assumed that, in either case, the army of occupation should be posted in brigades of one European regiment, one native regiment, one squadron of European cavalry, one squadron of native cavalry, and a European field battery of artillery of four guns and two howitzers, at equal intervals, along the main lines of 6000 miles. It would require 48 days without railways to concentrate by marching a force of 53,000 men from an aggregate army of 325,840 men, which, composed as above, would cost annually £13,785,870, whereas an equal force could be concentrated by railway in 7 days from an aggregate army of only 100,000 men, costing only £6,214,530 per annum. Thus the 53,000 men could be brought to any one given point by railway in about one-seventh of the time, from an army under one-third of the strength, and costing under one-half of the amount, as compared with the assembly of a similar force at the same point from the larger army without railways. To assemble by marching 53,000 men from an equally distributed army of only 100,000 men would occupy nearly six months, instead of seven days by railway. The advantages of railway transport for troops in India over marching as regarded time in concentrating a field force were as 24 to 1; as regarded the economy of military establishments, over 2 to 1; as regarded the power of reducing the numerical force of the army, and consequently the number of Europeans, as 3 to 1. The advantages of railways as regarded the protection of Europeans from exposure to climate, the rapid and successful issue of every war or conflict, and the averting of those contingencies that produced war and disturbance, were beyond calculation. Equally striking results would attend the establishment of railways as regarded every other department of the government; and, above all, it would appear in the development of industry, trade, and commerce. He thought it was clear that without railways the army in India could not safely be reduced below its former numerical

establishment of about 325,000 men, and that of this gross number one-half, or 162,000, must be Europeans, the whole costing about £13,785,836 per annum, while with proper railway accommodation the gross force might be reduced to 100,000 men, the Europeans to 50,000 men, and the military charges to £6,214,530, and that this enormous reduction in men and money would be attended with a seven-fold rapidity in bringing together a field force of 50,000 men at any point, as compared with the power which the larger army would confer without railways. The reduction allowed, too, for the artillery and engineer corps being maintained on their former full numerical strength, converting what was previously composed of native soldiers in these arms into an equal number of Europeans. And it was clear that railways would admit of an improvement in the calibre of their field artillery, while they would facilitate incalculably the difficult process of bringing up siege-trains when required at any remote point. They would never then hear of generals being obliged to delay for weeks or months the operations of a campaign until a few heavy guns and stores were brought with infinite toil and cost to the front. He thought the question deserved the closest attention of every British and Indian statesman, and offered a solution of their principal Indian difficulties, past, present, and future. Even irrespective of the mutiny question, their Indian finances for the last four years had shown an average annual deficiency of revenue amounting to £1,676,333. The increased military expenditure of over £3,500,000 consequent upon the mutiny would thus bring the future annual deficiency of revenue to above £5,000,000 sterling, and this state of things must continue until a safe reduction could be made in the military force. The judicious construction of 12,000 miles of railway, which could be effected within seven years, without any cost to government, would admit of a reduction in the military force to the extent of over £7,500,000 sterling annually, thus turning, by means of railways, an annual deficiency in the revenues of India, considerably over £5,000,000 sterling, into an annual surplus of more than £2,000,000."

Another advantage of an extensive railway system in India, upon which Colonel Kennedy ought to have dwelt, is the frequent change of quarters to the troops which it would afford, and in that respect it would conduce even more to the health of the European soldier than by exempting them from long marches. Marching under the sun of India is not so detrimental to the health of the soldier as the colonel seems to think.

Other officers have made experiments which prove that, provided the soldier's head be properly protected, his clothing adapted to the climate, and his arms and accoutrements light, travelling in the daytime, and even when the sun is high in the heavens, is not so injurious as night marches. More frequent changes of quarters than at present are allowed or even possible, would be very salutary to the European troops, for the barrack accommodation is generally so bad as to be most injurious to them; and it would require a long time and a greater outlay than the funds at the company's disposal for military public works will allow, to provide healthy barrack accommodation at all the company's military stations. Sir William Napier writes of his brother Charles's opinion on this matter as follows:—

"When in Scinde he assailed the authorities with remonstrances; and himself planned and built the wing of a model barrack at Hyderabad, hoping thus to lead the government to an extension of his improvements. In vain; Lord Dalhousie forbade the completion of his superb barracks, and the materials collected for building the other wing remained to rot on the ground.

"When he became commander-in-chief in India he renewed his exertions to obtain good barracks, and again built model barracks, and laid down the true principles on which they should be constructed; again in vain! He was first thwarted, and then stopped, by Lord Dalhousie and the military board of India.

"When he returned to England, and while suffering under a mortal disease, even on the verge of death, he once more attempted to remedy the evils, and in his posthumous work, called *Indian Misgovernment*, sought to arouse public attention to the horrible system.

"That he was not tame or measured in his denunciation of '*the frightful barrack abomination*' will be understood from a few passages taken from many in his *Indian Misgovernment*:—

"'The barrack sacrifices soldiers' lives and happiness to a fallacious, dishonest economy.

"'I charge the court of directors, the military board of Calcutta, the government of Bombay, with shameful negligence of the soldier's safety; and with good warrant, because they disregarded my representations when a high position and great experience gave a title to attention.

"'The Colaba barracks and king's barracks at Bombay have destroyed whole regiments. I walked through the men's sleeping rooms there—upon planks laid in water, covering

the floors! At the Colaba barracks the soldiers die like rotten sheep under the nose of the council.

"'In the Bengal presidency the barracks are extremely bad; but more pernicious still is the number of men crammed into them; losses by battle sink to nothing, compared with those inflicted by improperly constructed barracks and the *jamming* of soldiers—no other word is sufficiently expressive.

"'Long experience and consultations with men of science, medical men, and engineer officers, have taught me that every barrack-room should in hot climates allow at least *one thousand cubic feet* of atmospheric air for each person sleeping in a room. This is the minimum; with less, insufferable heat and a putrid atmosphere prevail—death is the result. The soldiers rise at night feverish, or in profuse perspiration, to sleep out on the ground amid damp exhalations. To do so when heated by an overcrowded room is death. Some may escape, or merely lose health, but to escape is the exception—the rule is death!

"'This inhuman drain upon life, health, and the public treasury constantly goes on. It kills more soldiers than the climate, more than hard drinking, and one half of the last springs from the discomfort—the despair caused by bad barracks.'

The above burning words have been too recently given to the world for very much effect to have been produced by them upon those whom they were designed to influence. Until the whole barrack system of India is remedied, the best relief to the soldier is frequent change, and this can only be effected by the extension of the railway system. But, however improved the sites and accommodation of barracks, the climate of most portions of India renders it desirable for the health of the English soldier, that he should not be for any long time subjected to its influence. The railway system will enable the government to remove invalids to the cooler districts, where they may retire for short intervals to recruit their exhausted strength.

One of the chief deficiencies in the military administration of India is the imperfect provisions of martial law. These are inadequate to the good discipline of the army, and, in case of extensive revolt or popular insurrection, their inadequacy is still more striking. During the revolt of 1857-8 Lord Canning, the governor-general, was much censured in England for not more promptly applying martial law to the disturbed districts, and for not relying more upon its power to suppress or prevent insurgency. These critiques were answered by his excellency with much point

and justice, and in a manner which displays more completely the defects of the military system in this respect than would a lengthened statement and minute analysis of the laws bearing upon the subject. The governor-general's defence, based upon the imperfection of the system, was as follows:—

"But in truth measures of a far more stringent and effective character than the establishment of martial law were taken for the suppression of mutiny and rebellion.

"Martial law, in the ordinary acceptation of the phrase, is no law at all, or, as it has been described, the will of the general. But martial law in India is proclaimed under special regulations, applicable only to the regulation provinces in the three presidencies, whereby the government is empowered to suspend either wholly or partially the functions of the ordinary criminal courts, to establish martial law, and also to direct the immediate trial by courts-martial of all subjects who are taken—(1) in arms in open hostility to the British government; or (2) in the act of opposing by force of arms the authority of the same; or (3) in the actual commission of any overt act of rebellion against the state; or (4) in the act of openly aiding and abetting the enemies of the British government.

"Neither the effect of martial law, nor the mode in which courts-martial are to be constituted under the regulation has ever been defined. But it seems clear that courts-martial cannot be composed of any but military officers, for there is nothing in the regulation to show that courts-martial as therein described can be otherwise constituted.

"Moreover, it should be borne in mind that in Bengal, beyond the limits of the jurisdiction of the supreme court, there was no regulation which provided for the punishment of treason or rebellion, and that the Mohammedan law, which, in the absence of express regulation, constitutes the criminal law of the country, does not provide any specific punishment for such crimes. Regulation X. of 1804 rendered a person guilty of treason or rebellion liable to the punishment of death only in the event of his conviction before a court-martial; and even a court-martial under that regulation had no power to try for treason or rebellion unless the offender was taken in arms in open hostility to the British government, or in the act of opposing by force of arms the authority of the same, or in the actual commission of an overt act of rebellion.

"The power of trial by court-martial did not extend to persons guilty of rebellion

unless taken in the actual commission of an overt act.

"Under these circumstances the government might have been much embarrassed had Indian martial law alone been relied upon; and seeing that the number of military officers at the disposal of the government was in many parts of the country wholly insufficient for the summary trial of mutineers and rebels, the government of India took a course much more effectual than the establishment of martial law. Having, first by Act No. VIII. of 1857, strengthened the hands of officers by giving them greater powers for the assembling of courts-martial, and by making the proceedings of those courts more summary, the government adopted measures which should give them the services not only of their own military and civil officers, but of independent English gentlemen not connected with the East India Company—indigo planters and other persons of intelligence and influence."

MARINE FORCE.

The East India Company maintains an independent navy, which is placed under the direct control of the government of India. The force attached to the chief presidency is not so important as that connected with the western presidency. The navy of Bengal is very limited, and is engaged in the eastern Archipelago and on the coasts of China. The acting officers have no commissions, and neither officers nor men are subject to the mutiny act or the articles of war. The Bombay navy is of considerable power, comprising fifty-three steam and sailing vessels, manned by 4286 European and native men. The cadets must not be under sixteen nor over eighteen years of age. The patronage is in the hands of the directors. The Bombay navy has been chiefly employed in the suppression of piracy in the Arabian Sea, and the Persian Gulf. It has of late years been principally occupied in surveying those waters, and several of the officers have greatly distinguished themselves by their attainments and performances in that department. The government of India does not regulate this marine, although its power is placed at the disposal of the governor-general. Correspondence is maintained by the navy with the government of India with reference to repairs, provided the expense does not exceed ten thousand rupees. In all other respects, such as ship-building, docks, steam factories, &c., the correspondence is with the directors. During former wars with China the Indian navy was greatly distinguished.

CHAPTER XVIII

THE IMPORTANCE OF A KNOWLEDGE OF THE LANGUAGES OF INDIA BY GOVERNMENT OFFICERS—COMMUNICATIONS BETWEEN ENGLAND AND INDIA.

THE experience of the past history of our empire in India and the East shows that the importance of this subject has been greatly underrated. During the war with China, in 1857-8, the correspondents of the London press repeatedly testified that one of the greatest embarrassments consisted in the small number of persons, civil or military, at Lord Elgin's disposal, who were acquainted with the language. But for the missionaries, this deficiency would have proved a still greater difficulty both in the war of 1857, and in previous wars. During operations in Birmah, in all our differences with that power, the same impediment was felt; and although officers like Major-general Havelock, conversant with oriental tongues, were attached to all the expeditions, they could not always be spared from their posts in moments when, either for military or civil purposes, in some emergency, it was desirable to make their skill as linguists available. In the transactions of peace no less than in those of war the same inconvenience has been felt; and it is now generally admitted, that whatever amendments are made in the government or administration of India, civil or military, more attention must be paid on the part of the company's officers to the qualification of an extensive and accurate knowledge of the languages of our Eastern empire, and of contiguous countries, according to the particular official designation of these officers. In the arrangements made by Mr. Macaulay for the examinations for the civil service, there was an obvious eagerness to provide extra chances for the students of Oxford and Cambridge. The studies so disproportionately pursued at the universities—and so injuriously to the public usefulness of the pupils—were selected as superior tests of general proficiency, and of fitness for service in India. The study of the languages with which the young official ought to be conversant, to hold intercourse with the people of India, is held in a lower place in the examination than that of the dead languages of ancient Europe. An Indian civilian lately deplored the ignorance of oriental languages now so prevalent in India, and the tendency to perpetuate this ignorance by the present mode of examining for the civil service, in the following terms:—"In former times there were always (among the civilians particularly) a few eminent men who had acquired a

thorough knowledge of the spoken dialects, who were familiar with the ancient literature and the various systems of religion of the country, and who had studied the national and religious prejudices of the natives in the very sources from which they flowed. These men—and we mention at random the names of Sir William Jones, Colebrooke, Macnaghten, Wilson, Sleeman, Mill—were respected and trusted by the natives, and they formed a kind of channel through which a knowledge of the real state of the feeling of the country with regard to any measure of importance could be obtained. The presence of any one of these men at Delhi or Lucknow would have been worth a regiment,—nay, many regiments. During the last twenty years, however, the prosecution of oriental studies has been systematically discouraged. A fond hope was entertained that English would soon become the general language of India, and an impression got abroad that the time given to the study of Arabic and Sanscrit and Hindostanee was sheer waste. At how much a knowledge of the languages of India was valued may be seen by the regulations now in force with regard to the examination of candidates for the Indian civil service. In the first examination a candidate may gain 375 marks by Sanscrit and Arabic. He may gain as many marks by Italian. In the second examination (which has simply been dropped without any bill of indemnity being asked for) a candidate may gain 200 marks by one of the vernacular languages. He may gain 1000 marks by law, 400 by political economy, 400 by the history of India. These facts speak for themselves."

In the very highest department of government a knowledge of both the old and modern tongues of India would be useful. The philosophy of a language gives an insight to the heart of the people by whom it is used, and this is essential to the statesman upon whom the responsibility of their government devolves. Sir Charles Trevelyan says—"I know from my Indian experience that a knowledge of the native languages is an indispensable preliminary to understanding and taking an interest in native races, as well as to acquiring their goodwill and gaining influence over them. Without it officers charged with important public affairs, feeling themselves at the mercy of a class of interpreters whose moral character is often of a very question-

able kind, live in a state of chronic irritation with the natives, which is extremely adverse both to the satisfactory transaction of business and to the still more important object of giving to the people of the country a just impression of the character and intentions of our nation."

Long before the outbreak of the rebellion in India a gentleman, pointing out the dangerous neglect of the study of oriental languages, of Sanscrit in particular, wrote :— " A crisis in the social, moral, and religious state of India may not be far distant, and it will depend on the position which the Europeans scattered over that immense country may be able to take in controlling and directing that movement whether it is to lead to violent concussions or to a healthy regeneration. It is difficult to prove mathematically how so small a matter as the study of Sanscrit could have any bearing on the solution of such mighty problems; and those who look upon it as a kind of lightning-rod, and point to the clouds rising on the political and social horizon of India, expose themselves to be treated as alarmists, who exaggerate the danger in order to raise the importance of the remedy which they recommend."

A man need not have been in India to see that in order to govern a people, and to gain the confidence and goodwill of a conquered race, it is necessary to know their language. At a meeting held in Willis's Rooms, on the Missions of India, Sir William Page Wood gave utterance to the same conviction :—" Much might be done by bringing the English and native minds as much as possible in contact. This was comparatively easy, for the government might require that no native should take an office unless he could speak the English tongue, and that no Englishman in turn should be placed in a position of authority unless he was well acquainted with the native languages. Great good must undoubtedly arise from such a regulation."

In all ranks of the civil department below the highest, there are perpetually recurring occasions for an exact knowledge, not only of the vernacular language in the district, but of that from which it is derived, and some of those to which it is cognate. The attention of the public has been drawn to this subject, and the proposal to establish a new oriental college has sprung out of this awakened interest, and at the same time reacted upon it. The government also seems influenced by the general movement of opinion, and evidence has been taken from many men of eminence and extensive infor-

mation on this class of subjects. Among the many channels into which the public discussion has flowed, is that of the value of Sanscrit, as the great parent of the languages of India, compared with its derivations, which are better known among the people. Sir C. E. Trevelyan has thus given his opinion upon this part of the controversy :—" Sanscrit is a key to the colloquial languages of India, and, what is of much greater importance, to the habits of thought, and the sources of the social, political, and religious institutions of the people; but this is only one part of the subject. The young men who have been selected for the civil service cannot be detained long in this country for the prosecution of professional studies; the elements of law have an equal claim upon their attention with the elements of the native languages; and the compact, symmetrical Sanscrit requires almost as close mental application as mathematics. The knowledge of that language which the young men would acquire in the limited time allotted to them would, therefore, rarely enable them to master its derivatives and command its literature; while by applying themselves in a direct manner to the vernacular languages (as young people learn Italian or Spanish without previously studying Latin) they might, with the invaluable aid of an European teacher, get through the drudgery of first principles, and prepare themselves to profit by the less systematic, but more idiomatic instruction of their moonshee and pandit on their arrival in India. The professorships which ought to be first established in the new oriental college, according to my view, are Hindostanee and Bengalee for Northern, Tamil and Telinga for Southern, and Maharatti and Gujeratti for Western India, to which Chinese, Sanscrit, Arabic, Persian, and Turkish might afterwards be added, under such arrangements as the council of the college might consider desirable."

In connection with the necessity of knowing the languages of the country for general civil purposes, the question of the especial necessity of such qualifications for those who officiate in courts of law is increasingly discussed. Mr. Nassau Lees, Principal of the Mohammedan College in Calcutta, gives the following account of an Indian court of law :—" While the junior civil servant should be balancing in his mind the evidence of the witnesses, his whole attention is engrossed in endeavouring to understand what is being said. Few who have not seen it can realize the idea of a Bengalee native court; the din, the hubbub, the discordance of the many voices, Bengalee, English, and Hindostanee, is truly astounding. On the one side are heard

the gentle tones of a mild Hindoo, pouring in soft suppliance his griefs, with accompanying promises, into the ear of some native *amlah*. On the other, the ear is assailed by the harshest language, often the most virulent abuse, banded between two witnesses, or lookers on, apparently in the last stage of a violent altercation; and to this is added the unnecessary vociferations of some dozen policemen, who rush, gesticulating violently, to the spot, to increase the confusion. But above all rises the shrill cry of 'Mercy company! mercy! The slave is dead! he is dead!' from some miserable wretch who has been unjustly cast in the amount of some thirty or forty rupees, to gratify the revengeful feelings of a countryman on better terms than himself with the *sri-rishtahdar*, or native head clerk, who not improbably will have disposed of his good offices for one half the sum in dispute. Meanwhile, behold the assistant, the head of the petty court. Besieged by witnesses, beset alike by plaintiffs, defendants, and court officials all speaking at once—addressed, perhaps, in three, if not in four, native tongues—he sits confounded—bewildered. In vain he essays to comprehend the cause of the uproar; of what is said around him he cannot understand a sentence. Fain would he explain or proclaim silence; he cannot speak a word. Oh, that an iambic would still the storm, a quotation from Goethe or Dante, an aphorism of Bacon's, an explanation of d'Alembert's *Principle*, or the definition of a differential co-efficient! But, alas! such things here are of little practical use. The clamour increases. The distress of the assistant augments; until at last, his court in the highest disorder, and unable to right it, he rushes in confusion from his seat, vowing never to return till he can understand something at least of what is said to him, and say a few sentences intelligibly in some oriental language."

The importance of the languages of India to military men is beyond calculation; the safety of a garrison may depend upon this qualification on the part of its officers. A military man, who served in India, thus expresses his opinion as to the duty of cadets being well instructed in the vernacular languages of India before being sent thither:—"After the cadets have been selected, they ought, *all of them*, to have at least one year's professional instruction at a military college." One of the reasons for this is—"To teach them the elements of the native languages, which can be learnt with greater facility and exactness from well-instructed European professors than from moonshees and pandits." And again—"It should not be left, as it is

at present, to the discretion of a young man whether he will pass in the native languages or not. The power of understanding his men and of rendering himself intelligible should be considered an indispensable qualification, and those who cannot or will not acquire the necessary accomplishment should be removed from the service. The office of regimental interpreter and the practice of interpreting at courts-martial should be abolished. Every officer should be presumed to understand the language of his soldiers."

THE FACILITIES OF COMMUNICATION WITH INDIA.

Facilities of communication between India and England are essential alike to the interests of commerce and the government. The British merchant desires to have a prompt and frequent transmission of information concerning the state of the markets, and such a rapid mode of conveyance between the two countries as will enable himself or his *employés* to visit India on occasions of emergency, or his agents there to come to England, when the transmission of intelligence is not sufficient for their mutual purposes.

The telegraph is of course the grand mode of conveying intelligence by summary; but notwithstanding the value of India to English commerce, and the exigencies of the government, no proper efforts have been made up to this date (May, 1858) to secure telegraphic lines from India to England. It has excited the astonishment of every government in Europe that England has neglected a matter so vital to her. The feeling of foreign governments and of British residents abroad was indicated in April, 1858, by the following letter to the *Times* from one of its foreign correspondents:—"It is of such vital importance to England that electric communication should be established between some point in Europe and Alexandria, that I must, at the risk of being considered an intolerable bore, again return to the subject. It is a matter of indifference whether the Austrians construct a submarine telegraph from Ragusa to Alexandria, or whether M. Bonelli lays down a wire between Malta and the last-mentioned city, but it appears to me that the representatives of the nation ought to take up the matter, and insist on her majesty's government coming to an immediate decision on the subject. No decisive step has yet been taken by England towards the realization of the plan for obtaining more speedy intelligence from India and China. The subject evidently occupies the attention of your Turin correspondent as much as it does mine, and his observation—that it might be good policy to

encourage both Austria and Sardinia to construct an electric telegraph to Alexandria—deserves attention. As was said in my letter of the 20th of February, Austria would be content if the British government would pledge itself to send despatches to the amount of £10,000 per annum, and the assurance has since been given me that, in fact, she requires little more from England than her 'moral assistance.' The last official communication made to the Austrian cabinet was, that England could not permit Austria to have telegraph stations either at Corfu or Zante. Are the gentlemen in the Red-tape and Sealing-wax Office aware that an Austrian post-office has been established at Corfu for a long series of years, and that a great part of the correspondence from the East passes through it? 'We so much require the telegraphic communication,' say the Austrians, 'that we shall not object to employ Englishmen as telegraphists in Corfu and Zante, if the British government should wish it. We are also ready and willing to lay down the two links—from Trieste to Corfu and Zante—in the great electric chain, at our own expense and risk.' The authorities in the department of commerce have authorized me to state that if the British government should persist in its resolution not to allow them to establish stations in Corfu and Zante, they will permit any respectable English company, which is willing to construct the telegraph, to have an establishment at Trieste. The Turkish government is about to open a telegraphic communication with Greece, and that kingdom has already announced its intention to lay down a wire to Zante as soon as that island is brought into connection with Corfu and Trieste. It is worthy of mention that the director of the submarine telegraph office at Malta is a German; the principal clerk is a Dutchman, the second clerk an Ionian, and the fourth member of the establishment is either a Frenchman or an Italian."

For the transmission of mails provision has been recently made, which are great improvements upon the past condition of affairs in this matter. Weekly communication with India by post has been opened up through the Peninsula and Oriental Packet Company, *via* Gibraltar, Malta, and Alexandria.

The long voyage round the Cape of Good Hope in sailing transports injured the health of the troops, who were seldom allowed such accommodation as even a proper consideration of their necessities would have conceded. This route is still used, but powerful steamers are employed, which greatly reduce the time expended in transport.

The overland route by Suez was first

adopted during the great revolt, when the government, with apparent reluctance, yielded to the pressure of public opinion, and negotiated with the Porte for permission to traverse the dominions of the Egyptian vice-royalty. A railroad has been at last completed across the isthmus; and should an electric telegraph cable be carried to India, both the speedy transmission of intelligence and orders, and the quick transit of reinforcements and *matériel* of war can be easily effected. Since the adoption of the overland route to India, the improvement in Egypt has been such as to impress profoundly the people and government of that country with the advantages of closer connection with England, and of becoming more imbued with the ideas and aspirations of English civilization. Decaying cities have become regenerated, a highway has appeared in the desert, the springs of industry and commerce have begun to act, and Egypt bids fair to become the ally of England, and the partaker of her material prosperity as well as the promoter of her renown.

Both the English and foreign public are, however, agitating other projects of great magnitude. One of these has for its champion M. de Lesseps, and is patronized by the French government. The public of France, and of a considerable portion of the continent of Europe, also favour this scheme; nor are there wanting English merchants and capitalists ready to engage in the undertaking. M. Thouvenel, the representative of the French emperor at the court of the sultan, made a formal application at the Porte for a firman permitting and encouraging the undertaking, which, in the spring of 1858, was definitively refused, the English Foreign-office having used all its influence against the application of M. Thouvenel. The scheme of M. de Lesseps is a ship canal across the Isthmus of Suez, ninety miles in length.* According to M. de Lesseps, this canal would answer the purposes of commerce and of travel, and can be executed and maintained profitably.† A sort of congress of engineers from various countries was brought together on the spot, and a report was drawn up in favour of the project, the elaboration and arrangement of which is indebted to the distinguished talents of Charles Manby, Esq., of the London Institution of Civil Engineers, a man singularly

* *New Facts and Figures relative to the Isthmus of Suez Canal.* Edited by Ferdinand de Lesseps. With a Reply to the *Edinburgh Review*. By Barthelemy St. Hilaire, Member of the Institute of France.

† *Parcément de l'Isthme de Suez—Rapport et Projet de la Commission Internationale.* Paris, Henry Plow, 1856.

well qualified for such an undertaking. Notwithstanding this favourable report, British engineers of great experience and reputation have, however, declared the scheme impracticable, and among them the great Stephenson,* whose opinion weighs so much in England. The British government has uniformly opposed this plan, but not with that frankness and candour which became the importance of the subject; for at first the government pleaded that, the scheme being impracticable, it was a duty to save English capitalists from a ruinous speculation, but, when closely pressed, the chief minister, Lord Palmerston, in his place in parliament, avowed that the opening of a ship canal across the Isthmus of Suez would give France, as a Mediterranean power, too much influence in the East, and enable her, under certain contingencies, to thwart the views of England, and possibly to endanger her hold upon her Indian empire. The Earl of Derby's government, in 1858, opposed the scheme upon the same grounds as those urged by Lord Palmerston; and it was alleged that the Emperor Napoleon III. admitted that England was justified in receiving the scheme with national jealousy, although it would appear that, if such were his majesty's opinion, it did not interfere with his patronage of it, nor with the eagerness of his government to accomplish it, or see it accomplished. The determined refusal of the sultan to give his permission to make the canal extinguishes the project for the present; and unless French influence overpower that of England at Constantinople (at present not a probable event), the canalization of the Isthmus of Suez must be abandoned by France, however much she may believe it subservient to her political interests.

The other scheme of communication with India is by a railway from Seleucia to Bussorah, from the Mediterranean to the Persian Gulf. The length of the line is so differently estimated, that it is impossible to form an opinion unless well acquainted with the country, and the engineering facilities and difficulties it presents. Mr. Andrews, the

chairman of the Scinde Railway Company, who is the chief advocate of the enterprise, says that the distance is eight hundred miles. General Chesney, who knows the country better than any European (even than Mr. Andrews), states the distance from sea to sea to be six hundred and sixty miles. A French engineer, M. Jules Falkowski, whom Mr. Andrews quotes as giving an opinion in favour of the scheme, represents it as more than double the distance named by General Chesney! Such conflicting evidence on the part of persons so competent to pronounce an opinion baffles the judgment of the historian. This scheme is designated the "Euphrates Valley Railway." The objections taken against it are the great length of the line, the cost of its execution, and the improbability of its ever proving a line of traffic. These, however, are the objections raised against every enterprise of a similar nature by those interested in opposing it. The Turkish government favoured the plan, and guaranteed a dividend upon such capital as might be invested, but the financial condition of the Turkish government did not encourage capitalists to place sufficient confidence in its guarantee. That of the East India Company was desired to insure a thorough reliance, and the Board of Control is said to have pressed the directors to extend it. They, however, refused. The projectors of the plan required other guarantees, which practically amounted to the concession of a monopoly to their line. This circumstance shook the faith of those willing to speculate, as it implied that those who knew most of the circumstances under which the project would be carried out, did not dare to hope for success arising simply from its own adaptation to the ends proposed.*

Meanwhile the scheme of the Suez Canal is pursued with the uttermost zeal—a sort of passionate nationality seems to animate the French public.†

After all, it is likely that the completion of the railway across the isthmus, and the patronage of it by the English and Egyptian governments will decide this controversy, as well as bring India nearer to England.

* In Nolan's continuation of Hume and Smollett's *History of England*, written by the author of this work, and now publishing by James S. Virtue, City Road, London, the opinion of this eminent engineer, and his grounds for it, will be fully shown.

* *Memoirs on the Euphrates Valley Route to India.* By W. F. Andrews, F.R.G.S.

† *L'Isthme de Suez—Journal de l'Union des Deux Mers.* Paris.

CHAPTER XIX.

THE COMMERCE OF INDIA:—ANCIENT INTERCOURSE BETWEEN INDIA AND THE WEST.

ALTHOUGH the natural productions of the vast regions of our Eastern empire were detailed when, in foregoing chapters, these countries were described, and the adaptation of those productions to the purposes of trade, and the character of the local transactions of this nature, were sketched, it remains yet to take a general view of the commerce of our Indian empire. Certainly no topic can be more important to a great commercial nation than its relations in this respect to the richest of its dependencies. In the prospectus of our work the purpose was expressed of giving to this subject especial attention; and had it not formed so essential a part originally of the plan of these volumes, yet its exceeding importance, as well as the interest attached to it, would demand a careful notice.

In treating of the productions, religions, and literature of India, well authenticated resources supplied comprehensive and satisfactory details. For the elucidation of its early intercourse with the West there exist no such materials. India shares the common fate of nations, the illustrious as well as the obscure. Which of its many races first occupied it, and what master minds initiated its social systems, the gradual development of its singular institutions, the first glimmerings of its far remote civilization, are mythic subjects of bewildering speculation. The extravagant claims to an existence extending over thousands of years beyond the era of creation, with the kindred absurdities of the Chinese, Babylonian, and Phœnician chronology, are now fully exposed by the reflected light of modern scientific discoveries.

The fables that commingle with the transactions of an infant people have their value; and those writers who fastidiously reject them from the domain of history, inflict upon it an irreparable injury. Many phases in the political life of a nation would, without a knowledge of them, be totally incomprehensible. They illustrate the origin, manners, habits, religion, and history of a people whose early transactions possess no medium of transmission but the traditional. What Heeren remarks of Grecian history is of general application:—"Though it emanated from tradition, and supplied the bards with subjects of song for several centuries, it does not follow hence that early Grecian history was an invention because it was poetical. The subjects of history, as presented by Grecian tradition and sung by the bards, were only interwoven

with fictions, and so modelled as to gratify the national pride and adorn the popular religion."

Elphinstone, in his preliminary observations to his *History of India*, states:—"As the rudest nations are seldom destitute of some account of the transactions of their ancestors, it is a natural subject of surprise that the Hindoos should have attained to a high pitch of civilization without any work that at all approaches to the character of a history. The fragments which remain of the records of their transactions are so mixed with fable, and so distorted by a fictitious and extravagant system of chronology, as to render it hopeless to deduce from them any continued thread of authentic narrative."

The only history of any part of India he recognises is one of Cashmere, which, in his opinion, scarcely forms an exception. Sir John Stoddart (*Introduction to the Study of Universal History*) confirms this statement:—"Their (the Hindoos) writings are innumerable; but, alas! there is among them of works at all deserving the title historical, a perfect blank."

These statements, it would appear from other authorities, are but partially to be relied upon. Of published historical works India can lay claim to none, but the dearth of historical records is positively denied by Colonel Tod, who has given to the public a History of the Rajpoots, compiled from Indian manuscripts, which he found in the libraries of Indian princes; and he asserts that in these repositories many more works exist which would reward the researches of the learned; and that "the works of the native bards afford many valuable data in facts, incidents, religious opinions, and traits of manners." In the heroic history of Perthi-raf, by Chund, he adds:—"There occur many geographical as well as historical details in the description of his sovereign's wars, of which the bard was an eye-witness, having been his friend, his herald, and his ambassador, and finally discharged the melancholy office of accessory to his death, that he might save him from dishonour." The controversial records of the Jains are also repertoires of rich historical stores; and with these the colonel classes the records, works of mixed historical and geographical character, *rasahs*, or poetical legends of princes which are common, local paranas, religious comments and traditionary couplets, with authorities of less dubious character—

namely, inscriptions cut on rocks, coins, copper-plate grants, containing chapters of immunities, and expressing many singular features of civil government—constitute no despicable materials for the historian. The colonel concludes that the ancient records of the Hindoos are more complete than the early annals of the European states.

The philological labours of the German school,—Grimms, Bopp, Zeus, and several other eminent Teutonic scholars,—aided by the Irish, French, and a few noteworthy Britons, prosecutors of Celtic researches, have supplied abundant undeniable proofs of the close affinities which subsist between the Sanscrit, the sacred language of the Hindoos, and the languages of ancient Greece and Rome, as well as those of the Celtic, Teutonic, and Slavonic nations. These men have succeeded in placing the history of mankind in a more intelligible point of view, and possibly the study of Indian literature will enable us to evolve from its drapery of fiction the truths contained in the *rasahs* and *paranas*, to trace the remote history of India, and to reflect an ethnological as well as a philological light on the relations the varieties of the human family bear to one another, and supply an additional and powerful argument for connecting the origin of its inhabitants with that of the other parts of the globe.

Both Brahmins and Buddhists have numerous books. The Brahminical are extremely voluminous, and all written in the Sanscrit, which, from time immemorial, has ceased to be a spoken language. The prevalent opinion is that it was never fully known in India, except to the sacerdotal caste, and the alphabetic character in which it was written differed from all other alphabets. So rigidly did the Brahmins conceal their sacred books, that their existence was not known to European scholars till recently. Cœlius Rhodiginus, the teacher of the celebrated Scaliger, the contemporary of Henry VIII., asserts that letters were entirely unknown to the Indians. The sacred books are no longer sealed books; they abound in libraries, public and private, and several have been translated into English, and other modern languages, and many published. In all probability, the day is not far distant when the anticipations of that great oriental linguist, Professor Wilson, will be realized, and the texts of the Vedas themselves, despite the exclusive care with which they have been guarded from any but Brahminical perusal, and the difficulties in the way of interpretation, will be read with as much certainty as any other Sanscrit composition, and the adage, that Hindoo antiquities

can only be satisfactorily explored in India itself, which Heeren reiterates, shall become obsolete.

To whatever extent, and however valuable, may be the materials for the history of ancient India which exist in native archives, the historian of that interesting empire would at present in vain seek aid in that quarter. The earliest ray of light that flickers on its visible existence, is shed by the sacred text, and the knowledge to be there gleaned is very limited—indeed, merely conjectural. The river Euphrates, and the territories immediately to the east of its banks, were, to the comprehension of the Jews, “the ends of the earth.”*

The extensive caravan routes, to which the books of the Old Testament directly refer, pursued at an early period for the conveyance, from the East to the kingdoms of the West, of the rich manufactures of that opulent region seem to have been formed for the exportation of Indian produce. There are strong grounds for concluding, as Dr. Vincent has observed, that the embroidered work and the chests of rich apparel mentioned in the twenty-seventh chapter of Ezekiel,—pronounced by Michaëlis the most ancient monument of mercantile history,—as brought from Haran, Canneh, and other towns on the Euphrates, were not manufactured on the confines of that stream, but in all probability imported from the more distant countries of Eastern Asia; and that the supplies, of which “precious cloths” constituted the staple, conveyed across Arabia by way of Dedan and Idumea, were likewise a branch of Indian commerce. The ingenious author of the *Ruins of Palmyra*, on the sixteenth verse of the chapter just referred to,—“Syria was thy merchant by reason of the multitude of the wares of thy making; they occupied in the fairs with emeralds, purple, and brodered work, and fine linen, and coral, and agate,”—supposes that it was the East Indian trade which so enriched that city, and he imagines that this was at least as ancient as the time of Solomon. Tyre, therefore, it is suggested, might have had these commodities conveyed to it in the time of the prophet Ezekiel through Palmyra, and Syria might have been its merchant for them. To the monopoly of this trade there are many considerations for attributing the power, unrivalled in extent, wealth, and degree, which Tyre early acquired, and which made the “merchants of Tyre princes, and her traffickers the honourable of the earth,”† and herself “the mart of nations.”‡

The proximity of that great emporium of the earth, Tyre, “whose antiquity,” the pro-

* Heeren's *Historical Researches*.

† Isaiah xxiii. 8

‡ Ibid. xxiii. 3.

3 A

phet Isaiah informs us, "is of ancient days,"* for a lengthened period gave no impulse to the national enterprise of the Jews, nor affected that isolation which the characteristics of its policy had imposed. In the reigns of David and his son Solomon, tempted by the extraordinary prosperity of their neighbours, and encouraged, probably, by the friendship of King Hiram, and the recent acquisition by David of a tract of Edom,† and the ports Elloth and Eziongeber on the Red Sea, they equipped a fleet, which, under the pilotage of the Phœnicians, reached Tarshish and Ophir. The situation of these ports has been at all times a puzzle to the biblical commentators, and to writers on geography. Dean Prideaux, and many other respectable authorities, agree that the trade carried on under Solomon, is the same as that which is now in the hands of our East Indian merchants. Some suppose Ophir to be the Island of Ceylon. This supposition is thus far confirmed, that an ancient author, Eupolemus, states Ophir to be an island. On the other hand, the authors of the *Universal History* deem it the most probable conjecture that Ophir was in one of those remote rich countries of India beyond the Ganges, and perhaps as far as China or Japan, which last still abounds with the finest gold, and with several other commodities, in which Solomon's fleet dealt. A claim in favour of Sumatra has been made by Mr. Macdonald, who says, "It is more than probable that Sumatra must have been the Ophir of Solomon's time. This conjecture receives no small force from the word *ophir* being really a Malay noun of a compound sense, signifying a mountain containing gold. The natives have no oral or written tradition on the subject, except that the island has in former times afforded gold for exportation; whether to the eastward or westward remains an uncertainty."‡ Dr. Robertson, in reply to these and similar pretensions, asserts that "they (Tarshish and Ophir) were early supposed to be situated in some part of India, and the Jews were held to be one of the nations which traded with that country. But the opinion more general adopted is, that Solomon's fleets, after passing the Straits of Babelmandel, held their course along the south-west coast of Africa as far as the kingdom of Sofala—a country celebrated for its rich mines of gold and silver, from which it has been denominated the golden Sofala, by oriental writers, and abounding in all the other articles which composed the cargoes of the Jewish ships. This opinion, which the accurate researches of M. d'Anville render highly probable, seems now to be established

with the utmost certainty by a late learned traveller, who, by his knowledge of the monsoons in the Arabian Gulf, and his attention to the ancient mode of navigation, both in that sea and along the African coast, has not only accounted for the extraordinary length of time which the fleets of Solomon took in going and returning, but has shown, from circumstances mentioned concerning the voyage, that it was not made to any place in India.* The Jews, then, we may conclude, have no title to be reckoned among the nations which carried on intercourse with India by sea; and if, from deference to the statements of some respectable authors, their claims were to be admitted, we know with certainty that the commercial effort, which they made in the reign of Solomon, was merely a transient one, and that they quickly returned to their former seclusion from the rest of mankind."† The name has very recently been traced to a city in Oman. Not fewer than sixteen countries have been claimed as sites for Ophir. Of all these conjectures, that which seems most founded on probability, and is corroborated by the authority of the *Bible Cyclopædia*,‡ is that of Dr. Huet, Bishop of Avranches, who is of opinion that it was on the eastern coast of Africa, and termed by the Arabians Zanguebar; that the name Ophir was more particularly given to the small country of Sofala on the same coast; that Solomon's fleet went out from the Red Sea, and, doubling Cape Guardafui, coasted along Africa to Sofala, where was found in abundance whatever was brought to the Hebrew monarch by this voyage. After all this laboured and learned speculation, the precise situation of Ophir, it is to be apprehended, must ever remain a mere conjecture.

The admirable location of the Mediterranean Sea, watering countries the most fertile, the theatres of the earliest civilization stretching far inward, and all but land-bound, with a comparatively small outlet to the ocean, it was natural that those who dwelt upon its shores should be the first to hazard the perils of the deep, to master the navigation of their own waters, and ultimately command the commerce of three continents. Noting in their night adventures the star-lit paths which steered them clear of shoals, hidden rocks, and precipitous banks, they became as familiar with the heavenly orbs, as did the Chaldean shepherds, and thus nursed the kindred sciences, astronomy and navigation, cultivating them to the highest state of

* Bruce's *Travels in the East*, b. II. chap. iv.

† Robertson's *Historical Disquisition concerning Ancient India*.

‡ Vol. ii. p. 967, article *Ophir*.

* Isaiah xxiii. 7.

† 2 Samuel viii. 14.

‡ *Asiatic Journal*.

perfection possible, without the aid of modern instruments, preparing for those astounding discoveries of later times, the noblest achievements of the human intellect.

On the southern shores of that sea—washed on the east by the Red Sea, and connected with Asia by the narrow neck of land called the Isthmus of Suez, confined on each side by vast regions of barren sand, scarcely inhabited or habitable, and doomed to perpetual sterility and desolation—flourished Egypt, “the land of marvels,” blessed with a luxuriant soil and a mild climate, producing the necessities and comforts of life in such profusion, that several moderns as well as ancient historians have hazarded the bold assertion, that its inhabitants were independent of the productions of other countries, and, in fact, that among them it became a maxim of policy to repudiate all intercourse with foreigners, to hold all seafaring men in abhorrence, and to exclude all strangers from their ports. These statements are endorsed by the historian Dr. Robertson, and he draws from them another conclusion—that the alleged conquests of the Egyptian monarch Sesostris were inventions of the Egyptian priests, and from that source obtained by Herodotus and Diodorus Siculus. The doctor thus states his case:—“Credulity and scepticism are two opposite extremes into which men are apt to run in examining the events which are said to have happened in the earlier ages of antiquity. Without incurring any suspicion of a propensity to the latter of these, I may be allowed to entertain doubts concerning the expedition of Sesostris into India, and his conquest of that country.—1. Few facts in ancient history seem to be better established than that of the early aversion of the Egyptians to a seafaring life. Even the power of despotism cannot at once change the ideas and manners of a nation, especially when they have been confirmed by long habit, and rendered sacred by the sanction of religion. That Sesostris, in the course of a few years, should have so entirely overcome the prejudices of a superstitious people, as to be able to fit out four hundred ships of force in the Arabian Gulf, besides another fleet which he had in the Mediterranean, appears to be extremely improbable. Armaments of such magnitude would require the utmost efforts of a great and long-established power.—2. It is remarkable that Herodotus, who inquired with the most persevering diligence into the history of Egypt, and who received all the information concerning it which the priests of Memphis, Heliopolis, and Thebes, could communicate, although he relates the history of Sesostris at some length, does not mention his conquest of India. That tale, it is probable,

was invented in the period between the age of Herodotus and that of Diodorus Siculus, from whom we receive a particular detail of the Indian expedition of Sesostris. His account rests entirely upon the authority of the Egyptian priests; and Diodorus himself not only gives it as his general opinion ‘that many things which they related flowed rather from a desire to promote the honour of their country than from attention to truth,’ but takes particular notice that the Egyptian priests, as well as the Greek writers, differ widely from each other in the accounts which they give of the actions of Sesostris.—3. Though Diodorus asserts that, in relating the history of Sesostris, he had studied to select what appeared to him most probable, and most agreeable to the monuments of that monarch still remaining in Egypt, he has admitted into his narrative many marvellous circumstances which render the whole extremely suspicious.”* He then proceeds to quote some of these suspicious circumstances, in corroboration of his author’s veracity.

The authority of such a man as the eminent historian of Charles V. and of America, will always be deservedly held in great respect in the republic of letters, and if he thought the subject of such gravity as to challenge his investigation, a further prosecution of that inquiry may be tolerated. Indeed, the question is one of sufficient historical importance, for its affirmative solution will establish the earliest direct documentary evidence of the exercise of Western domination in India, and identify a point of view from which the foreign relations, military as well as commercial, of ancient Egypt may be considered.

Then, as to the first objection. Had the Egyptians such an aversion to seafaring life as to preclude them from all naval pursuits? The Egyptian records and monuments state that thirty dynasties, some consecutive, many contemporaneous, possessed kingly power, extending from the reign of Ménès, B.C. 2717, to the conquest by Alexander the Great, B.C. 230. The name of Sesostris has been found in hieroglyphics in the Ramesseum of El Kurneh†, and in hieratic characters in the royal Turin papyrus.‡ Whatever prejudices may have existed amongst the Egyptians to the cultivation of commercial relations, they certainly did not prevail at every period of its history. The first mention in holy writ of Egypt is in connexion with foreign commerce,—and that in the

* Robertson’s *Researches*, p. 5.

† Lepsius, *Denkmäler*.

‡ *Commerce and Navigation of the Ancients*, vol. ii. p. 262.

products of India :—" And, behold, a company of Ishmaelites came from Gilead with their camels bearing spicery, and balm, and myrrh, going to carry it down to Egypt."* Here, upon opening the oldest history in the world, at a period 1729 years B.C., we find, as Dr. Vincent remarks, the Ishmaelites conducting a caravan loaded with spices of India, the balsam and myrrh of Hadramant, and in the regular course of their traffic proceeding to Egypt for a market; and notwithstanding the antiquity of the transaction, it has all the genuine features of a caravan crossing the desert at the present hour. Hence the inference is obvious, that Egypt then had become what it is always recorded to have been—the centre of a most extensive commerce by land, and, through the agency of the camel, the "ship of the desert," as the Arab emphatically calls him. On some of the oldest monuments of Egypt are groups of foreigners, proving the then existing intercourse. On the rock inscriptions of Wadde-el-Magarah, in the peninsula of Sinai, Num-Shufu, or Saphis the first, is represented slaying a foreigner. This monarch is the Cheops to whom Herodotus ascribes the building of the great pyramid, he ruled over 2300 years before the Christian era. It is in his reign we find the first reliable contemporary monuments of which the dates are satisfactorily ascertained. The probability is that the earliest is the northern pyramid of Aboo-Seer. These monuments are exceedingly numerous, and, thanks to the persevering ingenuity of our contemporaries, who have supplied a key to the reading of the hieroglyphic inscriptions, afford us far better knowledge of the state of Egypt in those remote times, than is supplied by the scanty fragments of Manetho, Herodotus, and Diodorus Siculus. A tablet, which may be pronounced the most interesting of the Egyptian monuments, was discovered at Waldee Halfeh, in Nubia, near the second cataract, recording the triumph of Sesertesen I. over foreign tribes, probably Ethiopians. The Egyptians must at this early period (B.C. 2080) have extended their rule far into Nubia. Sesertesen, it is reasonable to suppose, is identical with the Sesostris of the Greeks. At or about this last-mentioned date Egypt became the prey of invaders, and the fifteenth dynasty was established. The Egyptians call them shepherds (*Penu* or Phœnicians). For several centuries—Africanus states 953 years—and through three dynasties, the shepherd kings ruled Egypt. Is it probable that the Phœnicians would abstain from commercial pursuits, and sur-

* Genesis xxxvii. 25.

render all the advantages derivable from naval enterprise? On the tomb of Elethyas, in the reign of Aahmes, the Amôs or Amôsis of Manetho, B.C. 1525, is a long inscription of one Aahmes, chief of the mariners, who served several of the early kings of the eighteenth dynasty. The inscription mentions a war at sea or on the river, and particularizes the famous shepherd city Avaris, and relates that the king made in his sixth year an expedition by water to Ethiopia, to impose tribute.* The immediate successors of the last-named monarch were as potent at least as he. The representations in the chambers of the great temple of Amen-ra-el-Karnak, at Thebes, show that Amenoph I. was successful in war against the Ethiopians, as well as against Asiatics. In the next reign the arms of Egypt were carried into Mesopotamia, and into Ethiopia also.† Tothmes III. penetrated as far as Nineveh; and Amenoph, the third in descent from him, has left a distinct record of the extent of his dominions,—that they had Neherena—Mesopotamia—for their northern, and Keluee or Kelue—probably Coloe—as their southern boundary.‡ That Syria, east of Europe, owned his sway, and a very great part of Ethiopia, is proved by monumental inscriptions: Eusebius, Manetho, and Syncellus (in his Catalogue of Egyptian kings), state that "the Ethiopians, migrating from the river Indus, came and dwelt near Egypt." The sculptures of a rock temple at Silsilis—Gebel-es-Silsaleh—commemorate a successful expedition against the negroes.§ The reign of Rameses II., B.C. 1200, was also signalized by foreign wars, furnishing an illustrious proof of the naval prowess of ancient Egypt. The most distinguished of these was, perhaps, that which he swayed against "the Kairetana of the Sea," and "the Tokaree," probably the Cretans and Carians, who, anterior to the Homeric period, are reported to have been great maritime powers, a fact strangely confirmed, and their decadence accounted for, by this chapter of Egyptian story. Over these combined fleets he achieved a signal victory. This sea fight forms the subject of one of the most remarkable battle scenes which adorn the great temple of Medeenat Haboo.||

There is no fact of remote antiquity better substantiated than that Egypt, by her many victories by land and sea, had subjected several maritime peoples on the Mediterranean,

* Champollion, *Lettres*, pp. 197, 198; and De Rougé, *Tombeau d'Aahmes*.

† Lepsius, *Denkmäler*.

‡ Rosellini, *Monumenti Storici*, No. XLIX.

§ Ibid., No. XLIV.

|| Ibid., No. CXXI.

and that all the countries lying on its eastern confines were reduced to obedience, or compelled to pay tribute to the Pharaohs.

Psammetichus, who possessed the throne B.C. 664, was on the most friendly terms with the Phœnicians and Greeks, and, in addition, encouraged them to trade with his subjects. His son, Pharaoh Neko, who succeeded him B.C. 610, and who, at Megiddo, defeated and slew Josiah, the King of Judah, although engaged in wars of great magnitude, did not neglect the commercial interests of his country. He either commenced the construction of a canal from the Nile to the Red Sea, or attempted to remove the obstructions to navigation in one previously cut. He also maintained a fleet in the Mediterranean and in the Red Sea, and to him, as Herodotus relates, is to be attributed the circumnavigation of Africa. Amases, the contemporary of Cyrus the Great and Croesus, B.C. 571, was enabled, by his powerful fleet, to subjugate Cyprus, and make it tributary.

The old traditions concerning the relations which existed between the Egyptians, Phœnicians, and Greeks, for a period of two thousand years, attributed to the inordinate vanity and reckless assumption of the historians of the last-mentioned people, and classed with their myths, are verified by the contemporary memorials, preserved by the granite tablets lately made legible, amid the ruin of dynasties, and the alternations of greatness and degradation. That the Egyptians had, centuries anterior to the Trojan war, established colonies, rests on stronger grounds than assertion; and from this, and similar instances elucidated by the labours of Belzoni, Champollion, Young, Wilkinson, and Layard, historians may learn that the traditions of a people, however obscure they may be rendered by poetical embellishments, are not to be rejected as entirely unworthy of consideration. A preserved tradition, like a preserved fossil fragment of an extinct animal, may, after the accumulation of a body of facts, lead the comparative historian, as well as the comparative anatomist, to the construction of a whole,—the verity of which may be fully established by the subsequent discovery of a scientific explorer, or by some lucky accident.

The settlement of Egyptian and Phœnician colonies in Greece may be now recognized as established facts. The period of these emigrations extended from the middle of the nineteenth to the close of the seventeenth century before Christ, during the sway of the shepherd kings—Phœnicians. That Cadmus, a Phœnician, introduced letters into illiterate Greece—that Hellenic art presents evident traces of Egyptian influence—that the earliest

specimens of Greek pottery are formed on Egyptian models, and rich in Egyptian designs—that ancient sages of Athens, Sparta, and other Hellenic localities sojourned in Egypt,—in the light of recent historical discoveries, cease to be looked upon as the dreams of early romancers. Were the ancient Egyptians strangers to the sea, how possibly could they have colonized Greece?

There are several instances of later date which might be adduced in proof of the inference advocated, but enough has been said to show,—however jealous the Egyptians may occasionally have been of strangers,—from the earliest times, long anterior to the Ptolemies—to whom the rise of their naval power has been attributed—they cultivated foreign traffic, admitted strangers to the interior, waged distant wars, and maintained large naval armaments.

The silence of Herodotus as to the conquest of India by Sesostris, on which Robertson so much relies, is not presumptive evidence of the falsity of the statement of Diodorus Siculus and others; nor does it follow, from the statement of Herodotus, that “he had inquired with the most persevering diligence into the ancient history of Egypt, and had received all the information concerning it which the priests of Memphis, Heliopolis, and Thebes, could communicate.” What the Greek historian mentions by no means confirms the general and positive deductions drawn from it. Here follows the passage from which this quotation is made:—“This relation,” referring to an absurd tale which he justly ridicules, “I had from the priests of Vulcan at Memphis. But the Greeks tell many other foolish things, &c. I heard other things also at Memphis in conversation with the priests of Vulcan, and on this very account I went also to Thebes, and to Heliopolis, in order to ascertain whether they would agree with the accounts given at Memphis; for the Heliopolitans are esteemed the most learned in history of all the Egyptians.” The narration which he gives of the expedition of Sesostris, seems to imply that the priests recorded the conquests of India among his exploits. “The priests said that he [Sesostris] was the first who, setting out in ships of war from the Arabian Gulf, subdued these nations that dwell by the Red Sea, until, sailing onwards, he arrived at a sea which was not navigable on account of the shoals; and afterwards, when he came back to Egypt, according to the reports of the priests, he assembled a large army, and marched through the continent, subduing every nation that he fell in with, and wherever he met with any who were valiant, and

who were very ardent in defence of their liberty, he erected columns in their territories, with inscriptions, declaring his own name and country, and how he had conquered them by his power; but when he subdued any cities without fighting, and easily, he made inscriptions on the columns in the same way as among the nations that had proved themselves valiant. Thus doing he traversed the continent, until, having crossed from Asia into Europe, to these (the Scythians and Thracians) the Egyptian army appears to me to have reached and no farther, for in their country the columns appear to have been erected, but nowhere beyond them." * The mention of the latter fact appears to be a justification for his scepticism as to the more extended conquests claimed for Sesostris. Further on he states, "This king then was the only Egyptian who ruled over Ethiopia"—a generic term, from Homer downwards, for all the swarthy nations of the East. Among the writers of Greece and Rome there is not a more painstaking historian than Diodorus Siculus: and though he wanted the higher qualities of an historian, his materials were selected with skill and assiduity; nor was he reckless as to the narratives which he extracted from the Egyptian records; he introduces his account of Sesostris in these words:—"But not only the Greek writers differ among themselves about this king, but likewise the Egyptian priests and poets relate various and conflicting stories of him; our best efforts shall be directed to select what is truth-like, and conformable with the monuments still existing in Egypt." †

The scepticism with which the achievements of the great Egyptian conqueror, as well as his identity, have been treated, and, in addition, the fact that he is the first of the conquerors of India of whom the Western traditions and historical monuments make mention, justify the space devoted to him, though this identification of the man, and his relations with the East, do not furnish authentic materials for a page of Indian history.

The early education which it is reported Sesostris received, somewhat similar to the training which Xenophon relates was adopted in the education of Cyrus, developed fully his mental and physical powers; and a large body of young men—his coevals, in fact, born on the same day—were bred up with him, and subjected to the same discipline. Daily converse and association strengthen mutual attachment, and the Egyptian prince was thus surrounded by a body-guard, active, brave,

and devoted, willing to serve, and prepared to command. His first expedition, it is related, was in command of an army sent by his father for the conquest of Arabia. He succeeded, and subjected to the Egyptian yoke the fierce warriors of the desert, who never before owned a master. In this campaign he was accompanied by his youthful playmates. On his return, he was dispatched against the Lybians, whose territories lay on the western frontiers of Egypt. Though yet only a stripling, he subjugated the greatest part of that country. Coming to the crown on the demise of his father, and encouraged by his successes on the east as well as the west, his ambition was fired with the proud hope of conquering the world. As the basis of his success, he first devoted his attention to inspire his people with feelings of love and admiration, and adopted means which, when employed by a youthful sovereign, never fail of realizing such results. He secured the allegiance of his subjects in his absence, and bound the soldiery firmly to his interests. The army he is said to have raised was commensurate with the magnitude of the undertaking. It amounted to six hundred thousand foot, twenty-four thousand horse, and twenty-seven thousand chariots of war; and to the respective commands he appointed those who had been educated with him, to the number of seventeen hundred. The marshaled hosts which Sardanapalus, Darius, Xerxes, and other ancient conquerors, brought into the field, reconcile to us the probability of this large force. Before Sesostris directed his course eastward, he marched against the Southern Ethiopians, whom he chastised. After that he dispatched a fleet of four hundred ships of war to the Red Sea, and subdued all the islands in it, and the maritime nations which extended from it as far as India. At the head of his land army he conquered all the nations of Asia—not alone those which Alexander the Great subsequently reduced, but likewise those on which he never set foot, "for he crossed the Ganges, and penetrated the whole of India, even to the ocean." * Nine years, the historians state, were spent in this expedition.

Whatever degree of credibility may be attachable to this narrative, it deserves a place in the history of ancient India. Many of the most questionable statements of the ancient historians have been unexpectedly verified by the results of modern research. There is one illustration corroborative of this, which may be pertinently in-

* Herodotus, b. II. chaps. cii., ciii. See Cary's Translation, Bohn's Classical Library.

† Diodorus Siculus, b. I. chap. xliii.

* Καὶ γὰρ τὸν Γάνγη ποταμὸν διεβη, καὶ τὴν Ἰνδικὴν ἐπὶ ἡλθε πᾶσαν εἰς Ὠκεανόν.—Diodorus Siculus, b. I. c. 43.

roduced here, which occurs in Herodotus's description of India, apparently the most puerile and ludicrously imaginative of what were for centuries designated the fables of the "lying Greeks:"—"There are other Indians living near the city of Caspatyras and the country of Pactyca [the city and territory of Cabul], situated to the north of the rest of the Indian nations, resembling the Bactrians, their neighbours, in their manner of life. These are the most warlike of all the Indians, and the people who go to procure the gold; for the neighbourhood of this nation is a sandy desert, in which are ants, less in size than dogs, but larger than foxes, specimens of which are to be seen in the palace of the King of Persia, having been brought from that country. These creatures make themselves habitations under ground, throwing up the sand like the ants in Greece, which they nearly resemble in appearance. The sand, however, consists of gold-dust. To procure this, the Indians make incursions into the desert, taking with them three camels,—a male one on each side, and a female in the centre, on which the rider sits, taking care to have one that recently foaled. When, in this manner, they come to the place where the ants are, the Indians fill their sacks with the sand, and ride back as fast as they can, the ants, as the Persians say, pursuing them by the scent, the female camel, eager to rejoin her young one, surpassing the others in speed and perseverance. It is thus, according to the Persians, that the Indians obtain the greater part of their gold; at the same time that the metal is also found in mines, though in less quantities."* Heeren, in his *Historical Researches*, strips the passage of its seeming absurdities, and places the cautious accuracy of the information, as well as the veracity of the father of history, in its proper light. His comments are:—"Herodotus has so accurately marked the situation of these auriferous deserts, that it is impossible to be mistaken. The nation in whose neighbourhood they are situated 'live near to Bactria and Pactyca, to the north of the other Indians,' and consequently among the mountains of Thibet or Little Bokhara; and the desert in their vicinity can be no other than that of Cobis, which is bounded by the mountains of the above countries. There is no doubt that the account of the historian is applicable to this region." We have already remarked that the lofty chain of mountains which limit the desert is rich in veins of gold; and not only the rivers which flow westward, from Great Bokhara, but the desert streams which run from the east, and lose themselves

* Herodotus.

in the sand. Besides, who knows not that the adjacent country, Thibet, abounds in gold sand? Nor can we be surprised if, at the present day, the rivers in question should be less abundant than formerly in that metal, as must always be the case, when it is not obtained by the process of mining, but washed down by a stream. As late, however, as the last century gold sand was imported from this country by the caravans travelling to Siberia; and under Peter the Great this gave occasion to abortive attempts to discover the supposed El Dorados, which were not without some beautiful results for the service of geography, though utterly unprofitable for the purposes of finance. That these were not ants, but a larger species of animal, having a skin, is apparent not only from the account of Herodotus, but from that of Megasthenes, in Arrian (*India*, O.P., p. 179), who saw their skins, which he describes as being larger than those of foxes. The Count von Veltheim, in his *Sammlung einiger Aufsätze*, vol. ii. p. 268, &c., has started the ingenious idea that the skins of the foxes (*Canis corsa*, Linn.), found in great abundance in this country, were employed in the washing of gold, and which, as they burrow in the earth, may have given rise to the fable. Bold as this conjecture may appear, it deserves to be remarked, as it is in perfect agreement with what we know of the natural history of the country. In corroboration of the view Heeren has taken, it may be added, that it is a common practice in Savoy to use the skins of animals in washing gold sand. In the *Journal of the Asiatic Society of Bengal*,* Mr. Lane describes the simple mode pursued by the Birmese in collecting the gold-dust of the Kyenduen River, by fixing the horns of a peculiar species of wild cow in the small streams coming from the hills, to entangle the gold-dust in the velvet or hairy coat with which the young horns are enveloped. The horns, he was informed, were sold, with the gold-dust and sand adhering to them, for twelve or thirteen ticals apiece. It is by no means improbable that in the gold streams north of the Himalayas whole fleeces of some small animal were employed for the same purpose, and were occasionally sold entire. In a raid upon a people who thus collected their gold in all probability originated the well-known tale of Jason. The existence of Sesostris can be no longer questioned. His identity is now established by the many and various monuments within and without Egypt; nor are the performance of the exploits attributed to him improbable, when the demonstrated power of the Egyptian monarchy was

* Vol. i. p. 16.

so great, and in an age when there existed no great empire from the waters of the Mediterranean and the Persian Gulf to the banks of the Indus—perhaps not even the Ganges.

The Phœnicians are the next of the Western states whom we find recorded in commercial communication with India. Many causes have conspired to intercept the transmission of their history. Had it descended in its entirety to us, what a light would be reflected on the obscurity in which the first civilization that beamed on Europe is involved!—a civilization whose lustre, probably, would not be lost in the halo which encircled that of Greece. The fragments of their history—derived from Sanchoniato, some of the Hebrew writers, particularly Ezekiel, the Greek historians, Josephus, Eusebius, &c.—supply a general outline.

Though precedence has been given in this chapter to Judæa and Egypt, it is not in consequence of the belief that their relations with India were of an earlier date, but we were influenced by the consideration that the historical records of those countries are of greater antiquity. Phœnicia was the medium of communication between them and the East. Through her agency the abundance of the East was scattered over the West. The geographical features of the country combined with the character of its inhabitants to make them a maritime people. Phœnicia was neither extensive nor fertile; it lay on the borders of a sea whose placid waters were studded with islands teeming with luxuriant produce, and whose northern shores were the seaboard of the productive districts of Asia Minor. Its political institutions were favourable to the nurture of an independent and enterprising spirit. It did not constitute one state, or at least one empire; it was composed of a combination of several. It presented a social aspect kindred to, if not identical with, all Celtic nations—such as ancient Gaul presented, and was to be seen in the clans and septs of Scotland and Ireland, and in England, ere the Roman invader pressed its soil. The clans were all bound in one great confederation, acknowledging a common chief. Tyre, from its position as chief city, and the emporium of nations, stood at the head. It has been remarked by Dr. Robertson, “that both in their manners and their policy they resemble the great commercial states of modern times more than any people in the ancient world.”* Among them the art of navigation was earnestly cultivated; in naval dexterity and skill they were unrivalled; and no nation of antiquity could lay claim to

* *Historical Disquisition concerning Ancient India*, p. 7.

the same spirit of adventurous enterprise. With the tin which they brought from the far isles of the West—the British Isles—were in all probability manufactured the bosses and ornaments of the shields borne by the combatants of Troy, as also the greaves they wore and the cups they quaffed, while by them were poured far westward the rich and voluptuous products of Indian climes. They not only monopolized the trade of nations near and remote; they likewise spread themselves by the establishment of colonies, and of these some, particularly Carthage, rivalled the parent states in wealth, trade, and power. At a very early period Phœnician colonies were planted in the favoured isles of the Archipelago, from which they were subsequently ejected by the conquering Greeks. Tartessus, Gades, and Carteia, under their auspices, flourished in Southern Spain; Utica, Carthage, and Adrumetum, on the northern coast of Africa; Panormus and Lylibeum, on the north-western coast of Sicily. The traditions and early annalists of Ireland state that they colonized that island. They had settlements, in all probability, in the Persian Gulf, on the Islands of Tylos and Aradus. In truth, as navigators, they were the boldest, the most experienced, and the greatest discoverers of ancient times, and for many ages had no rivals. They not only were the transporters of the merchandize of other nations, they were also manufacturers. The glass of Sidon, the purple of Tyre, and the fine linen they exported, were their own inventions; and they were deservedly celebrated for their extraordinary skill in working metals, in hewing timber and stone, and for their architectural excellence. Their fame for taste, design, and execution, was so well established, that whatever was elegant, great, or pleasing in apparel, vessels, toys, was distinguished by the epithet *Sidonian*. Many other important discoveries, among which the invention of letters holds the first rank, are attributed to them. Had we not before us the millions of colonists whose paternity is due to the British Isles, the vast colonial territories thus peopled, the regions thus occupied, it would be questioned how little more than a slip of land, confined between Mount Lebanon and the sea, could pour forth such supplies of people without depopulation. From Elloth to Eziongeber, ports situated at the northern extremity of the Arabian Gulf, they undertook, in connection with the Jews, the voyage to Ophir, previously referred to, and extended their commerce from the Persian Gulf to the western peninsula of India and the Island of Ceylon. The most remarkable of their geographical discoveries was the cir-

cumnavigation of Africa. The probability is mentioned of their having had a land communication with China, in consequence of their trade through Palmyra with Babylon, which opened to them an indirect path by way of Persia to Lesser Bokhara and Little Thibet. Dr. Robertson asserts that among the various branches of Phœnician commerce that with India may be regarded as one of the most lucrative.* The distance between the Arabian Gulf and Tyre rendered the carriage of goods by land both tedious and expensive. The Phœnicians, to obviate these impediments to trade, occupied Rhinocolura (now El Arish), the nearest of the ports in the Mediterranean to the Arabian Gulf. This port soon became the seat of Indian commerce. "Merchandize was conveyed through Leuce-Come, a large mart in the territory of the Nabateans, and Petra, and thither and thence to other nations."† This was a shorter route than the one which Strabo states was afterwards pursued—namely, from India to Myus Hormus, and thence to Coptus (Kopt of the Thebais), situated on a canal of the Nile, and to Alexandria.‡ From Rhinocolura the transport by water to Tyre was short and safe. Great were the advantages which the Phœnicians secured by this route, the earliest of any of which there remains any authentic account, and superior to any known anterior to the discoveries of the Portuguese.

Having thus summarily reviewed the fragmentary notices which from the perceptible dawn of commercial enterprise, have descended to modern times—exciting a curiosity which presents a wide field for ingenious speculation, but yields nothing very satisfactory in an historical point of view—we now approach a period upon which more rays of historical light fall, yet still immersed in great, if not in impervious, obscurity.

The Persians are the first people of whom it can be asserted, on testimony not entirely hypothetical, that they subjugated India. Of an early intercourse, it is observed by De Marles, abundant evidence is to be found in the language, traditions, and religious feelings of the two countries. Balk, the mother of cities, the Mecca of the Magians, the capital of Persia in her heroic days, and at a later period of a Greek kingdom, was indebted to this intercourse for its advantageous commercial position and its immense wealth. Bactria was the key of Central India, the connecting link between the East and the West. It was the great rendezvous on the high road from the Caspian gates, not

only to the country of India, but to Sogdiana and Serica; and by this route a commercial intercourse was maintained between China and Europe. The produce of India was likewise transported on the backs of camels from the banks of the Indus to the Oxus, and down this river they were conveyed to the Caspian Sea, and then distributed, partly by land carriage, and partly by navigable rivers, through the different countries lying between the Caspian and the Euxine. The magnitude of this trade may be deduced from the fact that Seleucus Nicator intended to unite the two seas by a canal. This project was frustrated by the assassination of that prince.*

Herodotus informs us that a great part of Asia was explored under the direction of Darius Hystaspes, who, being desirous to know in what part the Indus discharged itself into the sea, dispatched vessels on a voyage of exploration, commanded by officers upon whose enterprise, intelligence, and veracity, he could rely, one of whom, Scylax of Caryanda, has transmitted his name to posterity. Setting forth from the city of Caspatyrus, and the country of the Pactyici,† they descended in an easterly direction to the sea; then, steering to the westward, they arrived, in the thirtieth month, at the port whence the King of Egypt had dispatched the Phœnicians to circumnavigate Lybia. After these had successfully completed their voyage, Darius resolved on the subjugation of the Indians.‡ To this expedition he appears to have been led by the glowing description which Scylax gave of the luxuriant land he had reached, and its identity with the remote climes whose productions, mineral and vegetable, had been for centuries previously conveyed to and through the territories subject to his rule, and which had excited envy and cupidity. For its execution he was also well prepared. Though no descendant of the great Cyrus, he was a member of the same family,§ and the third in succession to him. He was one of the seven Persian chiefs who conspired against Smerdis, the Magian usurper, and through his life displayed the boldness, ingenuity, and promptitude, with which he secured the throne. When Cyrus undertook his expedition against the Massagetæ, Darius, then twenty years of age, was left in Persia, of which his father was satrap. Herodotus states that, the night

* This passage is given in the *Asiatic Journal*, without acknowledgment, from Cerver's *India*, vol. i., p. 145, who probably has derived it by translation from De Marles.

† The modern Peh-keley.

‡ Herodotus, b. iv., chap. xlv.

§ Ibid., b. i., chap. ccix.

* *Ancient India*.

† Strabo, vol. iii. p. 211. Bohu's Edition.

‡ Ibid.

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after Cyrus had crossed the Araxes, he fancied in his sleep that he beheld himself with wings on his shoulders, one of which overshadowed Asia, the other Europe. The king looked upon this dream as a mysterious warning of a conspiracy against him and his crown; but the historian remarks, "the divinity foreshadowed to him that he would himself be killed in the ensuing campaign, and that his power would descend to Darius."* It was in his reign that those various and far-spreading nations, subdued by Cyrus and his son Cambyzes, were consolidated,—so far, at least, as they ever were, for, in truth, those discordant elements were never brought into a state of cohesion. Asia, to the borders of Scythia and India, with the exception of Arabia, had bent to the yoke of his predecessors. Having fortified his position by the most powerful alliances, and divided his vast empire into twenty satrapies, a detailed account of which, and their revenues, is supplied by Herodotus,† his ambition led him to foreign conquests. The successive rulers of Western Asia had long viewed with jealousy the congregation of independent and enterprising states from which the Ægean separated them; interests nearer home had curbed those ambitious designs which they had upon them; and probably the monarchs of Persia calculated with confidence on the immediate submission of the Greeks, at any moment they were at leisure to make a hostile demonstration against them. This conjecture is strengthened by the fact, that the first armament dispatched against Greece was comparatively inconsiderable, compared with the resources of Persia, and the displays made by Darius in other quarters. The revolt of the Babylonians prevented the prosecution of a war against Greece, although it had been commenced by an attack on Samos. Babylon fell B.C. 508. Crossing the Thracian Bosphorus, he overran Scythia, to the delta of the Danube, and penetrated far into the interior of Russia. He subdued Thrace and Pæonia, and received the symbols of submission, earth and water, from Amyntas, the King of Macedonia. He sent his lieutenant Otanes to reduce the maritime cities on the north coast of the Ægean. The Hellespont and the Bosphorus, Byzantium, Chalcedon, and the Islands of Imbros and Hæmos, fell into his hands. The disastrous results of his war against Greece are too familiar for more than allusion, and nearly so his repression of the Egyptian revolt. The incorporation in his empire of the many countries which stretched south-east from the Caspian

to the river Oxus, inspired him with the ambition of also attaching some, if not all, of the Indian territories. It is probable that this was the real motive which suggested the voyage of Scylax towards the upper part of the navigable course of the river Indus, and the sailing down its streamlet he should reach the ocean. The glowing description which it has been said that officer gave of its population, luxuriant productions, and high state of cultivation, fired his impatience. To troops tempered by so many campaigns, and always victorious on the eastern continent, the pacific dwellers beyond the Indus could offer but a feeble opposition; and though Dr. Robertson opines, "that his conquests in India seem not to have extended beyond the district watered by the Indus," such a view conflicts with the evidence of Herodotus.* "The population of India is by far the most numerous of all the nations we know. Their tribute (to Darius) amounted to more than that of any other nation;" or, as Larcher translates it, "they paid as many taxes as all the rest put together."† The description of the Persian satrapies has been subjected by modern writers to critical investigation, the result of which has been to verify the general authenticity, and consequently the industry and fidelity, of the historian. It is worthy of remark, as Major Rennel appropriately observes, that this tribute was paid in gold, whereas that of the other satrapies was paid in silver. Much light has been thrown on this circumstance, he adds, by the intelligence furnished by the *AVIN ACKBAREE*—namely, that the eastern branches of the Indus, as well as some other streams that descend from the northern mountains, yield gold.‡ Priedeaux conjectures, that when Scylax returned by the Straits of Babelmandel and the Red Sea, he landed where Suez now stands. He dates the commencement of the voyage, B.C. 509, in the thirteenth year of the reign of Darius. It appears that the three succeeding years were devoted to the acquisition of India, as this interval is not accounted for by any other transactions of his reign. The short extract above quoted from Herodotus comprises all that survives of the history of this campaign. On his return from the East he renewed his designs upon Greece. From this incident may be dated the commencements of those collisions between the armies of Persia and Greece, the most brilliant episode in the annals of the latter, the provocation of an aggressive war with

* Herodotus, b. III., chap. xciv.

† "Ils payoient autant d'impôts que tous les autres ensemble."

‡ *Memoir of a Map of Hindostan*, p. 25.

* Herodotus, b. I., chap. ccc.

† Ibid, b. III., chap. xc, &c.

Persia, which eventuated, after the lapse of nearly two centuries, in the subjugation of the mighty empire founded by the great Cyrus, partially consolidated by Darius himself,—led the all-conquering hero of Macedon beyond the Indus, and first familiarised the rich domains of the famed Asiatic Peninsula to the nations of the Western continent.

From this period onward the historian of India is released from much of the difficulties by which he was beset in his researches into more primitive times, and treads a path which, though overgrown by rank weeds, which vegetate most profusely on land once cultivated, yet preserves enough of its characteristics to conduct the traveller to his destination.

CHAPTER XX.

COMMERCE (*Continued*):—COMMERCIAL INTERCOURSE BETWEEN INDIA AND THE WESTERN NATIONS FROM THE INVASION OF ALEXANDER TO THE SETTLEMENT OF THE BRITISH.

A RECENT writer on India has very properly remarked:—"All that Europe knew of India prior to the expedition of the Macedonian monarch was through its gold, its pearls, its spices, and its rich cloths. But the length of time occupied in the voyage, the circuitous route by which these goods were conveyed, and the many hands through which they passed, rendered it highly improbable that any but the most wild and fanciful pictures of the East ever reached those who consumed the products brought from those lands. It was reserved for Alexander the Great (B.C. 331) to achieve, amongst other things, the opening of this hidden region, although he himself visited but its confines on the west. Unlike the progress of those northern conquerors who came after him, carrying fire and sword and scattering death and ruin about their footsteps, the Macedonian carried with him the softening influence of civilization." Alexander, however, knew little of "the gorgeous East;" he paused on the threshold of the new world to which his conquering arms were carried. The Hyphasis was a rubicon which he did not pass, at all events in the pomp and power of war, but marched thence towards the south-west, between the Indus and the desert, leaving garrisons and forming alliances as he passed along. The adherents of the conqueror, who remained behind with his garrisons, studied the character of the country, and the manners and habits of the people, and Europe became better acquainted with the condition of India than would now be supposed possible at that period, had we not the writings of Ptolemy, Arrian, Aristobulus, and others, to attest it. The early Greek representations of India agree wonderfully with all we know of it, and with what our knowledge of its antiquities shows us must then have been its condition. In Robertson's *Disquisition concerning Ancient India*, and in Gillie's *History of*

the World, the fullest notices extant of the conquest of India by Alexander, and the conduct of his successors in India, will be found. The authorities chiefly relied on are Strabo and Arrian, but they supply very imperfect information as to the commercial intercourse between the Indians and the Greeks.

The Bactrians, both before they acquired independence, and after the death of the great Macedonian afforded them that boon through the dismemberment of the empire, carried on commercial intercourse with India. Mill says:—"Among the kingdoms formed out of the vast empire of Alexander was Bactria. This district was part of the great range of country on the eastern side of Media and Persia, extending from the Lake Aral to the mouths of the Indus, which the power of the Persian monarchs had added to their extensive dominions." This statement Mill introduces to account for the extensive power wielded by the Bactrians, and their influence on the civilization of Hindoostan. Professor Wilson corrects the statements of Mill, by observing that the political power of Bactria after its independence may have extended over this space, but that the Bactrian province of Persia lay entirely to the north of the Paropamisian Mountains, and had Sogdiana and the Scythians between it and the Aral Lake. Much additional light has been thrown upon the history of Bactria and the adjacent provinces of the Affghan country, by the recent discovery of large quantities of coins, bearing the effigies and names of Greek and barbaric kings. They have been found in the tract between Balk and the Punjaub, and especially about Peshawur and Cabul, which were, no doubt, included in the dominions of the princes of Bactria, or of those principalities which were established in the direction of India by the Greeks. As most of these coins bear on one face an inscription

which has been ascertained to be in a form of Prakrit, a derivative from Sanscrit, they prove that the Bactrians must have been an Indian people.* The commerce carried on by this people was by no means in proportion to the extensive power which, after the death of the Macedonian emperor, they acquired.

The early death of Alexander prevented his maturing any plan for either founding an Indian empire or establishing an Indian commerce; and the Bactrian empire which arose, while itself profiting, did not extend the intercourse of East and West. For three hundred years the trade with India was conducted by the Egyptians and Arabs by way of the Red Sea, the Nile, and the Mediterranean, through the ports of Berenice, Coptos, and Alexandria. Ptolemy, the son of Lagus, who had been a prominent commander in the Indian expedition of Alexander, having obtained Egypt in the division of the Macedonian empire which followed the conqueror's decease, naturally turned his attention to the scenes of his former exploits, and contributed to the commercial enterprise which then marked the proceedings of the Egyptians and Arabs. Egypt became the grand path of oriental commerce. There were, however, two other routes by which a small portion of the traffic with the East was carried on. One of these lay through Persia and the upper part of Arabia to the Syrian cities, a desert and difficult route, but one of great antiquity. The only halting-place on this dreary road was the famed city of Tadmor, or Palmyra, so-called from the abundance of palm-trees which flourished around its walls. This regal city owed its prosperity to the commerce which passed through it, and which, in the course of time, raised the state to a degree of importance and power that exposed it to the jealousy of imperial Rome. A war ensued, in which its brave and noble-minded queen, Zenobia, was captured, her city destroyed, and with it the overland traffic of the desert, which had existed since the days of Abraham. The second route was by way of the Indus upwards, across the rocky passes of the Hindoo Cush, and so on to the river Oxus and the Caspian Sea, whence the merchandize was conveyed by other land and water conveyance to the cities of the north and north-west. Even in the present day we find this a route of some importance, serving as the means of carrying

on a trade between India, Persia, and Russia, which is of more real value to the latter country than is perhaps generally known in Europe. The richest silks, the finest muslins, the most costly shawls, the rarest drugs and spices, are bought up by Russian dealers, and transported by this tedious route to the cities of the great czar. With the Palmyra route the carrying-trade of Egypt with the East suffered equally from the ravages and conquests of the Roman emperors, though not so permanently.*

During the reign of the Emperor Claudius some attention was paid to the advantages which might be derived from an Eastern commerce. This appears, however, to have been the result of Eastern more than of Western enterprise. An embassy was sent from Ceylon which was purely of a commercial character. The great empire of China was penetrated by the fame of the Roman name, and probably in consequence of the representations made by the Ceylon ambassador at a former period, a mission to the ruler of the celestial empire was sent from Rome in the reign of the Antonines.

When the decline of the Roman empire removed the vigorous surveillance held by its despots over their Eastern provinces, the trade between India and Europe, which had suffered much from Roman oppression, began to revive. The removal of the seat of empire from Rome to Constantinople extended greatly the intercourse between East and West. The Byzantines were, however, rivalled by the Persians when the latter shook off the Parthian yoke.

The conquests of the enterprising Saracens gave an immense stimulus to Eastern commerce. They established commercial navies on the Persian Gulf; and the city of Bus-sorah, founded by the Caliph Omar, at the junction of the Tigris and Euphrates, soon became a place of trade hardly inferior to Alexandria. The Egyptian trade through the Red Sea was at the same time revived; and the hardy Arabs, not contented with following in the track of their predecessors, pushed forward their discoveries until they had accurately explored the greater part of the coastline of South-eastern Asia. It is all but demonstrated that they obtained a knowledge of the mariner's compass from the Chinese, and that through them this vast improvement in the art of navigation was made known to Europe. The Crusaders were non-trading enthusiasts; yet the capture of the two flourishing cities of Antioch and Tyre pointed out to them the pleasures of oriental

* See the descriptions and observations of Masson and Prinsep in the *Journal of the Asiatic Society of Bengal*; of Jacquet, in the *Journal Asiatique*; Raoul Rochette, in the *Journal des Savans*; also Richter, on the *Topes (die Stupe)*, and Lassen, *Zur Geschichte der Griechischen und Indoskytischen Könige in Bactrien, Kabul, und Indien*.

* *A History of the Rise and Progress of the British Indian Possessions.*

luxury and the advantages of oriental commerce.*

The decline of the Saracenic power gave scope to the rising commonwealths of Italy. The Genoese and Venetians prosecuted trade with Central Asia by way of the Mediterranean and Black Sea, and the subjects of those states maintained with Persia an important oriental commerce. These nations were not, however, able to effect any direct trade with India.

The rise of the Portuguese as a commercial nation opened up a new medium of commercial intercourse with India. Bartholomew Diaz, in 1486, rounded the southern point of Africa, which he named "the Cape of Storms." John II., King of Portugal, perceiving the bearing of the discovery of a passage round the great African promontory into the Indian Ocean, gave it the happy title of "the Cape of Good Hope." Manuel, the successor of John, followed up the discovery of Diaz, and sent out an exploring expedition in July, 1497. On the 22nd of May, 1498, the navigator who commanded this enterprise, Vasco da Gama, reached Calicut, on the coast of Malabar. He remained some time, and freighted his ship with the articles of Indian produce attainable on that coast, and adapted to European taste, or which, in the speculative enterprise of Da Gama, was supposed to be so. He escaped various perils with which his intercourse with the natives was beset,—more especially through the jealousy of the monarch,—and returned in safety to the Tagus.†

The hopes and fears of all Europe were roused by this brilliant discovery. It was at once seen that the Venetians, and their agents, the Mohammedans and Turks, must lose their lucrative monopoly of Indian commerce; and they entered into a treaty with the Sultan of Egypt to prevent the establishment of Portuguese settlements in the Eastern seas. Timber was supplied to him from the forests of Dalmatia to equip a fleet in the Red Sea, where twelve ships of war were soon built, and manned by a gallant body of Mamelukes, under the command of experienced officers. The Portuguese encountered their new enemies with undaunted courage; and after some conflicts they entirely ruined the Egyptian squadron, and remained masters of the Indian Ocean.

After the overthrow of the dynasty of the Mameluke sultans by the Turks, the Venetians easily induced the conquerors of Egypt to join them in a new league for the overthrow of the Portuguese power in India. But the Turks had not the skill and enterprise necessary for undertaking the perilous navigation

of the Red Sea, and soon after, the power of Venice was irretrievably ruined by the fatal league of Cambray. The Indian trade was consequently transferred from the Mediterranean Sea to the Atlantic Ocean, and Lisbon for a time was in possession of that commerce which had been a source of wealth and glory to Venice.*

The Portuguese government conducted its plans for commanding a commerce with the East *via* the Cape of Good Hope with spirit and success. A fleet of thirteen sail, carrying a thousand soldiers, independent of the complement which served as marines, was dispatched under an officer named Pedro Alvarez de Cabral. On his arrival at Calicut, partly by the presence of this imposing force, and partly by his tact in negotiation, he made a treaty of commerce with the *zamorin* or *zamoree*, as the prince of the country stretching along the Malabar coast was then called, and the adventurous Portuguese became regularly installed as factors in Calicut. The mercantile settlers, resting on the treaty, felt secure; but the prince, instigated by the Moormen, laid a scheme for their destruction so furtively, and carried it out so completely, that a general massacre of the Portuguese merchants and their servants, was the result. Thus the character of the natives two centuries and a half ago was developed to Europeans as it was in 1857. The same faculty of secret combination, the same hatred to strangers, and the same expertness in secretively organizing murderous conspiracy against those who trusted them, was displayed.

Cabral was not a man to allow treachery and cruelty either to go unpunished or to defeat his projects. He attacked the Moormen fleet in the harbour of Calicut, burnt, sunk, or captured the ships, and laid the town itself in ruins. The result was that the perfidious chief sued for terms, and obtained them at the expense of far more important concessions than had been requested of him for purposes of commerce and peace.

Awed by the promptitude and energy of Cabral, the chiefs of the neighbouring territories sought amicable relations, and commercial treaties were formed highly beneficial to the Portuguese, who thus found means of obtaining from the interior its products in exchange for foreign goods, or the precious metals. Cabral returned home in triumph, his fleet freighted with Indian riches; and his fame soon spread, not only through the Iberian peninsula, but over all Western and Southern Europe. After the return of Cabral matters were not managed by the Portuguese with skill or fidelity, and the *zamoree* (*zamo-*

* *Ancient and Modern India.*

† *Camoens.*

* Taylor and M'Kenna.

rin) of Calicut endeavoured to compel the native princes in his neighbourhood to break off their alliances with the intruders. These attempts issued in sanguinary struggles, in which, however, the native princes and their foreign ally were the victors.

The Portuguese monarch, stimulated by the accounts of Vasco da Gama, fitted out a new and more powerful fleet, adapted alike for commerce and for war. Albuquerque had the interests of Portugal now committed to him, and he proved himself capable of the high task. His difficulties were more numerous than those which obstructed his predecessors, and his commission was one which, whatever might have been his own opinion of it, ensured the ultimate defeat of Portuguese power and enterprise in the East. The nature of his onerous duties, and the way in which the designs of Portugal were encountered, are thus summed up by Dr. Taylor:—"The papal bull, by which all the East was bestowed on the Portuguese, began now to produce its injurious effects. The Portuguese claimed, as matter of right, the submission of the native princes, while they were utterly unable to conceive how an old prelate residing in Rome, could acquire a claim to deprive them of the authority and independence which they had inherited from their ancestors. Almost every port now opposed the entrance of the Portuguese, and the cargo of almost every ship they loaded was purchased with blood. It was at this time that Albuquerque was placed at the head of the Portuguese in India, and entered on the career of victory which has immortalized his name. One of his first visits was to the Island of Ormuz, an island barren by nature, but which commerce soon raised to a temporary celebrity, such as has rarely been rivalled. The king of the island prepared for defence, and assembled an army, said to exceed thirty thousand men; yet these were totally defeated, by the discipline and skill of less than five hundred Europeans; and the king of Ormuz submitted to vassalage. The foundation of the Portuguese empire in the East may be said to date from the occupation of Goa by Albuquerque. He fortified it in the best manner, so as to render it impregnable against any attacks of the Hindoos or Mohammedans; and having thus discovered the great advantage to be derived from the occupation of cities and harbours, he began to direct his whole course of policy to territorial acquisitions. One of his first conquests was Malacca. He afterwards attempted to storm Aden, but was repulsed. From Malacca to the Island of Ormuz the coast-line of India was studded with forts and commercial marts, occupied by Portu-

guese garrisons, or dependant on their power. The financial talents of the governor were even greater than his military prowess; he raised the revenue by lowering the rate of duties, trade naturally flowing towards those places where it was least exposed to taxation and vexatious interference. After a brilliant regency of five years, he died at the entrance of the harbour of Goa, on his return from the Island of Ormuz, which he had rescued from the dangers to which it was exposed by a sudden attack of the Persians." During the administration of Albuquerque, ships were dispatched from the settlements on the Indian coasts to China, and a trade was opened up with that country. The Indo-Portuguese derived from this indomitable and wise man, not only lessons of war and administration, but principles of commerce and political economy, which unhappily they did not long retain, and which the parent country never espoused.

The object in this chapter is not to mark the political or social influence of the Portuguese upon their Indian possessions, but to trace the history of European commerce with these realms; it is therefore unnecessary to point out the ebb and flow of the power of Portugal along the coasts of India, and in their neighbouring settlements. Whatever was corrupt and unprincipled in the government of the eastern princes was adopted by the new comers, and other forms of oppression and exaction were introduced. The seas were scourged by pirates: Arabs, Moormen, Malays, Indians, and other races, plundered by sea and shore, and among the boldest and bloodiest of these buccaneers were Portuguese, men who had been sent out in the service of their sovereign, but who, yielding to the avarice and unpatriotic selfishness which so generally characterized their commercial fellow countrymen, forsook the honourable posts assigned to them, and became the most desperate sea robbers. The return of Vasco da Gama for a short time to the government of Portuguese-India, and the influence of men who endeavoured to follow in the footsteps of him and of Albuquerque, redeemed, *pro tempore*, the honour of Portugal, and prevented her interests from utterly perishing in the faithlessness and folly of her sons; but in spite of the good examples thus occasionally set them, and the same commercial policy in which they had at the beginning of their Indian enterprise been instructed, they sacrificed empire and honour to bigotry, oppression, and pelf. Vessels sent out for commercial purposes by the government were armed for war by the governors of the different settlements, who struggled

with one another for supremacy, amidst fierce and sanguinary conflicts, and the sacrifice of national property. An intense eagerness for proselytism was strangely mingled with this piratical spirit. Strenuous efforts were made to convert the natives, many of which were honourable to those who made them, but generally they were barbarous, and abhorrent to Christian feeling. The establishment of the Inquisition at Goa is one of the darkest passages in human story. Probably never, anywhere, had the ingenuity and pertinacity of cruelty been so united with forms of sanctity and professions of benevolence. Francis Xavier, by whom the inquisition was established at Goa, although he co-operated with the government, and promoted its authority by the religious influence he acquired, did much personally to check the corruption and tyranny of those to whom the administration of affairs was committed, and often, with a high hand, redressed the wrongs of the natives. Many of the atrocities at Goa, alleged to have been perpetrated with the connivance of Xavier, were inflicted in spite of his indignant remonstrances, and even his denunciations and menaces. Representations to the government at Lisbon were also made by him against the civil turpitude which so soon indicated the ultimate ruin of Portuguese interests in the East. The whole career of this people in their oriental exploits, with the noble exceptions referred to, exemplified the truth of the scripture principle, "Righteousness exalteth a nation, but sin is the ruin of any people." The commerce of the Portuguese was literally destroyed by their religion. The horrible butcheries of the Inquisition of Goa infuriated the people of India, and rendered the name of the Portuguese infamous throughout the world. A modern writer thus describes in brief the general effect produced, and the final catastrophe, so far as Portuguese commerce was concerned, to which it led:—"As evil has ever been known to work out good, so these persecutions and religious slaughters led in the end to favourable results. A cry for vengeance arose from the priestly shambles of the Inquisition. It went forth over that devoted land from shore to shore, and found an echo in many a heart,—sympathy in many a home. Insurrections, revolts, massacres, and burnings, were to be met with far and near. Armed with another papal bull, the Portuguese *Christians* deluged the country with blood; but in vain. Even the native converts joined the standard of the Hindoo and the Moslem, whose practice, if not their creed, was more merciful and tolerant than that of the civilized crusaders from

the Western world. And now another people appeared on the bloody stage; a race of persevering, industrious merchants, who, by their cautious and humane policy, founded an empire in the East more durable, because more merciful, more kindly, than that of the intolerant Portuguese." The people here referred to as supplanting the Portuguese were the Dutch. The encomium passed upon them must be taken with abatement; their pursuit of gain was as godless as that of most other nations, but it is to their credit that they refrained from coercion as an instrument of conversion, except under certain tame and modified forms, which, although inconsistent with Christianity, are not so revolting to human nature as were the practices of the Portuguese. It may be doubted whether at any time during the successes of the Dutch they were as prosperous as the Portuguese were under some of their leaders, whose careers have been referred to. There was probably as much justice and success in the administrations of Vasco da Gama and his great successor, as ever marked European enterprise in India, whether commercial or military. The poet hardly allowed fancy to portray too fair a picture when he sung—

"O'er Indus' banks, o'er Ganges' smiling vales,
No more the hind his plunder'd field bewails;
O'er every field, O Peace, thy blossoms glow,
The golden blossoms of thy olive bough;
Firm based on wisdom's laws great Castro crowns,
And the wide East the Lusian empire owns."

The Dutch, however, inaugurated their first essay of Indian commerce well, and if not so gloriously as the Portuguese, yet the odium which the religious persecutions, fraud, and cruelty of the latter brought them, enabled the peaceful and cautious proceedings of the former to strike the minds of the natives of India in strong contrast. The writer last quoted, generally accurate and conscientious, thus presents the entrance of the new European adventurers upon the theatre of their commercial enterprise:—"The Dutch (A.D. 1509), having gathered some information respecting the trade and possessions of the Portuguese in India, and lured by the prospect of a share of those costly spoils, fitted out a fleet of merchantmen under the direction of an East India company, and dispatched it laden with goods and merchandize for barter, and well armed. The advent of this first armament from Holland was the dawn of salvation to India; and from that time may be dated the decline and ruin of the Indo-Portuguese empire. It was in vain that the governor of Goa, alarmed by the appearance of these formidable arrivals in the Eastern waters, endeavoured to excite the natives of

India against the Dutch. He soon found that so far from the new-comers being regarded with fear or jealousy, they were looked upon with favourable eyes by the princes who ruled upon the Malabar and Coromandel coasts, and that these people began to count upon the assistance of the Hollanders, as a foil to the oppressions of the Portuguese. Equally in vain was it to endeavour to repel the intruders by force of arms; they would gladly have found a pretext for a quarrel, but the wary policy of the Dutch disappointed them in this, and the latter were, moreover, too well armed to be easily taken by surprise." This statement as to the decline of the Portuguese is correct. The manners of the Dutch were so much more acceptable to the people, that the hatred of Portuguese rule was increased, if possible, beyond that which their atrocities had stimulated. Revolt everywhere, continental and insular, left them no hope; even the weak Ceylonese triumphed in expelling the detested invaders, the native converts and half-castes joining the people against the tyrants. An order from Madrid, where the government of Portugal was then chiefly conducted, directed that every public office in India should be sold, and the money sent home, thus destroying all hope of retrieving disasters, or regaining lost territory. Terrific storms wrecked their fleets—convoys and merchantmen being lost together. It seemed as if heaven fought against Portugal; her commerce, power, and renown perished.

The attempts of the Dutch to open up an Indian commerce were systematized, and the enterprises were well organized and well conducted. Although the English soon followed the Dutch, the latter were far more successful; for James I.—with that alacrity to betray their country, which the false-hearted Stuarts ever exhibited—was anxious to sacrifice this commerce to please Philip of Spain. The Dutch were free; they had defied and humbled Philip, and were prepared to pluck from his grasp the oriental diadem. They won the spice trade of Ceylon, and utterly broke up the profitable trade with China which the Portuguese had in their most flourishing period established. It is possible that the union of the crowns of Spain and Portugal was the chief cause of the declension of Portuguese commerce; for when, in 1640, the Portuguese threw off the Spanish connection, there was a renewal of energy in the forts and factories which they had continued to hold in India, and so much of an improved spirit was indicated, that the prospects of Portuguese oriental commerce revived. The Dutch, however, had gained too firm a footing, and could

only be supplanted by a far more powerful rival than Spain or Portugal, or both united, were ever likely to prove. The Portuguese still retain a few settlements,—Goa, Diu, Timor, and Macao, at the mouth of the Canton river, but their trade is insignificant.

Previous to the reign of Elizabeth England received from the Venetians such Indian commodities as she consumed. Dr. Cooke Taylor, and other writers, represent this trade as unprofitable to England. But no nation will continue to carry on gainless commerce: the Venetians took such things in return as it suited England to export, and the commodities she received were worth to her the exchanges made in those transactions. Still it was a barter which did not call out the energy of so enterprising a people, and in no sensible manner tended to augment their wealth. In 1518 some of the leading merchants in London consulted as to the practicability of no longer dealing in the commodities of the East "at second hand," and proposed to the government of Elizabeth that negotiations should be opened with the Sultan of Turkey for certain trading privileges in the Levant. These negotiations were opened, and proved successful. From that time the English began a new trade, importing Indian articles by that way. A modern writer, quoting Hakluyt, states:—"There was a very considerable trade to the Levant in English bottoms, between the years 1512 and 1534. He tells us that several stout ships from London, Southampton, and Bristol had a constant trade to Candia, Rhodes, Cyprus, and Beyrout in Syria. Our imports were silks, camlets; rhubarb, malsies, muscatels, and other vines; sweet oil, cotton goods, carpets, gall, cinnamon, and other spices. Our exports were fine and coarse kerseys, white western dogan, cloths called *statutes*, and others called *cardinal whites*, skins, and leather. From a cotemporary document it appears, that in this early day Manchester had already acquired some fame as a manufacturing town, particularly for the production of certain woollen cloths, which, singularly enough, were called *cottons*, a corruption of *coatings*."

From 1576 to the end of the sixteenth century various efforts to form a direct trading intercourse with India were made, and the enterprise of Cavendish at the close of the century, following the reports made by Stephens of his voyage to Goa round the Cape of Good Hope, stimulated the enterprise of the London merchants, and a society was formed, entitled "The Governor and Company of Merchants of London trading to the East

Indies."* This society was constituted a body corporate by Elizabeth. "The first English fleet which was dispatched to India (A.D. 1601) consisted of five ships, under the command of Captain Lancaster. These anchored in the roads of Achen in June of the following year; and one of the first acts of the commodore was to form a commercial treaty with the prince of the country. Having bartered some of the merchandize for such articles as the place furnished, Lancaster made sail for Java, to complete the homeward lading with spices, gums, silks, saltpetre, &c.; and finally, after arranging another treaty with the King of Bantam, he returned home well freighted with a valuable cargo." This was followed by other successful voyages, especially in the year 1605. The jealousy of the Portuguese and Dutch was roused; the former made desperate efforts to destroy the English ships, but the company having sent out larger and stronger vessels, as the necessity of doing so became apparent, the Portuguese were defeated with terrible loss of ships and men. The Dutch were more wary, but not less hostile; and although that nation was much indebted to Elizabeth for her aid in its struggles against the power of Spain, it nevertheless united with the Indo-Portuguese to prevent the English from the pursuit of lawful and peaceable commerce. The alliance was fatal to the Dutch. Had they favoured their old allies, and only competed with them

in a just and honourable rivalry, they might have long continued to share the profits of oriental trade in a degree worthy of their original enterprise. Holland adopted a dishonourable, selfish, and ungrateful policy, and met the fate such conduct merited.

In previous chapters of this History the government of the East India Company has been stated, and in chap. xiii. an historical sketch of the institution and progress of the company was given preliminary to such statement. In future chapters narrating the course of events in India, the development of the company's power will be traced. So mingled did the commercial and the political become, that they must be related together when events in India after the first enterprises of the English are detailed. When, ultimately, the Dutch were completely humiliated by Oliver Cromwell, England had no longer a rival in her eastern commerce, until the enterprise of France, and the skill of a few gifted Frenchmen, excited her apprehensions. The issue of the struggle with France was as triumphant as those with the Portuguese and Dutch, leaving England undisputed mistress of the commerce of the Indian seas, as well as the only European power occupying a formidable position from the Persian Gulf to Hong-Kong. The extent and character of the trade which now exists between Britain and her possessions in the East, will form the subject of separate chapters.

CHAPTER XXI.

COMMERCE (*Continued*):—MODE OF TRANSACTING BUSINESS IN INDIA—THE CURRENCY—WEIGHTS AND MEASURES—IMPORT OF SILVER—IMPORT AND EXPORT OF GENERAL MERCHANDIZE.

A CONSIDERABLE proportion of the capital employed in Indian commerce belongs to English merchants, representatives of whom reside at the chief cities in the presidencies, where they establish houses of business, purchase the commodities of India, and ship them to the British Isles, China, the East India Archipelago, and Australia; for these shipments British commodities or silver are taken in exchange. Certain natives are always employed by the European merchants or their representatives. These are called *banyans* in Bengal; the term signifies a merchant, trader, or commercial *employé*. The banyan acts as interpreter and agent, and generally manages the money dealings of his European employer with the natives. This description

of official is very fond of assuming the title *dewan*, which is expressive of authority delegated to a confidential person, and is used by the native princes in transactions of palace regulation, of state, and of policy. The banyans are always Hindoos, and generally persons of property, influence, and commercial credit. These men have gained great influence over the English houses of business, and transact much of the monetary and commercial affairs of the presidencies. Their bonds of security are taken in government contracts, and they often control the fate of an embarrassed concern. Sometimes those men have been found convenient instruments by officials who had the power to bestow a contract, and which of course the individual holding the patronage dared not bestow upon

* See chap. xiii. p. 286.

himself. The banyan receives the contract ostensibly, but really for the official, who virtually confers it upon himself, the native agent accepting a per centage for his trouble and responsibility.

The bearing of the banyan towards his European employer was formerly, and to some extent is still, very independent, and sometimes arrogant. He entered the office slipshod, which is a tacit assertion of equality, and there conducted himself as if he were *major domo*, giving directions to his *sircars*, *hircarabs*, &c., classes of underlings by whom the great man was attended. Of late years these persons have become unfashionable, but their pecuniary resources are such that in large speculations, and when heavy advances to indigo and sugar-planters are necessary, their aid is indispensable.

In Madras similar persons are called *dubash*, a corruption of *divi bashi*, one who can speak two languages, referring to the freedom with which these men can speak and write English as well as their native tongue. The same is the case with the banyans of Bengal, and frequently even with the *sircars* and *hircarabs* by whom they are attended. When the services of all these classes are dispensed with, native clerks are employed, who can read and write English with accuracy and fluency.

The warehouses of the chief presidential cities are called *godowns*. In these, or in bonded warehouses, the produce imported to India is placed.

The *baboos*, *purvoes*, and other native commercial servants, are content to receive very small salaries, commonly ranging from £15 to £60 per year; but some have as much as £180 a year, and a few somewhat more.

Peons are attached to most offices to carry notes—or *chits*, as they are termed—to various places of business. This sort of service is rendered necessary by the severe heat, rendering active exertion on the part of Europeans often impossible, and generally difficult.

Bills of exchange, called *hoondees*, are used for remittance from one part of India to another. They are obtained from bankers, who abound in all the important cities.

Treasury notes are much used for remittance by the offices of government. These are bills issued by the civil authorities for cash paid to them.

Securities in government notes, bearing interest, similar to our exchequer bills, are much sought after by those who are desirous to make investments, whether Europeans or natives. These government promissory notes are useful as deposits for loans, in which way money can always be obtained cheaply by

those desirous of retaining the stock, but requiring advances.

Bank-notes are issued by the banks in India, and obtain circulation to a moderate extent.

Monetary transactions between England and India are conducted mainly by bills of exchange, supported by bills of lading.

The coinage of India consists of *rupees*, *annas*, and *pice*. One rupee equals sixteen annas; one anna equals three pice. The rupee is a silver coin, about the size and value of a florin, and is divisible into *half-rupees* and *quarter-rupees*. The only gold coin existing in Bengal is the *mohur*, which is worth sixteen rupees, or thirty-two shillings British money. This coin is, however, seldom seen, as one class of natives export it when it comes into their possession, and others melt it down for the purpose of fabricating personal ornaments. In Madras the *star pagoda* was once circulated, but is now hardly known. On the coasts, and to some extent in the interior, among the poorest classes, *cowries* have currency. These are small shells; their value fluctuates so much, that copper coin is rapidly displacing them.

In the conversion of the rupee into the equivalent currency of other nations in drawing bills of exchange, the fluctuation of the relative value of the precious metals *inter se* is taken into consideration, from the circumstance of gold being in some, and silver in others, the legal medium of circulation. It is also necessary to take account for the mint charge for coining at each place, which adds a fictitious value to the local coin. The *par of exchange* is, for these reasons, a somewhat ambiguous term, requiring to be distinguished under two more definite denominations: first, the *intrinsic par*, which represents that case in which the pure metal contained in the parallel denominations of coins is equal; secondly, the *commercial par*, or that case in which the current value of the coinage at each place (after deducting the seignorage leviable for coinage) is equal, or, in other words, "two sums of money of different countries are *commercially* at par, while they can *purchase* an equal quantity of the same kind of pure metal." Thus, if silver be taken from India to England, it must be sold to a bullion merchant at the market price, the proprietor receiving payment in gold (or notes convertible into it). The London mint is closed against the importer of silver, which metal has not, therefore, a minimum value in the English market, fixed by the mint price, although it has so in Calcutta, where it may always be converted into coin at a charge of two per cent. On the other hand,

if a remittance in gold be made from India to England, its out-turn there is known and fixed. The new *Calcutta gold mohur* fluctuates as considerably in India as that of silver does in England, the natural tendency of commerce being to bring to an equilibrium the operations of exchange in the two metals. The exchange between England and India has, therefore, a twofold expression: for silver, the price of the *sicca rupee* in shillings and pence; for gold, the price of the sovereign in rupees.*

In the Straits settlements, and in the Island of Ceylon, the *Spanish dollar* is the coin which circulates most freely. It has been shown in the chapters describing these places that the merchants and settlers prefer this coin to the rupee, with which the government of India desire to supersede it. At Aden the *Austrian dollar* circulates.

The system of British India weights and measures is founded upon the principle of making the *maund*, or highest nominal weight, equal to one hundred English troy pounds, and thirty-five *seers* equal to seventy-two pounds avoirdupois, thus establishing a simple connection, void of fractions, between the two English metrical scales and that of India. The unit of the British *ponderary system* is called the *tola*. It weighs a hundred and eighty grains English troy weight. From it upwards are derived the heavy weights, viz., the *chittack*, the *seer*, and *maund*:—

	lbs.	oz.	dwt.	grs.
The maund is equal to	100	0	0	0
The seer " 	2	6	0	0
The chittack " 	1	17	12	0
The tola " 			7	12+

The weights used by goldsmiths and jewellers are smaller—such as the *masha*, which is equivalent to fifteen grains; the *cutte*, which is equal to 1·875; the *dhau*, which is but one-fourth of a grain.

The currency of India is a subject which of late years has undergone sharp discussion both in the presidencies and at home. It has engaged the serious attention of the board of directors, and has obtained perhaps an equally earnest consideration from financiers and political economists. The currency of a country is a subject as closely connected with government as with commerce, and might be discussed with equal propriety under either head; but the influence of Indian currency, regarded in all its conditions, upon the commerce of that country is so determinate and important, and is so rapidly being developed in new phases, that this chapter seems the most proper place for treating of it.

The legal tender in India is silver, and the

* Captain Stocqueler.

† Ibid.

amount in circulation is probably a hundred and forty millions sterling, although some writers estimate it as high as a hundred and sixty millions. The *company's rupee* consists of 11·12, or 165 grains of pure silver, and 1·12, or fifteen grains of alloy. Considerable hesitation seems to have pervaded the councils of the government of India in making silver the sole legal tender. Lord Cornwallis, at the time he established the *sicca rupee* for the currency of Bengal, also regulated the circulation of the *old gold mohur* as a legal tender for sixteen *sicca rupees*, "but that coin was always of a high agio, and never found place in the currency of the country." Prices were expressed in rupees. The land settlements by the Marquis of Cornwallis himself were regulated in rupees, and the public debt was contracted in the same coin. Since the time of Akbar gold coin has had a fluctuating value, and was bought and sold at an agio for presentations and offerings to great men, and for weddings and religious ceremonies, while silver was used as the basis of the circulation. In the south of India the *gold pagoda* circulated until within the last thirty years. It seems to have been alike the desire of the government and people of India to withdraw the gold currency, and substitute silver. In a letter from the government of India to the court of directors, dated the 24th of June, 1835, the following decision is expressed:—"No gold coin will henceforward be a legal tender of payment in any of the territories of the East India Company; but the gold pieces to be hereafter coined will circulate at whatever rate of value relatively to the legal silver currency of the country they may bear to currency. The governor-general in council will from time to time fix the rate by proclamation in the *Calcutta Gazette* at which they shall be received and issued at the public treasuries, in lieu of the legal silver currency of British India. Until further orders, that rate will be as the names of the tokens denote—the *gold mohur* for fifteen rupees; the *five rupee piece* for five rupees; the *ten rupee piece* for ten rupees; the *thirty rupee piece* for thirty rupees."

It was soon seen by the Indian government that, as these gold coins were not a legal tender, their issue at a prescribed rate in relation to the coin which was a legal tender was inconsistent and impracticable, and accordingly, in 1841, by proclamation, the public functionaries were authorized to receive them at the previous rate of fifteen to one, "to be disposed of as might be ordered by the accountant-general, or the accountant of the presidency."

In 1844 it seems to have been the policy

of the government to encourage the coinage of gold, for a reduction of seignorage from two to one per cent. was ordered on gold bullion coined in Madras and Bombay. This rate had existed in Bengal for seven years previous. The seignorage on silver coin remained at two per cent.

In 1860 the value of gold in relation to silver had so sensibly depreciated, and the prospect of a further relative depreciation appeared so certain, that the sub-treasurer at Calcutta made a report upon the subject. This condition of things continued to impress the government, and in 1862 notice was given that payment in gold would not be received in the public treasury; and that the act of 1835, instituting silver as the exclusive standard of value, would be enforced.

Objections are taken to silver as the standard. One of these rests on the desirableness, if not the necessity, of having the same legal tender as in the country whose supremacy gives law to India. Another is founded on the cumbrous nature of an exclusive silver currency creating extensive inconvenience to the government, which is obliged to hold larger balances than would, it is alleged, be necessary with a more available currency. It is an established rule in India to have a balance of eight millions, and it is generally half as much more. In 1855, when the public works loan was contracted, there was a balance held of eight millions, but the loan was resorted to because there was not enough in the Calcutta treasury for even an expenditure of two months. It is replied to this objection, and with reason, that the area of territory is so vast, and the means of transit so imperfect over a large portion of that area, that it would be difficult in emergencies to make either gold or silver available to a large amount at any given place. The troops being quartered in garrisons so numerous and remote, and the various centres of government being so widespread, it is necessary that treasuries be maintained in numerous places far away from the seat of the supreme government. An experienced public officer, well known in India and in England, thus expressed himself on this subject:—"Although I entirely agree in the opinion that under the present system a cash balance of upwards of eight crores has been proved to be insufficient, I am still of opinion that under a different system that amount would be an ample working capital wherewith to administer the government in ordinary times. Eight or nine millions of money, of which not a farthing is available wherewith to answer an unexpected demand, seems to me an enormous sum to be required merely as it were to

oil the financial machinery. I cannot but think that too large an aggregate sum is allowed to be frittered away among too many small treasuries. There is really only one place where it is of importance to have always a large spare balance, and that is the general treasury of Calcutta. Of four-fifths of the district treasuries any one may be run dry any day without any public inconvenience; nevertheless, the greater part of the eight or nine millions is always lying in these small treasuries. It would require much time, detailed knowledge, and thought, to make an effectual and safe alteration of this system in this respect, but I cannot believe that it is not to be done." *

The impossibility of rapidly concentrating specie, from the great bulk and weight of money in silver, constrains the employment of a large number of the military in conducting and guarding treasure. The testimony of Sir Charles Napier as to the injury thus sustained to the public service is important:—"Treasure ought to be guarded by the *bir-kendases* and *chupprassees*, but regular troops are employed by regiments, wings, detachments, and their marches are usually in the hottest season of the year and to great distances. Sometimes they are two or three months under European officers, often young, inexperienced, and unable, from the heat, to exert themselves. The duty is, therefore, done according to their bodily strength, the general relaxation of discipline in the army, and particular state of it in each regiment, and always such fatigue is incurred in guarding treasure in the hot season as to oppress natives as well as Europeans, officers and sepoys. These treasure guards resemble the Cape patrols against Caffres as to fatigue; but the patrols are made in the finest climate in the world, whereas the Indian treasure guards march in floods of heat, and exposed to deadly fevers. The patrol soldiers are cheered by a glory which their devotion, courage, and endurance merit. The poor treasure guard sepoy has no glory, no moral support under suffering; he falls under fatigue, the sun, and fever, unheeded, unheard of, a victim to duties not military. Between the 1st of January and the 31st of October of the following year 25,716 infantry and 3364 cavalry—total, 29,080 soldiers—were furnished for treasure escorts alone, exclusive of all other civil duties. Moreover, on nine occasions detachments, in two instances of whole regiments, are not included, because, from accidents, their numbers are not in my possession. Even this falls short of the truth.

* Minute of Mr. J. P. Grant on the Public Works Loan, Parliamentary Paper 280, Session 1855.

During part of that time the general relief of corps was going on, and treasure was frequently sent with relieving regiments not included above. From twenty to thirty thousand men are, therefore, annually employed on this one branch of civil duty, for long periods and to great distances. Such are the severe trials of the Bengal army, injurious to its discipline, heart-breaking to its best officers, who are devoted to the service." *

It is affirmed by the objectors to a silver currency that the inconvenience experienced by the government is shared by the commercial community, and is felt by the whole population of India. It is necessary for the merchants and bankers to employ a numerous class of persons to convey remittances. They carry about a thousand rupees (£100) each upon their persons, so that ten men are engaged in the service of remitting £1000! The same burden in sovereigns for each man would amount in value to £1600. The Thugs, Dacoits, and other robbers, are expert in lying in wait for treasure-bearers. In reply to these objections it is urged that there cannot be two legal tenders, one of gold and one of silver; and that so small are the payments made to the sepoy and among the people to one another, that a currency such as exists would alone be adapted to the wants of the country. It is also maintained that notwithstanding such inconveniences as may be supposed or proved to exist, the people and the government find the advantages of the actual currency more than a counter-balance. It is affirmed by the advocates of the rupee standard that even now, for the first time, if provision were to be made for the currency of such a country, the silver standard would be the better; but that having existed for so long a period, and thoroughly meeting the wishes and necessities of the people at large, any attempt to abolish the silver for a gold currency would be unnecessary and empirical.

A more important argument against making gold a legal tender, is founded on the fact that the public debt, and all public salaries and engagements, have been contracted for on the basis of a legal tender of silver. Gold is, in relation to silver, steadily sinking in value; the average yield of the silver mines of the world is about eight millions per year, and the supply, if not stationary, increases slowly, whereas the supply of gold has increased greatly. Silver is, therefore, more valuable now in relation to gold than when the public debt was incurred, and the engagements of the country, based on the silver standard, were formed. By the amount of this difference

the property of the public and private creditor, and the covenanted servants of the government, would be confiscated. This argument has undoubtedly weighed both with the government of India, the directors, and British cabinets.

The alteration of the legal tender from silver to gold, while the tendency in their relative value continues to be what it is, would create a revolution of prices in India of a serious nature. Where gold is the standard, its increasing quantities have raised the relative value of all other commodities as well as of silver, but this change has not taken place in India, because the standard was not gold. On the contrary, the increased value of silver tends to lower prices, but the effect as yet is not appreciable to any great degree, because the influx of silver has been equal to the demand. If gold be made a legal tender, the result must be the same in India as in England—all other things being equal—an upward tendency in prices.

From these considerations it is obvious that if such a change be made in India at all, it must be wrought out with care, with a scrupulous regard to vested interests, and so as to disturb as little as possible the commerce and economy of the country.

Closely connected with the question of the existence of silver as the legal tender of India, is the subject of the importation of silver into that country. In the vulgar *parlance* of mercantile affairs the balance of trade is in favour of India. According to the principles of political economy there can, of course, be no balance of trade in favour of any country. The precious metals are commodities to be received or exported as other articles of commerce. India receives silver because she prefers that return for her exports, either from necessity or taste. If any other article becomes more valued, she will, as a matter of ordinary traffic, export her silver to obtain it, if she do not possess some other articles more in request by her customers, and which she prefers to part with. China receives silver for her tea from Europe, but she readily parts with it again for opium to India. Both nations follow, in their dealing, a common and determinate law, which must operate upon their relations with others, according to mutual necessities and means of supply. India is not rich in gold and silver, and in all ages she has placed a high value upon them. Accordingly, she has always been an importer to a large extent, so that Pliny called her "the sink of the precious metals." The eagerness of the natives of all these vast regions for gold and silver ornaments, and the few things, comparatively,

* *Indian Misgovernment*, fourth edition, p. 233.

which they require among the productions of other countries, will account for this continued importation. That it has now reached a vast magnitude, is evident from an examination of existing documents. Colonel Sykes, M.P., a distinguished member of the committee in Leadenhall Street, and formerly its chairman, has given very particular attention to the matter.* According to this authority, India imported in the eight years ending 30th of April, 1842, bullion to the amount of fifteen millions sterling. According to another authority,† the bullion imported during the seven years ending 30th of April, 1849, was sixteen millions. Colonel Sykes affirms that during the five years ending the 30th of April, 1854, the bullion imported reached the value of nineteen millions. In 1855-6 she received from Great Britain and the Mediterranean ports alone £9,340,664, all of which, except £37,148, was in silver. In 1857 she received from the same places £226,750 in gold, and £13,246,684 in silver. Besides these immense imports in those latter years, she received also a considerable amount from China. The total export of silver to India and China in 1857, was twenty millions sterling, the demand of China being nearly equal to that of India. This large amount is more than double the produce of silver for that year from all the mines where it is obtained. The silver received in India has been chiefly in coin, yet this vast increase to the currency has not in any appreciable manner affected prices.

Independent of the natural operation of the laws of political economy already referred to, there have been social and political influences at work in India which caused the absorption of such vast sums. The love of ornaments—of the precious metals—has always operated in that direction, but more so in seasons of insecurity. There can be no doubt that a large portion of the people of India, as well as the whole Bengal army, expected for some years a revolt on a vast scale against British ascendancy. This led to an increase in the use of bracelets, anklets, earrings, necklaces, and waistbands of silver, as it was believed to be the safest mode in which treasure could be preserved.

The habit of secret hoarding grows upon a people whose lot is insecure, and remains long after the peculiar circumstances which led to it have passed away; this has been another

* *The External Commerce of British India.* By Colonel Sykes, F.R.S. (Read before the Statistical Society, 21st of January, 1856, and reprinted from their Journal.)

† Tables of imports and exports for the three presidencies, in the Appendix to the Commons' Reports on Indian Affairs for 1852, p. 841.

source of the absorption of silver. The expectation so widely entertained of a coming convulsion, increased this habit during the last few years, and will partly account for the little influence upon prices, and upon the circulation which these large imports created.

The political causes which have operated have aided the social influences already in existence. As compared with that of native governments, the system of the East India Company occasions the necessity of a far more extended currency. Under the former the troops were to a certain extent paid in kind, and in a great degree supported on the lands of those to whom they owed a feudal service of arms. The company pays all its servants in cash. The creation of a public debt, the interest of which has to be paid in coin, creates another demand. The remission of several millions sterling per annum from India to the home government of necessity creates a demand for coin to meet the drain, although this tribute is paid in produce. The power of these governmental operations may be gathered from the chapters on revenue already before the reader, and from the following general glance:—The receipts of the home treasury of the East India Company from the 1st of January to the 30th of April, 1858, are estimated at £5,156,023, and the disbursements at £4,296,065, leaving a balance in favour of £859,958. The disbursements for the year ending the 30th of April, 1859, are estimated at £11,186,026, being—for Indian railways, £2,511,093; payments to government, £1,474,711; annuities, &c., payable in England, £1,408,480; stores and transport, 1,099,442; loan from the Bank of England, repayable on the 1st of October next, £1,000,000; minimum amount required to be held in cash, £1,000,000; dividends and interest, £980,000; bonds notified for discharge, £653,900; general charges, £595,800; amount repayable to security fund, £315,000; and bills of exchange and homeward, &c., £152,600. To meet these disbursements there will be available £2,500,000 from Indian railway companies, £120,000 from government for supplies, a like sum from bills of exchange on India, and the estimated balance in hand, amounting in all to £3,599,958, and leaving a deficiency of £7,586,068.*

Independent of the action of government in reference to cash payments, the funded debt, and the home tribute, there was another cause in the *modus operandi* in collecting the land revenue. This source of taxation, as shown on a former page, was transmitted from the native princes, but they very generally received payment in kind, whereas the

* The *Times*' city article, January, 1858.

British insisted upon payment in cash. This was the secret of the sufferings of the ryots, although so lightly taxed. In the settlement of the Punjab Sir Henry Lawrence found the desire for payments in kind one of the chief obstructions to the progress of his salutary measures. The motive was the same as actuated the ryots in India to urge the same request—viz., the fact of cash payments lowering prices. This was invariably the first effect produced by insisting upon the payment of the land revenue in rupees. The *Bombay Quarterly Review* places the subject in this light:—"An all-important step in Anglo-Indian administration was to collect the land-tax in money instead of realizing it in kind, according to the practice which had virtually, if not nominally, obtained to a great extent under native rule. The immediate and inevitable consequence of this general enforcement of money assessments was, that the amount of coin previously circulating, and sufficient for the adjustment of the limited transactions connected with revenue and commerce under the native system, proved quite inadequate for the settlement, without a derangement of prices, of the greatly enlarged transactions resulting from the British system. Under the native system the sale for cash of a small part of the agricultural produce of a district sufficed to provide for all its liabilities connected with taxation and commerce. Under the British system, on the contrary, twice, or perhaps three times, the quantity of produce had to be so sold in order to provide for the same objects, owing to the whole amount of the land-tax being demanded in coin. But the supply of coin remaining as before, the effect of this increased demand for it was of course to enhance its price. The coin in circulation had to perform double or treble the work it had accomplished before. The ryot, requiring more cash to pay his money assessment, had of course to bring more produce to market, which occasioned a glut, and brought down prices. And this state of things was aggravated by the demand for grain and forage in the country markets being less than before, owing to the disbanding of the irregular force which had been kept up by the native *jagheerdars* and other functionaries of the former government, and to the increased production due to an extension of cultivation by means of these disbanded levies. Prices fell more and more, until in many cases our collectors found it to be wholly impossible to collect the full land assessment, and large remissions had to be annually made. The village grain merchants, who are also the village bankers, deprived of a sufficient market at their own doors, were compelled, in

order to find money to supply their constituents with, to seek more distant markets for the disposal of the produce left upon their hands in liquidation of advances previously made by them to the ryots. This awakened a spirit of greater enterprise and activity among the commercial classes, which was gradually communicated to the ryots, and laid the germ of that active foreign trade which now advances with gigantic strides, and has already penetrated into the remotest recesses of the interior. This collateral benefit conferred by the British plan of administration, has fairly set free the dormant energies of the people."

The influx of silver will raise the price of gold and of all other commodities in India, eventually necessitating the exportation of the surplus silver, unless the discovery of new mines elsewhere greatly increase the quantity. The efforts of France and the United States of America to displace their silver currency by gold, set free an amount of the former which sustained the large European exports to the East. Other countries, following the example of these nations, will set free a further amount of silver, which will inevitably flow in the same direction. But when the railways are completed in India, and the commerce of different parts of her territory with one another is developed, and of all India with other portions of the East, a natural reaction will gradually take place.

It has been remarked that the influx of silver to India came to a considerable extent through China, in consequence of the opium trade between India and that country. China, by her immense exportations of tea and silk, and her comparatively small imports of European and American productions, receives a large quantity of silver, and this must be taken into account in calculating the relation of the Indian demand to the supply of that metal. The general trade of China was stated in the chapter upon that country. It is here only necessary to show the present prospects of the grand staple of Chinese export, tea, which is chiefly exchanged for silver, to enable the reader to form some judgment upon the subject. On another page the opium export to China from India, which is chiefly given in return for silver, will furnish additional data for general conclusions. The following account of the character of the tea trade with China during the year 1867, from the trade circular of an eminent house in the city, furnishes the fullest and most recent information for the present purpose:—

"The course of the tea market during the past year has been checkered—the range of fluctuation fully 20 per cent.; while the result

shows an average advance of about 10 per cent. upon most descriptions of black, and a fall of from 15 to 20 per cent. on some classes of green. It opened under considerable excitement, and large speculative business ensued at enhancing prices, stimulated by the news of the burning of the foreign factories at Canton, and the prospect of the partial stoppage of exports. Shortly after the whole trade was disarranged, and almost paralyzed, by the sudden proposition to put the duty at a higher point than had been previously fixed by law; and, although this matter was subsequently compromised at 1s. 5d. per pound, the previous tone of the market was not recovered, and considerable sales were made at a material decline. On the new duties coming into full operation, and the deliveries being found to be so much larger than was expected (the duty payments in one month having been on fifteen millions of pounds), all parties showed increased confidence, and this was greatly strengthened by the confirmation of the expected large falling off of the supplies for the season of 1856-7, proving ultimately to be no less than twenty-seven millions. A demand having simultaneously sprung up for export to the United States for both black and green, a large amount of business was done at an advance of from 1½d. to 2d. per pound.

"During the next four months the fluctuations were unimportant, but prices were on the whole well sustained, the departure of Lord Elgin from China to India aiding speculation. The highest general range was, however, now attained, for, although the account of the first crop of Kisows was confirmed, and most extravagant prices were being paid in China for the new teas, under the idea that this would be another year of short supply, and that prices must consequently advance at home, the report of continued shipments led to a decline here. In October came the American crisis, and eventually a fall of 1½d. to 2d. per pound on black, and 3d. to 4d. per pound on several sorts of green was submitted to. From this there was no recovery; and as the money pressure became more and more severe, so prices further gave way (although the principal importers held their stocks altogether off the market), as the necessities of parties (chiefly speculators) compelled them to realize. Subsequently a gradual restoration of confidence resulted. Meanwhile, general business was almost suspended; the tea trade suffered less than many others, but common congou gradually drooped until sales were made for cash at 11d., and ordinary was unsaleable at 10d. per pound. There were, however, no sellers of sound on

usual three months' terms under 1s. per pound. On receipt of the telegraphic news of the expected attack on Canton a slightly revived demand took place, and during the last two days of the year transactions were reported at 1s. 0½d. and 1s. 0¼d. per pound for common congou. The imports into the United Kingdom have been 61,000,000 lbs., against 87,741,000 lbs. in 1856. The deliveries for home consumption have been 69,000,000 lbs., against 63,000,000 lbs. in 1856. The deliveries for exportation have been 9,000,000 lbs. against 6,241,000 lb. in 1856. The stock remaining on the 31st of December was 71,000,000 lbs., against 88,000,000 lbs. in 1856.

"The imports have fallen off no less than 26,750,000 lbs. as compared with last year, being about 15,750,000 lbs. short of the average of the previous five years. The deliveries show a total surplus of 8,750,000 lbs. over last year, and about 9,500,000 lbs. beyond the average of the five previous years. Of the excess, 6,000,000 lbs. was in the quantity taken for home consumption, and 2,750,000 lbs. in the exports, chiefly to the United States. The present stock, although 17,000,000 lbs. less than at the end of 1856, is still nearly equal to eleven months' requirement at this year's rate of delivery, and 5,000,000 lbs. beyond the average of the preceding five years."

Imports by India and China of European goods increase, but they are small compared with the exports of eastern produce. China indeed is a large importer from India, but that circumstance is chiefly due to the passion for opium. England does not find such a market for her manufactures in the East, as her vast imports thence would justify her in expecting. From Great Britain and Ireland the exports to Australia are nearly as great as those to the East Indies. During the year 1857, they were—to Australia, £11,626,146; to the East Indies only £11,648,341. This state of things admits of explanation. A writer who paid attention especially to the condition of the presidency of Bombay says:—"Not only the principal towns and cities, but many of the larger description of villages are abundantly supplied with European manufactures of every sort, such as the natives require. They are provided with these by a race of men who purchase the commodities at Bombay, and retail them all over the Deccan. The articles generally consist of woollens, English chintzes, knives, scissors, razors, spectacles, looking-glasses, small prints, and different sorts of hardware; but the great mass of the people have not the means, if they had the inclination, to purchase any

considerable quantity of European goods. Any surplus that remains after the immediate supply of their necessities is always expended in their festivals, marriages, and religious ceremonies." When it is alleged that not only the principal towns and cities, but also the villages, are abundantly supplied with European manufactures, it is not intended to say that any very great importation of such articles is made; but merely that the limited wants of the people are met, that there is no difficulty in the way of their obtaining such articles either from their inaccessibleness, or the want of means of conveyance to remote districts. It is admitted that the power of the natives to purchase is small, and that a taste for European articles is not yet formed among the masses, however it may partially exist among the natives of rank. Yet while the exports of India have been increasing out of all proportion to the imports, Mr. H. Green, the professor of literature at Poonah College, in his work on the Deccan ryots, represents the grand want of India to be increased export, and the chief source of impoverishment, the importation of foreign commodities. His words are :—"The great desiderata are—more varieties of industry, and, above all things, more eligible and more abundant exports. Under our rule an unheard-of portion of the revenue of the country is spent for foreign commodities. A governor, a member of council, a judge, or a collector, does not, as a native rajah or jagheerदार would, spend his income on crowds of retainers and hangers on of all kinds, creating a large demand for bajree, jowaree, ghee, and ghooor—he requires Long-Acre carriages, Arabian horses, French and Spanish wines, Parisian and London millinery, and a long list of foreign etceteras. The rich native also now imitates him in almost all these things, and even the comparatively poor one expends whatever revenue he may have, beyond what is just sufficient to supply him with necessities, in English cloth and copper, and China silver and silk. This intense demand for foreign commodities renders it of vital importance that the exports which are to pay for them—and to provide also, if we are considering the case of all India, for the large tribute which in various shapes we exact, but of which the Deccan probably pays no portion whatever—should be such as are in their turn greatly in demand among foreigners, and contain considerable value in small bulk, so as to be easily and cheaply transported. Our rule will be light or heavy in India, almost in exact proportion to the facility or the difficulty which the country has in creating a demand abroad for its products. Let us sup-

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pose a native prince and nobility—such as Bajirao and the Mahratta sirdars—were to suddenly change their tastes and habits, to dismiss the swarms of Brahmins hanging about them, and the sowars, peons, ghorawallas, and troops of idle servants, to whose maintenance their revenues had hitherto been devoted, to keep but few horses, and these purchased from the Persian Gulf instead of from the valley of the Bheemthurry, and to spend, as we do, the revenues which supported all these dependents in every variety of foreign luxury. The first effect, evidently, must be great misery to the classes thus deprived of their accustomed means of living; the second, that the money no longer finding its way through these to the grain and other provision dealers, and through them to the producers, these latter will not have it to return to their rulers as revenue—there will be a general inability to pay the former rates for land, and every symptom of poverty and distress. In the meantime, the foreign luxuries in question being at first paid for in silver, the drain of this from the province will have produced falling prices. When these have fallen low enough to make it profitable to export the rude produce of the country, the drain will stop, and the foreign goods be henceforth paid for by these greatly deteriorated products."

That the improvement of India will keep pace with her importation of useful foreign commodities in exchange for her own productions is so obvious to all who are acquainted with the principles of political economy, that it is surprising to find men of note regarding her imports of the produce of other lands a disadvantage, and her exports for specie as her real profit. The lessons of a distinguished political economist might be studied by this class of the friends of Indian progress with advantage :—"The commerce of one country with another is, in fact, merely an extension of that division of labour by which so many benefits are conferred upon the human race. As the same country is rendered the richer by the trade of one province with another, so its labour becomes thus infinitely more divided and more productive than it could otherwise have been; and as the mutual supply to one another of all the accommodations which one province has and the other wants multiplies the accommodation of the whole, the country becomes thus, in a wonderful degree, more opulent and happy. The same beautiful train of consequences is observable in the world at large—that great empire of which the different kingdoms and tribes of men may be regarded as the provinces. In this magnificent empire, too, one province is favour-

able to the production of one species of accommodation, and another province to another. By their mutual intercourse they are enabled to sort and distribute their labour as most peculiarly suits the genius of each particular spot. The labour of the human race thus becomes much more productive, and every species of accommodation is afforded in much greater abundance. The same number of labourers whose efforts might have been expended in producing a very insignificant quantity of home-made luxuries may thus, in Great Britain, produce a quantity of articles for exportation, accommodated to the wants of other places, and peculiarly suited to the genius of Britain to furnish, which will purchase for her an accumulation of the luxuries of every quarter of the globe." *

The articles now chiefly imported by India are those which are rendered necessary or desirable by the presence of her conquerors; but the wealthy natives also consume many European products. The industrial population of India use little of the foreign articles which are set down upon her shores. The following account of her imports by Stocqueler gives too glowing a picture of what, nevertheless, is substantially true:—"The imports of India comprise every single product of Europe that can be calculated to improve the comfort or promote the luxury of man in a civilized state. The raw cotton received from her is returned, after it has passed through the looms of Manchester, Preston, and Paisley, in millions of yards. Hundreds of ships from England, the Clyde, from France, and the United States, visit her ports annually, laden with hardware and cutlery, with wines, ales, hams, cheeses, woollens, rich glass manufactures, books, bronze articles, steam-engines, printing-presses, varieties of iron and brass machines, paper, hats, carriages, horses, furniture—in short, every production of nature, every offspring of the handiwork of man, excepting such articles as are only adapted to the severest frosty regions, are carried to India. The carrying trade between Europe and India is conducted in vessels of all dimensions, from three to fifteen hundred tons. The steamers which ply round the Cape, and between the Red Sea and India, carry but a small amount of cargo." The aggregate value of this commerce, thus described with so much warmth, is, so far as exports from the British Isles are concerned, not much larger than that taken by some of our thinly peopled colonies inhabited by our own race.

The exports of India are indeed surprising in their variety, and vast in value. The writer last quoted thus describes them:—"It

* John Stuart Mill.

would be difficult in describing the produce of India, which constitutes her exports, to distinguish very minutely between what has been grown and manufactured within the vast continent, and what has been conveyed thither from the Malayan peninsula, the islands of the Eastern Archipelago, China, Persia, &c., for the purpose of being re-shipped. An enumeration alone can be given of the articles which are brought to England and carried to other lands, leaving to persons interested in such inquiries to distinguish between the absolute offspring of the soil of India, and the goods of which her ports have temporarily become the emporia. According, then, to the returns to which access has been obtained, the grand exports from India consist of indigo, sugar, cotton, salt-petre, opium, silk, rice, pepper, betel-nuts, coffee, teak-timber, tobacco, drugs, dye-stuffs, sugar-candy, cocoa-nut oil, cochineal, coir, wax, ginger, cowries (shells), shawls, tamarrinds, talc, chillies: all these are undoubtedly the produce of India proper. Of the following very many may be from India, but the most part are yielded by the islands and coasts in her vicinity, and the empire of China:—Tea, ivory, lac, gold and silver filagree-work, cornelians, ghee, grain, oils, putchcock, seeds, soap, horses, sarda, cassia, turmeric, ambergris, colombo root, elephants' teeth, fish maws, sandal-wood, zedoary, coarse piece goods, nankeen, dried fruits, tortoise-shell, cinnamon, arrack, areka-nuts, wild honey, precious stones, copperas, pearls, carpets, dholl, flax, hemp, hides, horns, black salt, copper, tin, lead, wood-oil, earth-oil, dammer, silver, naptha, birds' nests, timber, rattans, gold-dust, camphor, gum benjamin, argus' feathers, kajiput oil, cloves, nutmegs, brimstone, birds of paradise, gum copal, civet, salt, rose-water, ottar of roses, sapan-wood, tutenague, shrimp caviar, cones, dragons' blood, borax, and a multitude of drugs and cotton piece goods of rude manufacture."

To state the exact quantities of all these different articles imported into Great Britain and Ireland would be scarcely possible or necessary. A return moved for by Mr. Gregson, M.P., shows that there were imported in 1856 from places within the limits of the East India Company's charter and other parts (among other articles)—542,330 lbs. of aloes, 4651 cwt. of borax (refined), 4505 cwt. of camphor (unrefined), 7,840,702 canes or rattans, 19,035 cwt. of cowries, 56,257 lbs. of cubebs, 9266 cwt. of elephants' teeth, 1288 of gum asafetida, 70,870 cwt. of gum Arabic, 14,766 of gum shellac, and 10,975 of lac dye; 15,557 cwt. of gutta percha, 1,502,626 cwt. of raw hemp, 653,156 cwt. of raw hides, and

3,238,116 lbs. of tanned hides; 30,093 cwt. of castor oil, 192,424 lbs. of rhubarb, 32,694 quarters of rough rice, and 3,692,001 cwt. of rice (not rough or in husk); 8018 cwt. of safflower, 137,068 cwt. of sago, 387,639 cwt. of saltpetre, 1,180,180 quarters of flax and linseed, 264,920 quarters of rape-seed, and 426,183 lbs. of senna; 9,398,911 lbs. of raw silk, 601,461 pieces of corahs, choppas, bandanas, Tussore cloths, Romals, and taffeties, 34,460 lbs. of China crape shawls, scarfs, and handkerchiefs, 20,337 yards of China damask, and 18,622 pieces of Pongee handkerchiefs; 1,408,021 lbs. of cassia lignea, 119,270 lbs. of cassia buds, 781,231 lbs. of cinnamon, 1,502,315 lbs. of cloves, 14,035 cwt. of ginger, 18,112 lbs. of mace, 462,600 lbs. of nutmegs, 10,810,398 lbs. of pepper, 69,282 cwt. of block tin, 12,761 cwt. of unbleached beeswax, and 21,620 loads of teak-wood.

The year 1857, notwithstanding the war in China and the revolt in India, afforded many indications of the vast expansion our oriental commerce is destined to receive. Accounts moved for by Mr. Gregson, M.P., and published by command of the Honourable the House of Commons, show that the declared value of the British and Irish produce and manufactures exported from the United Kingdom to the East India Company's territories and Ceylon in the year 1857 amounted to, in all, £13,080,662, against £11,807,439, £10,927,694, £10,025,969, and £8,185,695, in the preceding years 1856, 1855, 1854, and 1853. The exports of home produce to India last year included £208,288 worth of apparel, slops, and haberdashery; £337,504 of arms and ammunition; £267,733 of ale and beer; £591,183 of brass and copper goods; £171,519 of coals, &c.; £5,786,471 of cotton manufactures, and £1,147,379 of cotton yarn; for hardwares and cutlery, £218,878; for iron and steel, £1,736,440; £100,401 worth of linen manufactures and yarn; £558,964 of machinery and millwork; £160,837 of stationery; and £552,767 of woollen manufactures and yarn. Umbrellas and parasols, so necessary in an Indian climate, figure for £69,320 only, and silk goods for £10,374 only.

The articles imported into the United Kingdom from India and China in 1857, and actually entered for home consumption, included 35,965 lbs. of cinnamon, 166,981 lbs. of cloves, 24,740,162 lbs. of coffee, 31,178 quarters of wheat, 5300 cwt. of raw ginger, 162,440 lbs. of nutmegs, 3,200,956 lbs. of pepper, 1,356,410 cwt. of rice (not rough nor in husk), and 16,862 quarters of rough (husk) rice, 129,211 cwt. of sago, 90,136 pieces of bandanas, corahs, choppas, Tussore cloths,

Romals, and taffeties, 4639 gallons of rum, 1,083,118 cwt. of unrefined sugar, and 859,543 lbs. of tea. A large quantity of wool was imported, but none of it appears to have been entered for home consumption, although free of duty. The value of the above exports from England to India is not given. To China last year were exported British produce and manufactured goods to the value of £2,450,307, against £2,216,123 in 1856, £1,277,944 in 1855, and £1,000,716 in 1854. More than one moiety, amounting to £1,573,828, was composed of cotton goods, while woollens figured for £285,852, cotton yarn for £158,081, and lead and shot for £92,623. The articles imported from China to this country in 1857, and entered for actual consumption in the United Kingdom, included 82,491 lbs. of ginger, 3514 pieces of bandanas and other silk handkerchiefs, 67,071,187 lbs. of tea (increased from 57,621,231 lbs. in 1853).

The number of British ships that entered inwards (India and China) in 1857 amounted, respectively, to 696 and 88, and the number of foreign vessels (India and China) to 72 and 14. At the same time 728 British and 289 foreign vessels cleared outwards (India), and 122 English and 79 foreign vessels (China).

Such of the readers of this work as reside in London, or resort to it, and desire to have a good general idea of the commerce of India, should visit the new museum at the East India House. There specimens of the natural productions and manufactures of India are arranged in a manner to afford instruction even to the mere casual observer; to the merchant, the statesman, the man of science, and the historian, the collection must afford important information and profound pleasure. This wonderful collection had its origin in the Great Exhibition in Hyde Park in 1851, when the East Indian collection arrested the attention of every visitor by its sumptuous riches and variety. The idea of a permanent collection arose from the deep interest which the public showed in the East Indian department of the Crystal Palace of 1851. The Indian compartment in that edifice was superintended by Dr. Forbes Royle, whose labours for the welfare of British India have been so persevering and intelligent, especially in reference to the cultivation of cotton and other fibres applicable to manufactures.

The first apartment in the new museum is "the model room," the collections in which illustrate the social and industrial life of India. Specimens of agricultural instruments, manufacturing tools and machinery, are suggestive of the way in which produce is cultivated and gathered to the markets for exchange. The

model room is, however, more connected with the social life of India, presenting miniature law courts, dwellings, furniture, sepoy encampments, &c. ; the other apartments are set apart for industrial objects. The first of these, which is presented to the visitor's notice, is leather ; that of Madras, which is wholly manufactured by natives, is much inferior to the Bengal, where the workmen are superintended by Europeans.

Paper is another manufacture which draws attention by its variety, and the information imparted as to the material from which it is made, but not from its excellence. The gunny bags, made of jute fibre, in which rice and other commodities have been packed, are, when no longer of use for their original purposes, converted into paper by the natives, and the process displays some ingenuity. The plantain leaf and other vegetable fibres are also used for this purpose. European paper is in request for all purposes of importance, and this article is likely to become a valuable commodity.

Mat-work, basket-work, and other manufactures from fibrous materials, although they interest the visitor, are not regarded with that sense of their importance which they deserve. On another page the value of the fibrous plants of India will be examined, and the reader furnished with important information on this branch of Indian commerce.

The Indians have been long famous for metallurgy, and the museum does justice to their genius in this respect. Akin in some degree to that art is jewellery, for which, as shown in the chapter descriptive of Bengal, Benares has obtained a reputation "wide as the East." Either alone, or as mountings and settings for gems, the gold and silver-work of Benares, presented for inspection in the museum, is very beautiful, and will probably create a taste in the West for similar specimens of oriental art. There are innumerable specimens of Bengal jewellery, and some from other provinces, bangles, rings, bracelets, brooches, tassel knots for dresses, hookah mouthpieces, and many other objects of display or luxury. The Trichinopoly filigree-work is as light and elegant as that of Malta or Genoa. There are some rose-cut chains here which are perfect marvels of the goldsmith's art. So minute is the chasing of the pattern of the rose in each link, that, unaided by a magnifying power, the eye is unable to trace the delicate outline and beauty of form. There is a companion chain, also from Trichinopoly, in which the little links are drawn so close together as to be only visible on the closest inspection. It is difficult at first to believe that it is anything but a mere

length of solid gold wire, and only when examined in the hand does its perfect flexibility betray its manner of construction. There are two waistbands, consisting one of eight and one of sixteen of these fairy-like chains, which appear as bunches of golden thread, and are fastened with gold clasps, set with emeralds and rubies. From various parts of the Bengal presidency some splendid examples of native jewelled-work have been obtained, rich with "barbaric pomp and gold." There is a superb necklace of gold set with pearls and emeralds, a gold bracelet, enamelled on the inner side, and the outer thickly set with pearls and diamonds ; a necklace of emeralds, pearls, and rubies ; a bracelet of three rows of large diamonds, about ninety in number, with a number of curiously-formed gold and silver spice-boxes. If, however, the visitor wishes to obtain a fair idea of the extent to which jewels are worn by oriental princes, he must examine the great Runjeet Singh's portrait, painted by a native artist. Runjeet is represented as sitting at his durbar. Round his neck is a string of 280 pearls, said to be, as a necklace of jewels of that kind, the largest and most valuable in the world. This magnificent ornament has recently been presented to her Majesty. His head-dress is a perfect mass of rubies and emeralds, while on his arms is represented a cluster of armlets of jewels of apparently immense size and value, one of the finest, a noble emerald, being spoilt by having a hole drilled through it in order to thread it on to the band over which it passes. A curious contrast to these magnificent samples of oriental jewellery is afforded by the display of the rude personal ornaments of the hill tribes of Thibet. Here are enormous silver chains of great weight, and such strength as to carry heavy arms and accoutrements ; with native charm rings and rough-looking bracelets, fitted in style and form to be the massive ornaments of such half-savage tribes. Conspicuous among these ornaments is a broad band of scarlet cloth, dotted with curious rough greenish stones, which look like coarse discoloured pebbles. They are, however, turquoises of the largest size and purest water, and which, though uncut and unpolished, are still of considerable value. The gems are found amid the mountains of Thibet ; but the hill tribes, though aware of their being of some value, are unacquainted with the method of polishing them, and so, in the rude way we have mentioned, adopt them in their natural state as personal ornaments. The massiveness of the solid silver armlets, of which many are sometimes worn at once by the Hindoo women, go far to explain the disappearance of such immense amounts of

silver as have been imported into India and China.

References have been made, in the geographical descriptions given on former pages, to the taste and ingenuity of the natives of India and China in wood-carving and inlaying; the specimens in the museum will unfold the exquisite workmanship of the East in these departments, to many, otherwise, not likely to see it. Carving and inlaying of ivory and metals rank in the same category of works of skill, patience, and taste, and these are also so assorted in their proper compartments as to enable the beholder to examine them with minute and discriminative interest. Probably no carvings from India—not even the ivory-work of Bombay—surpass those in “pith.” This substance is literally what its name expresses; it is taken from a certain plant, and is of a most delicate white colour. It is lighter than cork. The substance is useful for common purposes, such as the “pith caps” furnished to the European and native soldiery as a protection from the sun; while the oppressive weight of other coverings for the head, which would prove effectual against the sun, is avoided. In this pith the natives execute beautiful figures: temples, shrines, tombs, palaces, are admirably represented; as are also the different castes and callings of the native population. The stone and marble-work is, in some cases admirable, but far behind the execution of our own sculptors.

Bareilly, Scinde, the Punjab, and Cashmere, have gained reputation for lacker-work, which is produced as an article of much-prized taste and commerce in these places, for the rest of India. The specimens in the industrial rooms at Leadenhall Street are exquisitely beautiful. The number of articles made from lac in India is almost unlimited, and they are adapted both to domestic and household purposes as well as to personal ornament. The lackered ware differs from the lac-work, inasmuch as it consists only of a thin coating of the gum being laid over a wooden surface, which is subsequently adorned with the artist's designs. The reputation of Lahore for the extreme beauty of its lackered ware stands foremost among all the cities of India. The lackered or japanned ware of China differs from that of India in being formed of a succession of coats of an extremely poisonous vegetable gum, which exudes from a plant spontaneously, and is as different in its mode of production as it is in its after method of ornamentation. How the delicate effects of colour of the Indian lackered-work are produced, or by what means it is that the combination of bright glowing colours is made to

present the neutralized bloom which seems to cover the whole surface of each article, is a subject which has often engaged the attention of our artists with a view of applying the decorative principles of this ware to similar ornamental work in England. Some of these lackered coffers and caskets from Cashmere and Lahore are of rare beauty, a rose-water sprinkler from the latter city being especially interesting of its kind.

The Indian pottery resembles that of Egypt; some vessels in stone and metal are elegantly, and even classically, formed.

The Bidree-work, which consists in the inlaying of silver upon iron surfaces, is worthy close inspection. It is applied in the ornamentation of cups and vases.

The specimens of arms are curious. It is the custom of the native troopers serving the native princes in India to prepare their sharp swords from the worn-out swords of our dragoons. The steel scabbards of our men prevent their weapons from retaining the proper edge, but the scabbards of the natives tend rather to promote keenness. Long Rajpoot and short Goorkha weapons, and Santal spears, have a place in the exhibition. The old matchlock, and, what is remarkably strange, the *old revolver* musket, are to be seen side by side. Long before Colt or Adams thought of the revolving principle in firearms, it was used in the Deccan. Sir David Baird, sixty years ago, obtained, at Seringapatam, the specimen now displayed at the India-house. The frequenters of the old museum will remember the beautiful camel guns; in the new also there is a place provided for them.

In the department known as “the large room” manufacturers and political economists will find subjects of interest, and lovers of art will be no less gratified by taste in design. In the gallery of the large room raw products are set out—not only those usually imported, but such as have lately been introduced to public notice in India by men of science. On the basement of this great room the articles manufactured from these raw products are arranged. Woven work of rich variety and rare beauty is to be seen there. Muslins from Dacca, shawls from Cashmere, exquisitely delicate, tasteful alike in fabrication and design, meet the eye. The woven brocade and embroidery are beyond description elegant and attractive. The patterns on some of these works are European, but the native designs are in character with those of the remotest antiquity. M'Culloch, in his *Commercial Dictionary*, labours to prove that progress is as easy in India as in the West, and that the allegations of unchanging, or

very slowly changing tastes and talents are without foundation. The quotations made by that author to establish a view which seems rather taken up from the affectation of originality than from a proof of its soundness, do not accomplish the purpose for which they are adduced. No writer has ever alleged that all oriental minds are cast, as it were, in a mould, and that there is no modification of the thought or feeling of an oriental community. But what is affirmed is obviously true—that the spirit of one age is in the main the spirit of another; and that however diversified the circumstances of a people, and the events of a nation in the East, their characteristics remain the same, and their habits and customs retain the ancient type, even when modified by the most startling revolutions and conquests: like the sea, which ebbs and flows, is calm and clear as the light it reflects, or is tossed and broken amidst the tumults and gloom of storms, yet it is still the great sea, fathomless alike in calm or conflict—yielding obedience to the same laws, performing in nature the same functions, and exhibiting evermore, amidst all varieties of action, the same characteristics. Many a tempest of war and passion have broken over the multitudes of the oriental world, many a season of profound agitation—such as hope, triumph, fear, or fanaticism can create—has shaken tribes, kingdoms, and empires, but, after all, they settle down again into the sameness of the past, as the waves of the ocean no longer beaten by the storm. If Mr. McCulloch had seen the East India Company's exhibition of Indian art and manufac-

ture, he would have found sufficient proof that, within the meaning really attached to such assertions, the orientalist of two thousand years ago was the type of the orientalist of to-day. The mental impression left on these textile fabrics, which are treasured as relics of the past, is the same as that which is now impressed upon the costly manufactures of Hindoostan, and of surrounding nations. This identity of style between the present and the past of the Eastern world is not incompatible with invention and improvement, but these are in a wonderful manner still made to express the same cast of thought, and the same idiosyncrasy of taste. The wings of brilliant beetles are, with extraordinary ingenuity, introduced into embroidered work; this has been a very old practice in China: the notices which have appeared in the press, of the peculiar effect of this combination as a novelty, are, therefore, erroneous.

In the room where the teas of the venerable merchants of the East India Company were periodically put up to auction, some of the more tasteful executions of Indian ingenuity are now exhibited; the room itself having been, by the skill of Mr. Digby Wyatt, transformed into an Indian temple. In proportion as the commerce and material progress of India are subjects of interest, the contents of those rooms will be objects of intelligent study. No books on Indian commerce, and no histories, can convey the vivid impressions, or afford the ample information on this class of subjects, which the inspection of these products of nature and art from our Eastern empire imparts.

CHAPTER XXII.

COMMERCE (*Continued*):—CHIEF ARTICLES OF INDIAN COMMERCE.

HAVING stated the general character of the commerce of British India, it is yet important to point attention to particular features of it as deserving especial notice; for amidst the great variety of Indian productions suitable to other realms, there are some of predominating importance. Several, which have not as yet become objects of general inquiry, are of such a character as to afford hope that their introduction to distant markets will tend to the advantage of the world, as well as the increased prosperity of the territory in which they are produced.

Among all the articles of Indian trade, none attracts more attention in England than

that of cotton. In a former chapter* cotton was noticed as a production of India, and it was intimated that on a future page the subject would be more fully treated. The culture and the commerce are two different branches of the Indian cotton question. On the pages already referred to the former was noticed both as to its difficulties and advantages. In consequence of the superiority of the American grown cotton, efforts were put forth by the East India Company to introduce seeds from the United States, and cultivators from that country. This has been done for a series of years, and the result of those expe-

* Chap. i. pp. 18, 19.

riments has been a history of failures. In some places the climate was too moist, in others too dry; one class of experiments was made where the soil was too rich, another where the soil was too poor: and although in a few places—as at Surat, and on the Ava coast—success attended the attempts to cultivate the American quality, generally they did not succeed. Dr. Royle places the impediments which exist in the climatic conditions necessary for the American species in the following light:—"The great difficulty in applying irrigation to cotton in India is that you have to deal with a plant which has been raised in the rainy season, and which necessarily has all the habits of one accustomed to moisture both of soil and climate; and yet it is one of which you must check the luxuriant growth, if you wish to have a sufficient production of flowers and fruit. This is done naturally in most plants by the heat and dryness of summer, and in Egypt, where cotton is copiously irrigated, by the dryness of the climate. But in cultivating American cotton in India you have a moist weather plant—that is, one with short roots and broad leaves—exposed suddenly to dryness, when, from the clearness of the sky and the heat of the sun, there must necessarily be copious evaporation. The Indian species, which is a moisture-and-drought-enduring plant, withstands both the suddenness and the violence of the changes, but then it only produces a short-stapled woolly cotton."*

The Indian cotton plant (*Gossypium Indicum*, and *Gossypium herbaceum* of different botanists) grows over an extensive area of country. It thrives in hot and comparatively temperate regions, in moist soils and dry. The North American species (*Gossypium Barbadeuse*) flourishes in certain low latitudes of the United States and in the West Indies. It grows in India in various places as an exotic, but it is not suited to the climate of India, which that of no part of America, north or south, resembles. The climates of America bear, in various respects, striking similitude to those of China. In South America the species of cotton which flourishes indigenously (*Gossypium Peruvianum*) differs from that which is proper to North America, as well as that indigenous to India. In ancient Peruvian tombs cotton wool and cotton fabrics have been discovered, showing that the species which grows there is indigenous.

When the vast extent of country on the American continent yet to be brought under culture, and the enterprise of such a popula-

tion as now inhabits it, are taken into account, there does not seem the slightest prospect of India being ever able to compete with that region in the growth of the peculiar species of cotton indigenous to the American soil. Good and clean cotton has, however, been brought to market from various places in India; and it is certain that the species natural to the Indian soil can be greatly improved, and may compete with much of that exported to Europe from America, because of the low price at which it can be sold. Although it is short in staple, and not easily spun by the machines used for American cotton, yet the natives have for ages made a fine thread from it, and wrought from that thread fabrics of great beauty. Its durability and strength of fibre surpass those of the American species. It is also noticed for taking delicate dyes more readily, and for swelling in the bleaching, so that fabrics made from it have a closer texture than those made from American cotton.

The vast importance to English manufacturers of a large importation of cotton from India may be at once understood by the diminishing supply of American cotton in proportion to the demand. The consumption of cotton in Great Britain for the past five years has not exhibited that steady increase which many have imagined who have been accustomed to look only at the extension of our export trade, as indicated by the tables. Thus, our consumption of cotton, which, in 1853, reached 654,274,000 lbs., rose in 1856 to 819,375,000 lbs., and fell again last year to 735,656,250 lbs.; so that our consumption of cotton in 1857 exceeds our consumption in 1853 only by 81,282,250 lbs., while it is less than that of 1856 by 83,718,750 lbs. But while this fluctuation is observable in the actual amount of cotton consumed, there has been, for the most part, a steady increase in the average cost of the raw material, which has risen from £18,365,000, in 1853, to £26,200,000 in 1856. The total value of production of thread, yarns, and manufactured goods, for the year 1853, is set down at £56,749,300, for 1856 at £61,484,000, and for 1857 at £56,212,909; or, deducting the cost of cotton, &c., the profits upon the manufacture may be taken—for 1853, at £38,384,300; for 1856, at £37,526,000; and for 1857, at £30,012,909. In other words, the increase in the cost price of cotton (the difference between 6d., 6½d., and 8d. per lb.) has reduced the profits on the manufacture in Great Britain £858,300 in the year 1856, and and £8,371,391 in the year 1857, as compared with the year 1853.

Fears are naturally entertained of the

* *Culture and Commerce of Cotton in India.* By J. Forbes Royle, M.D., F.R.S.

increase of prices in the English market, and, in case of war with the United States, of such a failure in the supply of the raw material as would ruin the manufacture. Under these circumstances, inquiry has been made by the government, the East India Company, and the merchants and manufacturers of Liverpool and Manchester as to the prospects of increasing the import from India. Egypt, it is true, supplies a certain quantity. The French settlers at Algiers are sanguine that the colony will become extensively cotton producing; and the famous African traveller, Dr. Livingstone, believes that there are various districts which he has explored suitable to the growth of the commodity, but as yet none of these sources can be relied on.

Concerning the efforts of the French, in April, 1858, the *Moniteur* published a report made to the emperor by Marshal Vaillant, on the subject of the cultivation of cotton in Algeria, in which he communicated the decision come to by the jury appointed to award the annual prize of 20,000 f. given by his majesty, from his privy purse, to the colonist who should make the greatest progress in that branch of agriculture. The report begins by stating that the season of 1857 was very unfavourable to the cotton grounds, from the abundant rains and the lateness of the spring. On several points the land prepared for sowing had been torn up by inundations, and in others the growing plants had been washed away. In addition to this, the humidity had caused fevers, and workmen became very scarce and costly. Notwithstanding these unfavourable circumstances, the extent of the cotton grounds which escaped those causes of destruction was not less than in the preceding year. The total superficies amounted to 1600 hectares (2½ acres each), divided as follows:—Province of Algiers, 175 hectares; of Constantine, 522 hectares; and of Oran, 903 hectares. From this it appears that the provinces of the east and west gained as much as had been lost in 1857 by that of Algiers, where the cultivation of tobacco more and more absorbs ground, capital, and manual labour. The report of the jury goes on to say, that the number of planters among the European colonists had not sensibly increased, but confidence in future success was unabated. Considerably more care was evinced by them in the selection of their ground for planting, and constant improvements were being made in the mode of cultivation, irrigation, &c. The number of native planters is stated, by the report, to be steadily increasing, and last year had reached to six hundred; but there still remains much to be done, in giving them instruction in the best mode of carrying on

their agricultural operations in this branch. The jury report contains the following statement:—"There is every reason to anticipate a triumphant future in the cultivation of cotton in Algeria. Let the colonists persevere; let them adopt the use of instruments worked by animals, and every other means to diminish the cost of cultivation; let them continue to attend minutely to the selection of their seed, in order to preserve the purity of the quality, and the production will amply remunerate them for their trouble. The government, on its side, will pursue its task and continue its encouragements. Improvements and useful experiments will always be the object of its special care; and nothing will be neglected to make the cultivation of cotton enter into the habits of the people." The jury concludes by recommending that the emperor's prize of 20,000 f. with the gold medal, should be awarded to M. Colonna de Cinarca, for his cultivation of cotton at Habra, in the province of Oran, and that honourable mention should be made of other planters who had competed for the prize. It is obvious that the French emperor, alive to the importance of the latter manufacture to France, has resolved to test thoroughly the capabilities of his great African colony for the production of the staple. It would be a folly if the government of India, a country where, for three thousand years, the people excelled in the manufacture, should be indifferent, or tardy, or illiberal.

The grand impediment to the preparation of cotton in India for exportation to Europe, is the irregularity of the demand. The English manufacturers will not buy Indian cotton while they can get American at a price that will at all remunerate them; it depends, therefore, upon the supply from America whether the Indian exports sell remuneratively at Liverpool. Of the entire quantity of cotton imported into and manufactured in the United Kingdom, nearly four-fifths in quantity, and more than four-fifths in value, on an average of years, is obtained from the United States. During the five years 1851 to 1855 the proportion of the total quantity was seventy-eight per cent., and during the ten years preceding, from 1841 to 1851, it was eighty-one per cent. The American bales containing more cotton than those from other countries, the proportion may be taken at four-fifths of the whole imported. The supply from India has always been most irregular, being regulated by the price of American cotton far more than by its own quality. Whenever the supply from the United States promises to be deficient, or the demand for consumption rapidly increases, raising prices rapidly, Indian cotton arrives to supplement

the American imports. Last year (1857) the short crop in America raised the price in India to such an extent as to bring 220,000 bales more than ever had been known. This arises from the dirty state of the samples brought from India. To remedy the evil and secure a good supply, the late agent of the Honourable East India Company, in his last publication on cotton,* was of opinion that the establishment of agencies in India by the Lancashire merchants would obviate the difficulties, and obtain a regular and clean supply, adapted to the English market. In a report† on the subject of the cotton culture in 1836, the company intimated what the work of Dr. Royle confirms in 1857, that the better adaptation of the machinery used in the spinning-mills of the north of England to the short staple of the Indian species would much promote the importation of this product at the English ports.

Mr. Mackay, a talented and enterprising gentleman in Lancashire, visited India on behalf of the cotton trade some years ago, and reports made by him to the various chambers of commerce in Lancashire substantially bear out the opinion conveyed in these pages, that the hope of improvement is in proper attention being paid to the commerce rather than the cultivation. A Lancashire merchant, in a letter dated the 18th of March, 1858, thus expressed himself on this subject:—"Since Mr. Mackay made his report to the chambers of commerce of Liverpool, Manchester, Blackburn, and Glasgow, no improvement has appeared; the Indian cotton is still irregular in quantity as well as inferior in quality. Several steps, however, have been taken since Mr. Mackay's visit to India towards a right knowledge of what is to be done. It is now admitted that attention must be directed to cotton commerce more than to cotton culture. The Indian cultivators must be left to grow their own native cotton in their own way. The attempt to cultivate the American species of cotton in India has proved a failure. British enterprise must be confined to getting the native cotton in better condition, and at a cheaper rate to the home market, where the supply will thus be both larger and more regular. The government has its part to do in improving the means of transit in India to the coast, and in, by better police, giving protection to Europeans. The chambers of com-

merce have their part to do in establishing agencies in the cotton-growing districts, for managing every operation after the growing of the crop, which is now carelessly collected, carelessly cleaned, carelessly housed, and carelessly packed. Native money-lenders and middlemen carry off immense profits, besides injuring the commerce by systematic frauds and adulterations. All this would at once be remedied by establishing European agencies for the purchase of cotton. Many years would not pass before the English market would obtain half its supply from the free labour of British India, instead of being so dependent on the slave states of America. At Liverpool in one week 1340 bales of American sold from 4½d. to 8½d. per lb., and 300 Surats from 4½d. to 6d. per lb. These Surats are suitable for spinning any hefts under No. 40, although some Indian cotton is only fit for No. 16 yarn. Indian cotton of all kinds can be sold at a profit in Liverpool for the average of 3½d. per lb.; so that, with the improved quality which the establishment of agencies in the East would insure, there is ample margin for a vast increase of Indian cotton commerce, independently of any improvements in its culture, to which attention has hitherto been chiefly turned."

The opinion of Dr. Royle as to the prospect of prices in England remunerating the enterprise of culture and exportation on the part of Indian ryots and English agents, and the connection of such a speculation with the probability of a total failure of supply from America through war or other causes, is thus published in his work issued in 1857:—"Alarm is justly excited in the great manufacturing district of Lancashire, and wherever much cotton is employed, at the disastrous consequences which would ensue in case of a complete deprivation of the raw material, should war, or any other difficulty, occur with or among the present great sources of cotton supply. As this is not likely to occur without some premonitory notice, directions might be sent, and the ryots induced to increase their cultivation of cotton at almost any time, because sowing takes place in some part or other of India at all seasons of the year; but few planters or merchants would venture to enter upon so extensive a speculation unless they had some security that the state of things which required their exertion would be permanent enough to reward their labour, the more especially if they knew of or had studied the disastrous results to Indian merchants in former years. Thus, in the year 1818 there were imported from India 86,555,000 lbs. of cotton, but the imports fell to 6,742,050 lbs. in the year 1822. But the

* *Review of the Measures which have been adopted in India for the Improved Culture of Cotton.* By J. Forbes Royle, M.D., F.R.S.

† *Reports and Documents connected with the Proceedings of the East India Company in Regard to the Culture and Manufacture of Cotton, Wool, Raw Silk, and Indigo in India.*

prices had risen from $7\frac{1}{2}d.$ to $20\frac{1}{2}d.$ in the former, and ranged from $5\frac{1}{2}d.$ to $8\frac{1}{2}d.$ in the latter year. Though these prices would be considered favourable enough to encourage exports in the present day. Indeed, they have ranged, in the year 1856, from $4\frac{1}{2}d.$ up to $8d.$ per lb. in the London market for Indian cotton." The quantity of cotton imported from India during 1856 was 466,781 lbs.; but in 1857 (from the 1st of January to the 16th of October) the imports increased, amounting to 564,666 lbs.

Some of the Lancashire manufacturers urge colonization as the best remedy for the difficulty in procuring the proper cultivation and cleaning of the commodity. Mr. Carpenter, an eminent London journalist,* meets the objection urged to colonization on the score of climate in these lines:—"We have more than once said that it is utterly absurd to talk about the climate of India as forbidding European emigration, just as if men who settle unhesitatingly at Sierra Leone, Hong-Kong, or Belize, would shrink from a residence in Bahar or the Punjaub, or as if men could not live at their own discretion, where others are only too glad to live, in virtue of official appointments. Thousands of Englishmen take service under the company without being deterred by any considerations of climate; thousands more are now serving in the country under the royal flag. To say that independent residents could not accept the same terms is ridiculous. If British colonists cannot live in India, they will not go there, but no harm can be done by giving them the option. The true obstacles have consisted, first in the policy, and afterwards in the administration of the company, which looked upon independent settlers as the Jesuits of Paraguay would have looked upon a congregation of Baptists. At one time they succeeded in closing India to all but their own retainers, and Bengal was as absolutely inaccessible as Japan. At later periods, after the interdict had been removed, there was still the exclusiveness of a service as formidable as the caste of Hindoos themselves. An independent resident in India found himself outside a select club, which club, over and above other privileges, had the privilege of governing him. These were the conditions which made Indian colonization distasteful, and which it is now so desirable to abolish."

It is very unlikely that the company would not now feel the same objection to English settlers as cultivators of cotton, or for any other purpose, that they formerly did, the considerations which then influenced them being no longer applicable. The climate,

* Editor of the *Sunday Times*.

however, is unsuitable to vigorous exertion on the part of Englishmen as planters; but the difficulty is not altogether insurmountable, as has been shown in the indigo plantations. The presence of adventurers and determined colonists, wherever the climate would allow, would certainly promote the object, for the Brahmins oppose innovations of all sorts, however in the interest of the people, and it requires the presence of Europeans of a resolute will and vigilant circumspection to defeat their violence and intrigues. In the cases of indigo planters this has been extensively exemplified.

Whatever may be said in favour of other fields of cultivation, India, on the whole, is for England the fairest, but it is difficult to resist the conviction, that, as soon as Indian imports reduce the price of American cotton in any marked degree, the enterprise of the United States will find means of competing successfully for the market, so as to drive out the Indian produce, and, if possible, again obtain a monopoly. As a question for the English manufacturer, this is precisely the state of things he would desire; but as a question for those whose capital might be in Indian cotton fields, such a prospect is calculated to create hesitation and doubt, and will deter many from that bold speculation so characteristic of English colonists.

Indigo is an article of Indian commerce of considerable importance. It is indigenous to India, and is supposed to have derived its name from that circumstance, its ancient appellation having been *Indica*. It was well known in a remote antiquity as a product of the neighbourhood of the Indus. The first, or "London East India Company," made large profits by this commodity, purchasing it at Agra at a shilling, and selling it in London at five shillings per pound. In consequence of the British colonists in the southern provinces of North America and in the West Indies successfully competing with the company, the latter abandoned the trade. Almost a hundred years ago the Anglo-American planters relinquished the cultivation, and the French and Spanish colonists took it up, from whom the English bought what they required.

After the revolution of the British North American provinces, the company's territories in India extending, the trade was once more revived. The directors made surprising efforts to encourage its production, purchasing large quantities from the native growers, and selling it in London at considerable loss. This was continued until the culture of the plant, and the manufacture of the dye, were understood in India, and the one could be grown

and the other manufactured with profit. It is certain that, but for the sacrifices of the company, the trade could not have taken root in the country. The directors procured information on the cultivation from every quarter, transmitting it to India to serve as a guide for the cultivators. For a great many years the result of this diligence and expenditure has been that India produces the best indigo in the world. When the manufacture became firmly established, the company ceased to have any direct connection with it.

The plantations are now in the hands of European speculators, whose success enables them in about twelve years to realize considerable fortunes. Frequently, however, failure is the result, for it is a most adventurous enterprise. Sometimes the crop is entirely destroyed by drought; at other times, by those tremendous rain-falls common to India, which, at intervals, sweep away the labour and capital of the planter beyond hope of recovery; insects occasionally destroy the plants; but the chief impediment is the villany of the zemindars, who, jealous of the planter's success, hire gangs of natives to destroy his crops; the planter hires others to defend them, and bloody conflicts ensue, sometimes disastrous to the planter, but oftener to the zemindars. It is the general belief of planters that if there were not on the part of the magistrates undue sympathy for the natives as against the planters, the zemindars would never venture thus openly to set law and order at defiance. They complain that when these instigators of aggression are sued in the courts of justice, the company's judges invariably side with the natives, and that literally there is no redress for the injured planter but such as he can find by his own hand and his own weapon, and the hands and weapons of those whom he hires at a rupee apiece to fight in defence of his property. On the other hand, the company's officers assert that the planters generally are carried away by pride of race, are ruthlessly grasping, arrogant, and violent, and ever prone to take the law into their own hands; that, therefore, it is the duty of the company's officers to protect the people from the spoliation and ill treatment of those settlers. It is difficult to determine on which side the truth lies. There can be no doubt of the cunning, fraud, and violence of the zemindars, and that the poor ryots are goaded by them to aggressions upon the planters that are unprovoked. That the planter is not defended by the police, but left by the government to his own resources, is too frequently the case. The general sympathy of the company's officers with the natives rather than with European settlers

admits of as little doubt. During the great mutiny of 1857, the strong sympathy of the civilians with the natives was frequently a subject of complaint, as leaving the wrongs of Europeans unredressed, and affording impunity to evil doers. This arises from the jealousy entertained by the company's officers of a European element in India which might compete for power and influence with them. Such a spirit has in times past given birth to injuries towards European settlers which created discontent in England, and gave occasion to those opposed to the company to denounce the injustice of its rule.

Indigo seems to a great extent to be a forced production in India. The planters generally buy up the interest of the zemindars, and compel the ryots to grow indigo. The zemindars have no equitable right to hand over the interests of the ryots along with their own, whose position to them legally, and consequently to the indigo planter, is similar to that of a farmer in England who rents under a lease. The law on this point is disputed, the planter maintaining his right to treat the ryot as a tenant-at-will, the latter regarding himself as having "a tenant-right" so long as he pays his rent, and demanding liberty to sow or plant the land he occupies with whatever he thinks may best enable him to live. The indigo planters, like the zemindars, rule with a high hand; and whatever be the law of the case, the unfortunate ryot is too feeble to insist upon the adjustment of his claims according to that standard. In this way he is subjected to much hardship.

An Indian periodical, in an able article, places the present condition of this produce, and the relation of the planters and ryots to each other, and of both to other parties concerned, in the following aspect:—"The cultivation of indigo originally was stimulated chiefly by the East India Company, which made very large advances on the produce. Mr. Bell states that the exports in 1786 were 245,011 lbs., and that it was by means of these advances that the quantities had advanced to 5,570,824 lbs. in 1810. The average amount now exported is probably about 9,000,000 lbs., the factories having been increased by the great houses, and many of them having been afterwards kept up at a heavy loss by the Union Bank—in both cases, we venture to think, at the ultimate cost of the unfortunate creditors of those houses and that bank. The current outlay now, in the purchase of seed and in labour, is, doubtless, large, and the annual average export value of the article may be henceforth stated at about two and a half millions sterling. But the export of rice from Calcutta and Arracan last year,

we believe, was much more than this, and it was raised with far less difficulty, and the profit on it to the people was vastly greater. The cultivator of indigo knows that he is engaged in a hazardous speculation, and that it is as likely as not, at the end of the season, that the yield of his land, instead of clearing off his advances, and leaving a balance of profit, will leave him in debt to the planter. Then, further, he is in the hands of middlemen, who notoriously defraud him. The number of his bundles is most probably counted amiss; and in settling accounts he has to give all kinds of 'customs' into the intervening hands. He is, in fact, 'in the books' of the factory, and is likely to remain there, *volens volens*, for life. On the whole, then, there is a great deal in the indigo planting system as practised in Bengal, which demands inquiry, and which suggests difficult and embarrassing questions. That it is connected with a great deal of severity and injustice appears very evident; and that this must *necessarily* be the case (as is usually said) is a conclusion which, in our minds at least, does not excite either satisfaction or contentment. At any rate, inquiry ought not to be refused from the fear of injuring 'class interests,' and of exciting 'class animosities,' if the fact be that the opposed 'classes' are a few indigo planters on the one hand, and myriads of suffering and oppressed people on the other; or, if this ground be tenable, it must be also conceded that all the measures preliminary to the emancipation of the slaves in the West Indies were objectionable, and that emancipation itself was unjustifiable."

The indigo planters have also their grievances. It appears that they have formed an association to agitate for redress. An Indian magazine thus describes the party and its claims:—"The Indigo Planters' Association numbers among its members many determined and enterprising individuals, and has the sympathy of the mercantile community. They want the permanence of their rights as Britons; facilities for collection of their rents as farmers of estates; summary processes against faithless cultivators, who receive advances for indigo, and refuse to sow; speedy justice; improved communications; bridges that will bear hackeries and elephants; and roads that shall not 'melt away.' They stand up boldly for their interests; and however impartial men may differ with them as to the remedies they demand, all must admit there is no sham in them; there can be little difference of opinion as to their straight-forwardness." The *Calcutta Review* of September, 1857, draws a strong contrast between

the planters and the zemindars in favour of the former, alleging that the latter, having formed an association to look after their interests, had presented in all their proceedings an absence of generosity and justice, and established themselves (as probably Lord Cornwallis intended in his famous settlement they should do) as the landed interest and *protectionists* of Bengal.

The exportation of rice has become a vast trade within a few years, as may be seen from the reference made in the foregoing extract, and this branch of commerce is likely to enlarge upon a scale never hitherto contemplated. The consumption of rice in Europe is increasing very much, especially in the British Isles and France.

The friends of India also hope that wheat will become a source of profitable export. The wheat-producing districts of India have not yet felt the advantage of superior cultivation, nor of good roads and railways, when those portions of the country are opened up by such means, wheat will become an important export, for India may produce much of the quantity which the importing countries of Europe require.

Linseed, mustard, and other seeds, form together not only an important item in Indian commerce, but an increasing one, and at a ratio which justifies the conclusion that at a period not remote this will become a far more valuable export. This is the more likely, as the trade is altogether modern.

Coffee, although at present grown to more advantage in Ceylon, is becoming gradually an important export from continental India. It will, however, be a considerable time before the trade on the mainland in this commodity rivals that of Insular India.

The tobacco plantations are extending, and an export of the produce has been established, but there is no prospect of the quality competing with that of America. Several of the company's civil servants have given attention to its improved culture.

Borax is imported extensively into India from Central Asia, and is exported again to Great Britain, to other parts of Europe, and to the United States.

When noticing the natural productions of India, it was shown that tea is indigenous, and that the plants imported from China under the auspices of the East India Company have thriven. Since writing that chapter reports have reached London of the extension of the tea plantations in the Punjab, and of the favour with which the natives of India regard that grown at Kumaon. It will be very long before India is prepared to export tea on a very large scale,

notwithstanding the extraordinary progress of its culture, and the probability that it will speedily become one of the most valuable articles of Indian produce. The natives, especially in the tea-growing districts, are acquiring a taste for it which will create a home market for all that is likely to be grown for a long time, however rapidly the plantations may be extended. The Kangra tea is in great request for native use, selling at a rupee, and even more, per lb. The cultivation of the good qualities is at present so profitable, and the desire to procure it, both in India and from foreign countries, is so great, that there can be no doubt of a widespread extension of the plantations. An acre of tea plants at present yields an average return of 300 lbs., which, at a rupee per lb., would bring £30 per acre. The imports of all kinds, taken together, fall very lightly upon the cultivator, the East India Company nourishing the cultivation by every practicable indulgence. The capital at present required for a tea plantation is comparatively very small. At some period, perhaps less remote than at present seems likely, India will be a competitor with China in the growth of the plant, even if not so soon a rival in the exportation of the leaf. Should war with China, the progress of civil strife in that country, a blight upon the Chinese tea-fields, or any other unexpected event, occur to interfere with its exportation thence, the production of the plant in India would be so greatly stimulated, that it might soon become an exporting country on a considerable scale.

The reports which reached England by the April arrivals in 1858 indicate that interruption to the tea trade, or diminished production in China, are not such improbabilities as a few years ago might be supposed. The following is a review of the trade made at Hong-Kong in the middle of March :—

Export from Hong-Kong, Macao, and	lbs.
Amoy, from July the 1st, 1857, to March the 10th, 1858	6,400,000
Fouchow, from July the 1st, 1857, to March the 7th, 1858	18,850,000
Shanghai, from July the 1st, 1857, to March the 5th, 1858	21,850,000
Total	47,100,000
Canton, from July the 1st, 1856, to March the 10th, 1857	17,400,000
Fouchow, from July the 1st, 1856, to March the 7th, 1857	19,300,000
Shanghai, from July the 1st, 1856, to March the 5th, 1857	15,900,000
Total	52,600,000

In the *Times*' city article of the 8th of May, 1858, the following statement appeared,

throwing additional light upon the subject of Indian tea exportation :—"The annual meeting of the Assam Tea Company took place this morning, Sir W. Baynes in the chair, when the report was adopted unanimously, and a dividend declared for the past year at the rate of nine per cent., being one per cent. more than in 1856. The report mentioned that during the late disturbances in India it had been deemed advisable to insure the company's tea, at one period worth £50,000, at a high premium, to cover all risks. Active assistance was afforded to the naval and military force sent to restore order in the province, and it is stated that, while the native servants cheerfully assisted in promoting that object, the independent contractors for cultivating the lands uniformly held aloof, or sympathized with the disaffected.* The crop of the season 1857, estimated at 700,000 lbs., has produced 707,101 lbs., which is expected to realize £64,817. The crop of the present season will probably amount to 765,000 lbs., which, at a similar valuation, will yield about £70,125."

In a previous chapter, treating of the productions of India, sufficient was said of sugar, both in its relation to cultivation and general trade. The free admission to England of American sugars checks the Indian exportation. Although the British public set a higher value upon the latter than formerly, yet they have not acquired a taste for Indian sugar, and the richer saccharine produce of the cane of the West Indies commands the market.

The magnitude of the opium production, and of the traffic, have been referred to elsewhere, both in this chapter and that which states the productions of the Indian soil. Its commercial effects in relation to China, its influence upon the exchanges, and upon the European silver drain, have been incidentally noticed. The following occurs in a recently published number of an Indian magazine :—"The trade in opium has grown, and is likely to grow on. The question of government connection with it is much misunderstood at home, and is sometimes argued, as though the government here could, if it chose, suppress its cultivation by prohibitory laws. This, however, we fear, is impossible, and the government monopoly therefore, in so far as it operates as a restriction, both on the cultivation, and the use of the drug in this country, is a very important

* It may here be observed, *en passant*, that the spirit displayed by the zemindar class throughout India towards the British government is illustrated by this experience of the Assam Company. The commerce and productions of India will no doubt be influenced by the general disaffection of this class.

benefit. The case in China wears a very different aspect. The smuggling of opium in armed vessels, in connivance with the Chinese officials, who are bribed and corrupted, and the consequences to myriads from the use of the drug, render the traffic only second to the slave trade (if, indeed, it be second even to that) in iniquity and cruelty. But whether it could be suppressed, save by such a combination of all nations as is directed against the slave trade, is very doubtful. The only practical remedy that we know in our own country, and among ourselves, is for public opinion to deal with these opium traders as it does with pests and nuisances to society, who are living by pandering to the vilest passions, and accumulating wealth, by means on which the curse of God must certainly rest for ever. But very different has been our conduct. We have boasted of our enlightenment, and of our 'forbearance' to the Chinese, and have sneered at their barbarism and folly; while our Christian gentlemen, honoured and exalted in society, have been using means to poison them by thousands for filthy lucre's sake; and not a few, who have called themselves Christians and Englishmen, have been parties to that atrocious system of slave dealing, which annually consigns thousands of entrapped Chinese as hopeless slaves to Cuba, and as worse than hopeless slaves to the Peruvian guano islands. In truth, no offence more disgraceful than the conduct of multitudes of English traders to the people of China has been committed in the annals of commerce.

"The present war with China is likely to end as the first did, in an enormous increase of smuggled opium, or perhaps the traffic will be still further stimulated by the importation being legalized.* Since the last war the import of opium into China has increased from twenty to more than seventy thousand chests, and this war will doubtless lead to a further expansion of the traffic."

The following statements in reference to the opium trade are correct, and will furnish the reader with a general view of its character commercial and morally:—

Opium, which in Europe is one of our most valuable medicines, but which in China feeds a depraved taste, is manufactured from the juice of the white poppy, a small quantity of which is grown in Turkey and Persia, and also in China, but it is cultivated to the greatest extent in India, both in the British dominions and in the independent native states. The process of cultivation and manufacture may be shortly described. The finest

* Virtually, it is legalized already; opium is as freely imported, and almost as openly, as if a proclamation of the emperor sanctioned it.

soil is required for the plant. The seed is sown in November. The preparation of the ground, and the subsequent weeding and watering, require much attention. The time for collecting the juice is in February and March. The poppy heads are then cut or scratched with a sharp instrument, and a milky juice exudes, which becomes brown in colour and thick in consistency by exposure to the sun and air, and is carefully collected by the farmer and his family. This is the crude opium. In Bengal this is delivered by the small farmer to the agent of the East India Company. It is then prepared under the inspection of these agents for the China market. The principal districts in which the poppy is grown are Patna, Benares, Bahar, and Malwa, from which the different kinds of drug derive their names. In Bengal it is grown exclusively for the government, under severe penalties for any infraction of the law. It is understood also to be a forced production, which could not be entered upon with profit to the farmers but for advances in money made by the government. This point is disputed; but the poppy has undoubtedly occupied some of the finest land formerly used for indigo, sugar, and other produce.

The opium is prepared by the government agents for the China market by rolling it into large balls, covered with a coating of opium paste and poppy leaves, so as to exclude the air; it is then packed in chests (forty balls to a chest), and transferred to the government warehouses at Calcutta, where the drug is put up to auction at the government sales, of which there are four each season, at intervals of a month, commencing with December or January. At these sales the drug sells at prices varying from seven to sixteen hundred rupees a chest, containing 116 lbs. weight, and yielding a profit to the government of from £40 to £120 per chest. Their total revenue from this source, including a transit duty on the Malwa exported from Bombay, has now reached £4,000,000 sterling, and is estimated in Lord Dalhousie's minute at £5,000,000 sterling for the year 1857. Malwa opium is that grown in the independent native states. It must all pass through Bombay, where, in order to keep down its production, it is charged with a duty of four hundred rupees (£40) per chest.

The merchants in India purchase the opium either on their own account, or for mercantile houses in China or elsewhere, and it is then shipped in fast-sailing vessels capable of carrying from five hundred to a thousand chests. Of late years the monthly steamers of the Peninsular and Oriental Company have carried cargoes of the drug to China.

The quantity thus imported into China from both sides of India now exceeds seventy-five thousand chests, roughly estimated at £8,000,000 sterling. A portion also goes to Singapore for consumption throughout the islands of the Eastern Archipelago.

On arrival in China (say at Hong-Kong), the opium was at one time transferred to large receiving ships stationary in the harbour, but of late years it has been stored largely on shore with the permission of our authorities. From thence supplies are forwarded in small schooners and other fast-sailing craft to different points on the coast, according to the demand.

At these coast stations there is no other trade carried on but that in opium. The drug is transferred from the small schooners to ships permanently anchored there, and the local Chinese government makes no attempt whatever to interfere, as it is enriched by the bribes or fees of the native dealers. These dealers come off in boats to purchase the opium, bringing silver in payment; but if the station be the outer anchorage of one of the free ports,—such as Shanghai, Fouchow, Amoy, or Canton,—the sale is usually made on shore in exchange for silver or Chinese produce, and an order given on the ship for delivery of the quantity sold.

The opium being thus conveyed into the country by the native dealers, it undergoes a process of boiling down to fit it for smoking. This reduces the weight one-half, so that one chest of the drug yields only half a chest of the smokeable matter. It is then retailed at smoking-shops, or purchased by the wealthier classes for use at home. The laws against smoking are now so completely in abeyance, that the smoking-shops in the free ports are almost as numerous as our own public-houses. Although this freedom from legal restraint exists, there is no question that the moral feeling of the Chinese government and people is against the indulgence, and it is this which contributes in some measure to keep down the consumption.

Let us now trace, as shortly as possible, the course of this trade. Before the year 1800 only a small *legal* trade in opium was carried on with China, but in that year the drug was made *contraband* by the Chinese government. This was done in consequence of a memorial from a leading statesman, who makes it a "subject of deep regret that the vile dirt of foreign countries should be received in exchange for the commodities and the money of the empire, and fearing lest the practice of smoking opium should spread among all the people of the inner land, to the waste of their time and destruction of their property," he

requests that "the sale of the drug should be prohibited, and that offenders should be made amenable to punishment." In spite of this, the annual importations rose gradually from two thousand chests in 1800 to five thousand in 1820. Till 1820 opium had been mixed up with the legal merchandize at the port of Canton, but in that year the authorities again became alarmed at the extent of the traffic, and obliged the merchants to give security that no opium was on board before the ship could discharge her cargo at Whampoa; this led to the storing of it in receiving ships at Lintin, at the mouth of the Canton River, and this system continued to the year 1834, when the importations exceeded twenty thousand chests. During the period from 1820 to 1834 occasional collisions took place between the native smugglers and the Chinese authorities, arising out of disputes as to the amount of fees, but none occurred between that government and the British receiving ships.*

In continuing this narrative we quote from Williams' *Middle Kingdom*:—"Towards the close of the East India Company's charter, in 1834, the contraband trade in opium, off the Bogue and along the coast eastward, had assumed a regular character. The fees paid for connivance at Canton were understood, and the highest persons in the province were not ashamed to participate in the profits of the trade. The attempts to sell it along the eastern coast had been mostly successful, and almost nothing else could be sold. . . . The increasing demand at Namoa and Chinchew (on the coast), led to the frequent dispatch of small vessels, one taking the place of another, and finally to stationing receiving ships there to afford a constant supply. The local authorities, finding their paper edicts quite powerless to drive them away, followed the practice of their fellow-officers at Canton, and winked at the trade for a consideration. It is not, however, right to say that the venality and weakness of these officers invalidated the authenticity of the commands they received from court; however flagitious their conduct in rendering the orders of none effect, it did not prove the insincerity of the emperor and his ministers in issuing them. By the year 1834 the efforts of the local authorities to suppress the trade resulted in a periodical issue of vain prohibitions and empty threats of punishments, which did not more plainly exhibit their own weakness in the eyes of the people than the strength of the appetite in the smokers."

The opium vessels are all well armed, but chiefly as a precaution against pirates, which swarm on that coast. Their being so well

* *The Opium Traffic.*

armed, however, was doubtless calculated to deter and overawe the contemptible Chinese navy, had the mandarins been disposed to attack them; but although there has been more than one serious tragedy in conflict with pirates, there does not appear to have been any actual encounter between the opium vessels and the authorities *on the coast*.

During the years 1837 and 1838, however, attempts were made by some British merchants to smuggle the drug into Canton, which led to serious collisions and disturbances *on the river*. Captain Elliot, her majesty's superintendent of trade, took measures, along with the Chinese authorities, to put a stop to these highly irregular proceedings on the part of a few, and these measures proved effectual. But meanwhile the imperial court at Pekin was organizing plans of a much more extensive kind to annihilate the whole trade, and to stop the smoking of the drug. A Chinese statesman of the name of Heu Naetse sent up a memorial to the emperor, praying that opium might be legalized, as the best method of dealing with an unavoidable evil. Two other statesmen, Choo Tsun and Heu Kew, memorialized the emperor in favour of an opposite course, requesting that the existing laws should be put in force with the utmost rigour.*

The prohibitory councils prevailed with the emperor; and although these measures utterly failed, it has been well said by a writer in the *North British Review*—"No man of any humanity can read, without a deep and very painful feeling, what has been reported of the grief, the dismay, the indignation of men in authority, and the emperor, on finding that their utmost efforts to save their people were defeated by the craft and superior maritime force of the European dealers, and by the venality of their own official persons, on the coast."

The prisons were soon crowded with victims, and death by strangling was inflicted in several instances on smokers and native dealers. An imperial commissioner, Lin, was sent to Canton to proceed against the foreign merchants. On his arrival there, in March, 1839, he immediately put the merchants under arrest, compelled them, through her majesty's superintendent of trade, to deliver up the whole of the opium then on the coast, amounting to 20,283 chests, and formally destroyed it by mixing it with lime and salt, and casting it into the sea. For some months after this opium was almost unsaleable, and the prohibitory measures against smoking it were so effectual, that the

consumption fell to less than a tenth of what it had been.

The war which ensued, although it arose out of the seizure of the opium as the immediate cause, really sprung from one more deep-seated and more remote in point of time. This was "the arrogant assumption of supremacy over the monarchs and people of other countries claimed by the Emperor of China for himself and for his subjects, and our long acquiescence in this state of things." The war thus commenced in 1840, and concluded in August, 1842, however, decided not only the superiority of the British arms, but convinced the imperial court that further attempts to put down the opium trade were vain. Thenceforward the laws against smoking became more and more lax, whilst the trade, nominally contraband, went on with fewer restrictions than before. At the present time the trade has assumed all the importance of an established recognised traffic, and the merchants engaged in it, including nearly the whole foreign community in China engaged in commerce, shelter themselves under the plea of the sanction given to it by the British government, and the alleged insincerity of the Chinese in desiring to prohibit it. In China itself also the growth of the poppy has been extending, with the connivance of the local authorities. The quantity thus grown is not positively known, but it was stated on good authority as ten thousand chests so far back as 1847. It is inferior to the Indian drug, and is used for mixing with it.

Of late years the fibrous plants of India have been extensively cultivated, under the auspices of government, for purposes of commerce. Several new species have been discovered, admirably adapted either for export as raw produce, or being first subjected to certain processes of manufacture. Assam is particularly prolific in these descriptions of commodities. In Bijnore, Upper Assam, hemp is made by the natives from the *sunu* and *sunny plants*. Good flax has been gathered near Meerut. Gunny bags, in which cotton is exported, has of late been made from this fibre. The upper provinces of India are peculiarly adapted for the growth of flax; that of Seharunpore has been pronounced equal to the produce of the north of Ireland. From time immemorial flax was grown in India for the purpose of expressing oil from the seed; but of late attention has been directed to it for the fibre. Still India exports rather substitutes for flax and hemp than those commodities.

The extent to which we have hitherto been dependant upon Russia for these fibres may be

* *What is the Opium Trade?*

judged of from the fact that the average annual importation during the ten years, from the beginning of 1844 to the end of 1853, was—

	From Russia. cwt.	From all other Places. cwt.
Hemp, dressed	620,519	387,098
Flax and tow or codilla of hemp and flax	1,013,565	466,417

Or the supplies we have drawn from Russia have been about twice as great as from all other countries put together. On the other hand, the hope we have of making India available for all our wants, is shown by the very rapid rate at which the importation of fibrous materials from that country has increased during the last twenty-five years. Thus, at three successive periods, there were imported into the United Kingdom:—

	1831. cwt.	1847. cwt.	1851. cwt.
Hemp from Russia	506,803	544,844	672,342
Fibres from British territories in the East Indies	9,472	185,788	590,923

Thus, while the import of hemp from Russia increased in twenty years only one-third, that of fibrous materials from India increased sixty times, and even between 1847 and 1851, increased three times! A further increase of three times, which, from Dr. Royle's statements, appears not only possible, but easy, would make us altogether independent of the hemp and flax of Russia. This possible independence of Russia arises from the circumstance that though the fibres hitherto imported from India include neither any real hemp nor any true flax, yet they include materials which may be usefully substituted for both, while for many of the purposes to which hemp and flax are severally applied they are superior to either.*

It may interest the reader to be informed why hemp fibre should be comparatively little grown, and should not be at all imported from India, although the true hemp plant is described as a native of that country. There appear to be two reasons for this apparent anomaly. The first is, that the low country of India is so rich in other fibres, which are either more rapid in their growth, more easily prepared, more beautiful to the eye, or more durable, that the natives for home use prefer them to hemp. The second is, that hemp is cultivated largely and widely for the sake of the *churrus* and *bhang* which it yields. The *churrus* is the well-known resin of hemp, or the inspissated juice of the leaves obtained from the plant by rubbing between the hands; and *bhang* is the name usually given to the dried leaves and twigs. Both of these are

extensively used as soothing and exhilarating narcotics. The former is swallowed in the form of pills or boluses, the latter is smoked either alone or mixed with a certain proportion of tobacco. It will give an idea of the extent to which the hemp plant is cultivated for this luxurious purpose if we add from another authority that the use of it, as a narcotic, prevails in Asia and Africa among not less than two or three hundred millions of men!*

But what becomes of the fibre, it will naturally be asked? The resin and the leaves and the twigs being removed, why should the hemp fibre not be made use of also? The reason of this is, that the mode of culture best suited for the production of *bhang*, and usually followed in Lower India, is not adapted to the growth of a valuable fibre. All plants when grown thickly together, shoot up in height, branch little, and, if the soil be rich and moist, are of a looser and more spongy texture. If fibrous plants be so raised, they yield finer, softer, stronger, and more flexible threads. Hence, both hemp and flax, when cultivated for their fibres, are sown more or less thickly, and are pulled up about the season of flowering, and usually before the seeds are permitted to ripen. But in India, when cultivated as a narcotic, the seed of the hemp plant is not sown thick as it ought to be when intended for cordage. The natives first sow it thin, and afterwards transplant the young plants, placing them at distances of nine or ten feet from each other.†

Rheea fibre rope has been manufactured under the auspices of government; this fibre has of late years become an export. It exceeds the best hemp in strength, and rivals in fineness superior flax. It is cultivated in Rungpore, Dinapore, Assam, and on the Indo-Chinese peninsula, and in the Straits' settlements: four to five crops of fibre can be obtained in the year from the same plants, and the price is as cheap as Russian hemp. This plant seems identical with the China grass, from which their celebrated grass cloth is made. Various prizes were awarded at the Great Exhibition of 1851 for the manufactures produced from this commodity. Excellent ropes have been made in England from this substance.

Varieties of paper, some of rather a fine quality, have been made from Indian fibres, both in India and in the British Isles. Notwithstanding the rude implements employed by the native manufacturers, some paper of a good quality, resembling that used for foreign

* Johnston's *Chemistry of Common Life*, vol. ii. p. 183.

† *Edinburgh Review*.

correspondence in England, has been produced.

Jute has become a material of commerce very extensively shipped from India. It is the substance from which the gunny bags are generally made, although as stated in a previous paragraph, they are sometimes manufactured from flax. Jute is often marked as hemp in the customs returns, and it is difficult to state with precision their relative quantities.

A trade in gunny bags has sprung up between England and the United States of America. These articles are sent to the Union, where they are used for the packing of cotton. In the year ending 1855 the value of this export was 18,09,540 rupees; in the year ending 1856 it had risen to 27,03,326 rupees.

Dr. Forbes Royle represents the importations in England of fibres from India in weight as follows :—

	1854.	1855.
Hemp	125,951 cwt.	69,464 cwt.
Jute	443,558 „	520,741 „
Other fibres	741 „	963 „
Total	570,250	591,168

Bast is a commodity of Indian commerce for which there is a growing demand in India. This article had been almost exclusively derived from Russia in the form of mats, used by gardeners for protecting fruit-trees and plants, and covering pit frames, and afterwards, when pulled to pieces, for tying up fruits and vegetables. Cabinet-makers and upholsterers use it for packing their manufactures. Russia exports three and a half millions of mats to this country. The Russian basts are made from the bark of the lime or linden-tree, which is also made into shoes, cordage, sacks for corn, &c. The linden-tree is not a native of India, but there are trees of that family which yield similar products. Several of these were introduced to Chiswick Gardens some years ago, and received there considerable attention from Dr. Lindley; he was instrumental in pointing out the commercial adaptations of several of the specimens.

Gutta percha has become a valuable importation in England, and has been imported from the Straits' settlement of Singapore. The forests where the tree grows from which it is drawn are rapidly being exhausted, and attention has been turned with success to provide the means of supply from India. The tree has been found on the Malabar coast, and its discovery in India will probably preserve the supply of so valuable an article.

The country is also rich in tanning substances, for which there is a good market in

England, such as *terra japonica*, or gambir. This is an inspissated extract from the leaves and branches of the *Uncaria Gambir*. Our supplies all come from Singapore, whence we imported 6847 tons in 1856. Cutch is another tanning substance. The best, which comes from Pegu, is an astringent extract, obtained by boiling the wood of the *Acacia Catechu*. In 1856 we imported 1689 tons. Besides those substances from the Straits' settlements and Indo-Chinese peninsula, we derive myrobolams from Bombay. These are the dried fruit of several species of *Terminalia*, imported from India. They are of a dingy yellow, oval, and about the size of an olive.

The trade in pepper, cloves, and other spices, and in ebony, saul-wood, teak, and other timbers has been increasing rapidly: references have been made to these so frequently when describing the places where they are chiefly produced, as not to require any particular notice here. The vegetable products peculiar to India, adapted to food or manufactures, are likely to be much more in request by European nations.

The commercial productions of India noticed in the foregoing pages are drawn from vegetable sources; the animal world supplies India also with numerous materials for home consumption and for export. Among the most prominent of these is silk, the secretion of the worm of the silk moth (*Bombyx Mori*), whose favourite food is the leaf of the mulberry-tree. The *Bombycidae* includes the largest of all the moths yet known, the *Saturnia Atlas*, the extent of whose wings measures between eight and nine inches. The ground colour is a fine deep orange-brown, and in the middle of each wing is a large subtriangular transparent spot: each of these transparent parts is succeeded by a black border, and across all the wings run lighter and darker bars, exhibiting a very fine assortment of varying shades. The upper wings are slightly curved downwards at their tips, and their lower wings are edged with a border of black spots on a pale buff-coloured ground. The antennæ are widely pectinated with a quadruple series of fibres, which have a very elegant appearance. This moth is met with in Southern India, and the Chinese Tussah silk has been said to be obtained from it. Among the various moths found in Assam and other parts of India, are the *Bombyx Mori*; the Tussah (*Saturnia Paphia*); the eria, or arindy (*Bombyx Cynthia*, or *Phalena Cynthia*); the moonga (*Saturnia Assamensis* of Helfer); the jooree (*Bombyx religiosa*, Helfer); and the *Saturnia Silhetica*, Helfer. Another species of *Saturnia* (*S. Sc-*

lene), the posterior wings of which are prolonged into a tail-like process, is common in Southern India. Its chrysalis is enveloped in a silky covering, so like that of *S. Paphia*, that it would probably be found to yield a strong and useful thread. The Cossimbazar produces a large cocoon; but this worm will only produce silk annually. Dessee is the small indigenous or native silkworm of Bengal, which may be produced nearly throughout the year. It yields silk of a bright yellow colour. The eggs are hatched and formed into cocoons in from fifty-five to sixty days in the November or March *bunds*, or seasons; from forty to forty-five days in the October, and from twenty-eight to thirty-two days in the April and June *bunds*. The nistry tribe of silkworms comprises three species—the *madrassie*, the *soonamooky*, and *cramee*. The *soonamooky* are the best: like the *madrassie*, they are very hardy, requiring little care, and not being at all choice in their food. The *madrassie* or foreign cocoons rank next. They produce silk of a greenish hue, much inferior to the *dessee* or *soonamooky*, but the produce is large. The worm is distinguished from the *dessee* by a black mark under the throat. The *Tussah* silkworms are reared in all the western forests, and there are three different kinds of the *goottees*, or cocoons, collected in September—namely, the *moonga*, the most common, which produce a coarse thread, easily wound; the *teerah*, a smaller cocoon, with a firm thread, but not so wound, nor so much valued by the weavers; and the *bombunda*, the largest of the wild silkworms, the thread being coarser, runs easier, and is, therefore, in more estimation by the weavers.*

The *Bombyx Cynthia*, or *Phalaena Cynthia*, is the eria of Assam and the eastern districts of Bengal. It has engaged the attention of the Agricultural and Horticultural Society of India for many years.† With the view of bringing the substance prepared by the worm into use as an article of commercial value, the society, in conjunction with Captain (now Colonel) Jenkins, the commissioner of Assam, offered, in 1849, the sum of £60 and a gold medal to the discoverer of an effectual and cheap solvent for the adhesive material which attaches to the cocoon. Though this prize was before the public for seven years, no claimant for it appeared, and the amount was diverted to another purpose.‡ At the close of the year 1855 Sir William Read, the

governor of Malta, presented to Dr. Templeton a sample of silk produced in that island from the cocoons of the *Bombyx Cynthia*. Dr. Templeton sent the specimen to India, alleging that Signor Salterio, an Italian, succeeded in winding this silk, that the quality was peculiarly fine, and that an Englishman at Malta had succeeded in producing a pair of beautiful silk stockings and some lace-work from it. The castor-oil plant is that upon which this species of worm feeds. Since then the worms have been bred, and silk wound off, at Malta, Piedmont, Tripoli, France, and in the Island of Granada, but the worm thrives nowhere so well as at Assam, unless possibly in the neighbouring districts of Eastern Bengal.*

At the close of 1855 and beginning of 1856, Captain Hutton, in a correspondence with the Calcutta Horticultural Society, enumerated nine different species of worms indigenous to the Himalayas—seven *Saturnia*, one *Actias*, and one *Bombyx*. One species of the *Saturnia* the captain found feeding upon the quince-tree. Two of the *Saturnia* species only thrive in the warmest valleys of the Himalayas; the others prospered at great elevations. One species of *Actias* he found at elevations from five to seven thousand feet. The *Bombyx* (*Bombyx Huttoni*, West) he found feeding on the wild mulberry, from the base of the hills to the height of seven thousand feet. The captain, during the year 1855, reared a number of the caterpillars of the *Actias selene*, in order to ascertain the value of the silk, which he was unable to wind from the cocoons. These creatures thrive on the shrub *Coriaria Nipalensis*, *Andromeda oreatifolia*, the walnut, and occasionally upon the *Carpinus bimana*.

The *Tussah* silkworm is found in such abundance over many parts of Bengal, and the adjoining provinces, as to have afforded to the natives, from time immemorial, a considerable supply of a most durable, coarse, dark-coloured silk, which is woven into a kind of cloth called *Tussah dooties*, much worn by Brahmins and other sects of Hindoos. This worm cannot, however, it is said, be domesticated.

The arrindy silkworm is peculiar to the interior parts of Bengal, in the districts of Dinajpore and Rungpore, where the natives rear and breed it in a domestic state, as they do the silkworm. The food of this kind consists entirely of the leaves of the castor-oil plant (the *Ricinus communis*), which the natives call arrindy, or arundi, and is abundantly reared over every part of India on account of the oil obtained from the seed.

* Indian Department, Exhibition 1851.

† *Transactions of the Agricultural and Horticultural Society of India.*

‡ *Journal of the Agricultural and Horticultural Society of India.*

* *Report of the Entomological Society.*

Their cocoons are remarkably soft and white, or yellowish, and the filament so exceedingly delicate as to render it impracticable to wind off the silk; it is, therefore, spun like cotton. The yarn thus manufactured is wove into a coarse kind of white cloth, of a seemingly loose texture, but of great durability. When made into clothing for men and women, it will wear constantly for ten, fifteen, or twenty years. It is likewise used as a baling material for wrapping packs of fine cloths, silks, or shawls. It must, however, be always washed in cold water; for if put into boiling water, it makes it tear like old rotten cloth.*

It will make the foregoing remarks more intelligible to the reader interested in the productions and commerce of India, but imperfectly acquainted with the technicalities of the silk trade, and cultivation, to give a few statistical and general facts in connection with the production and sale.

From 250 to 400 cocoons go to the pound. To compose an ounce of eggs of the largest breed of silkworms of 4-casts, it would require 37,440: if each of these eggs produced a worm, and they all lived, from one ounce of eggs 373 lbs. of cocoons would be obtained. One ounce of worms consume in the—

	lbs.
1st age	6 of leaves.
2nd "	18 "
3rd "	60 "
4th "	180 "
5th "	1,098 "

Total 1,362 lbs. of leaves from the hatching to the formation of the cocoon.

During the life of the silk-worm there has been excrement to the amount of 745 lbs. 8 ozs., and uneaten leaves or fragments, 155 lbs. odd. 458 feet 4 inches of spun silk extracted from a common cocoon of 4-casts weighs one grain. A cocoon yields 1760 feet of spun silk: the ounce of this spun silk is 264,000 feet long. We may conclude, on an average, that the silkworm, in forming its cocoon, draws a thread of half a mile in length. The full-grown worm is three inches long. After four, five, or six days each moth will have laid on an average 510 eggs, and 68 eggs weigh one grain: 180 female moths lay 91,800 eggs, weighing 2½ ozs.

The size or substance of a silk thread is usually estimated by deniers, and Italian and French weight, the comparative proportion of which will be understood by the specially prepared and appended figures, which will enable the reader the better to judge of the Indian silk trade relatively to that of other countries.

* *Report of the Society of Arts.*

A Comparative Table of the Weights used for testing Silk in England, France, and Italy.

The ounce troy and the ounce "poids de marc" of Lyons, by the latter of which silk is tested in France and Italy, are equal in weight, but are differently subdivided. The ounce Troy in England is divided into 20 pennyweights $\times 24 = 480$ grains; the ounce of Lyons, poids de marc, into 24 drams $\times 24 = 576$ deniers. The denier is therefore one-sixth less than the English grain, or as the decimal 0.8334 is to 1.000.

	Deniers.	Grains.
Therefore	1.000	= 0.8334
"	1.200	= 1.000
"	6	= 5
"	100	= 83½
1 dram, poids de marc	24	= 20
1 pennyweight, troy, about	28½	or 24
1 dram, avoirdupois "	33½	or 27½
1 oz. avoirdupois (16 drams of 27½ grains) about	532	or 437½
1 oz. troy (20 pennyweights of 24 grains)	576	= 480
1 oz. poids de marc (24 drams of 24 deniers)	576	= 480
1 lb. troy (12 oz. of 480 grains, or 576 deniers)	6912	= 5760
1 lb. avoirdupois (16 oz. of 437½ grains)	5312	= 7000
1 lb. poids de marc (16 oz. of 576 deniers)	9216	= 7680

The pound troy is to the pound avoirdupois as 14 to 17, nearly.

The pound avoirdupois is to the pound poids de marc as 10 to 11, nearly.

The pound poids de marc is to the pound troy as 4 to 3.

The pound and ounce apothecaries' weight are the same as troy.

The English silk reel is 818 bounts of 44 inches = 1000 yards.

The French 400 clls, or 475 metres, of 39,371 inches = 520 yards.

The custom of the trade is to reckon 32 deniers to a dram. This has probably been adopted from ease of subdivision, but when carried out creates much error.

The standard of silk measure is about 400 yards; that length of a single filament from China cocoons will weigh 2 deniers, and from French or Italian 2½. A 10-denier silk will thus be the combined thread of four or five cocoons.

In the chapter devoted to China, notice was taken of the cultivation of the mulberry, and the production and exportation of silk in connection with that country. India imports Chinese silks, and exports them again, but this trade is not carried on to any great extent. The perfection to which the cotton manufacture has been brought both in India and England has interfered with the silk manufacture wherever it existed—even in China the cottons of India and England are little by little checking the consumption of silk; yet, although thus retarded by the competition of cotton, the silk manufactures of Europe have increased greatly.

The people of this country pay enormous sums of money for the foreign manufactured

* *Report of the Hyde Park Exhibition of 1851.*

silk which they wear, although much is made here. We cannot, however, obtain all the supplies of the raw material our manufacturers require, owing to the competition of other countries, the precariousness of the silk crop, and the increased consumption in Europe, which is now more than threefold what it was at the beginning of the century.

Our imports of silk in 1856 were derived from the following quarters :—

	bales.
China	56,561
Bengal	13,820
Persia	1,858
Britia	143
Italy	2,784
Total	75,166

In the provinces east of Bengal, and on the Indo-Chinese peninsula, silk is produced, and the home consumption is very great. Upon the borders of Thibet and Bhotia, throughout Upper Assam, the silkworm finds suitable food in shrubs indigenous to those regions, and is in most parts carefully tended. In the independent territory of Monypore, and the quasi-independent territory of Tipperah, the use of both silk and cotton prevails; the higher classes using muslins brought from lower India, and silk and calico made in their own lands. There is no great quantity of silk produced for exportation, but there is an exchange of silk and silk manufacture with Birmah. English cotton goods are gradually making encroachments upon the silk manufacture of both the independent and subsidiary states to the east of Bengal. Within the Thibet frontier silk fabrics from China and Birmah are used, and cotton goods from Bengal and England. The Bhotians, Siamese, and Nepaulesc, also consume the silk goods of China and Birmah, but the consumption is checked by the cottons of India proper, and of England. In Nepaul, Persian silks, brought by caravans through Cabul and the Punjaub, are worn, but only by the higher classes. Silk is spun in all these countries in some degree, and portions of it sent down to India, where it is manufactured into cloth, or exported as India silk. In Chittagong (Islamabad), Arracan, and Martaban, the mulberry-tree is carefully planted for the sake of the worm, and the native consumption of silk cloth is considerable. The cultivation of the worm in those provinces is on the Pegu and Birmese frontiers, on the higher lands; and much of the silk spun is sent into either of those countries. Silk thread, called Birmese and Peguan, and exported from these places, has been spun in the adjoining provinces of Martaban, Arracan, and Chittagong.

In the district of Prome, in Pegu, worms are bred amidst the hills and highlands by the same class of persons who grow cotton. The worm is there fed on mulberry leaves. The plants are allowed to grow three or four years, after which they are cut down, and a new plantation is made, fresh soil being cleared for the purpose. The silk thread sold before the Birmese war—that is, up to 1851—was about seven rupees a *viss*, which is the designation given to a weight of 365 lbs.* In 1855 the price was raised to nine rupees for that amount, but again declined during the year 1856–7. The dress of the better classes of the Peguans and of the Birmese, both men and women, being chiefly silk, the commodity is not likely to fall below seven rupees a *viss*. This silk, which is at so low a price in Prome, is unfit for the European market, or its cost would be soon greatly raised;† it is, however, exported in small quantities to the neighbouring provinces. Pegu is not likely to contribute to the Indian silk exports to Great Britain, for which purpose the chief object of the silk-breeder is to get cocoons made of long, strong, fine, even, lustrous, and white thread.

The silk trade of England may perhaps rank next to that of cotton, since silk now forms one of the most important articles of consumption for the purposes of dress, furniture, decoration, and luxury. Silk, it has been well remarked, is both an agreeable and a healthy material. Used in dress, it retains the electricity of our bodies. In the drapery of our rooms and furniture covers it reflects the sunbeams, giving them a greater brilliancy, and it heightens colours with a charming light. It possesses an element of cheerfulness of which the dull surfaces of wool and linen are destitute.

The quantity of silk now consumed in Europe is threefold what it was at the beginning of the century. The stiff brocade, the massy velvet, the slight gauze, and the beautiful blonde, are alike produced by the labour of the little silkworm.

Our imports of raw silk in 1856 amounted to 7,383,672 lbs.; of thrown or spun silk, 853,015 lbs.; of waste knubs and husks, 17,994 cwt. Of silk manufactures of Europe we received 905,013 lbs., and of Indian silk 597,752 pieces.

The declared value of the exports of British manufactured silks, which, in 1820, was but £371,755, had increased, in 1856, to close upon £3,000,000.

In the commercial department of the South

* *Memorandum on Silk produced in the Northern Portion of Pegu.* By Major Phayre, commissioner.

† Secretary of the Bombay Chamber of Commerce.

Kensington Museum, and the new museum of the India-house, Leadenhall Street, specimens of oriental silks in every form may be seen, which cannot fail to interest those concerned in our Indian commerce. In the former place will be found catalogued—

Case of wild Indian silks, containing:—

Yarns and cloth from the arca, or wild silk moth of Assam.

The eria cocoons reduced to a floss, presented by Captain F. Jenkins, commissioner of Assam, in 1837.

Yarn and thread from the silk of the mango-tree silkworm (see *Transactions of the Linnean Society*, vol. vii. p. 47).

Arca silk thread of four qualities, from Captain Jenkins.

Arindeh silk thread, dyed red, from the Marchioness of Hastings, 1818.

Spin silk from the Tusser worm, ditto.

Wild Indian silk, dyed yellow.

Thread made by the Eas Pato (*Phalena Cynthia*), on the castor-oil plant, Central Assam.

Various cloths made from Arca silk in Assam.

Silk thread and cloth made from the mango-tree and castor-oil tree silkworms, 1809, Dr. Roxburgh.

Cocoons of the Moongha Lata and of the Tussah, or wild forest silkworms.

Specimens of raw silk from the smaller "pat pato" (*Bombyx mori minor*), and from the larger pat pato (*Bombyx mori major*), Central Assam.

The following is from the list of Chinese and Indian thrown silks:—

China (Tsatilee) organzine.

The same, "boiled off"—i. e. after the gum is extracted.

The same, stained, for making lace.

China (Tsatilee) tram.

China (Tsatilee) sewings.

The same, "boiled off."

China (Taysaam) hosiery, for making stockings.

The same, "boiled off."

China (Taysaam) fine sewings.

China (Taysaam) coarse sewings.

China (Taysaam) hard sewings.

China (Taysaam) sewings, "boiled off."

China (Yu-un-faa) lace cord.

China (Yu-un-faa) floss, or "no-throw."

China (Canton) sewings.

China (re-reeled Canton) sewings.

Bengal best floss, or "no-throw."

Bengal common tram.

Bengal organzine.

Bengal organzine, "boiled off."

Bengal sewings.

Bengal coarse sewings.

Bengal coarse sewings, "boiled off."

The general inquirer will receive some general idea of Indian silk cloths from the following specimens to be seen in the South Kensington Museum:—

Counter-case of manufactured Indian silks from the Mezanakurree, Moongha, or Moorghie, Assam.

Tussah silk, bought in Calcutta in 1839.

Mezanakurree, Moongha drab silk cloth, with red striped border, from Assam, 1839, from the Calcutta Museum.

Drab Moongha silk from Assam, 1837, by Captain Jenkins.

Finer white silk cloth, bordered with red stripe, from the Mezanakurree Moongha silk of Assam, 1839. Presented by Captain Jenkins.

Cloth from the Moongha silkworm, in an embroidered state, manufactured in Assam in 1836; shown by Dr. Wallich, from the Calcutta Museum.

Moongha muslin silk cloth, from Assam; obtained by Captain Jenkins in 1837.

Moongha silk from Assam, 1836, Dr. Wallich.

The silk manufactures of India imported into England in 1856 amounted to 597,752 yards.

The fleeces and raw wools exported from India are more remarkable for their variety than for the magnitude of the commerce which is maintained in them. These commodities, although of Indian export, are frequently brought from Affghanistan, Cashmere, Thibet, and other Asiatic nations; they are, however, articles of Indian commerce, if not of Indian produce; indeed, it is impossible to form a full and clear estimate of the trade transactions between British India and the nations beyond, and the independent states within the boundaries of the territory called India. The following specimens of articles of Indian commerce in fleeces and raw wools may be seen in the compartment allotted to them in the museum of the Society of Arts:—

East Indian, first white quality.

Ditto, superior quality.

Common grey East Indian.

Good East Indian.

Coarse grey East Indian.

East Indian, worth about 7d.

Good yellow East Indian.

Middling white quality.

Ditto, white East Indian.

East Indian mixed, a hairy kind.

Low and kempy East Indian.

East Indian coarse wool, mixed.

Mixed kempy, black and white.

Bengal wool.

Wool of the Himalaya mountain sheep.

Calcutta sheep's wool, mixed.

Wool from one of Lord Western's flock, raised in Mysore.

Good white thorough-bred Merino, from Mysore.

Ditto, quarter-bred, from Mysore.

Good white quality, half-bred—Mysore.

Ditto, three-quarters-bred—Mysore.

Ditto, seven-eighths-bred—Mysore.

Good white coarse country wool—Mysore.

White cleaned, from Beckouret.

Clean black Gujerat.

Cleaned white Gujerat.

Uncleaned Gujerat.

Black and white Gujerat.

Wool from a yearling lamb, a cross between a Patna ewe and a Southdown ram.

Ditto, cross between a Cape Merino ram and a country ewe (eight bottles).

Highland sheep's wool, from Thibet.

Highland lamb's wool, from Thibet.

Bang Bal Valley wool, from Thibet.

Wool from black sheep of Thibet.

Black Highland wool, from Thibet.

Thibet wool, picked.
 Kula Yako Dorin.
 Wool from Spite.
 Wool from the Punjaub.
 Black Punjaub wool, from Kussore.
 Mixed Punjaubee wool, from Kussore.
 White Punjaubee wool, from Kussore.*
 Wool from Lahore.
 White wool, from Shung.
 Himalayan mountain wool.
 White Ferozepore, Loodiana district.
 Black wool, from Loodiana.
 White wool, from Cashmere.
 Cashmere shawl wool.
 Calmuck, Russian wool.
 Wool from Shanghai sheep, *vid* Chittagong.

There are also some specimens of Indian broadcloths, which are unsuitable to Europe.

The woollen cloth carpet of Nepaul may also be seen in the museum, but it is not imported to Europe.

The hair of the Thibet goat, and of the Cashmere shawl-goat, are articles of export from India to Europe, as are the shawls manufactured from these materials. The hair of the Cashmere goat is also imported to France *vid* Russia for the manufacture of shawls.

The skins of the tiger and leopard are to a small extent exported, chiefly to England. The chief supply of tiger skins is from Bengal. From Madras between two and three millions of goat skins are annually shipped.

Isinglass is exported to Europe, especially to England.

Leather is an Indian manufacture, for which a foreign market is found, but it is chiefly sent to the countries of Asia beyond India, or used by the natives themselves. The skins of the rhinoceros, cheetah, hyena, and antelope, are all tanned and dressed in different parts of our Indian empire. In Guntore, and other parts of India, the skins of the guana are tanned and curried for ladies' and gentlemen's shoes, and are also black grained. The tanning substances used are tanghedi, huldi, and myrabolans. The skins are thin, even, soft, tough, elastic, and granular or shagreen-like in external appearance. From the absence of gloss, the appearance of this leather is not much in its favour; but it bids fair to be a durable article for light slippers, and a good covering for the commoner kinds of in-

strument boxes, such as are still done over with shagreen. The supply of the skins can never, however, be large. As covers for various Indian toys, curiosities, and carvings, it frequently comes to England.

Bone and ivory carved ornaments are favourite imports of Europe from the East. As shown in the chapter set apart to China, that country is the most famous for productions of this kind, but India also, more especially Bombay Island, has also obtained a superior reputation.

The horns of the Indian buffalo, the ox, the bison, and the antlers of various species of deer, are all important to commerce. About twenty-six thousand pairs of horns are annually shipped from Siam. The Bombay buffalo horns are very useful for the manufacture of handles of knives and dressing-combs, and fetch in the market from fifteen to twenty shillings per cwt. From Madras about a million buffalo horns were shipped in 1856. Both from Calcutta and Madras stag horns of a beautiful description have been exported, and also from the Island of Ceylon. The Calcutta buffalo horn is much used by the English opticians. The horns exported by the Siamese are excellent for combs and other useful articles.

The difficulty of giving definite information on this branch of Indian commerce with England, and the value of the commerce itself, is evident from the following statement:—"It is impossible to give very accurate details as to the import of the several kinds of horns, for since 1847, when the duty was abolished, they have been all aggregated together. The imports of horns and tips and pieces of horn in 1855 amounted to 3110 tons, valued at £88,386. The hoofs of cattle imported in that year were valued at £4183. The import of buffalo horns and tips was probably about 1400 tons (as 1869 tons of horns of all kinds were received from the British East India possessions). The value of buffalo horn varies from £25 to £35 per ton. From six to eight hundred tons are annually worked up in Sheffield, chiefly for cutlery handles and umbrella and parasol handle-tops, machete or cutlass-handles, scales, snuffboxes, horn-stirrups, sword-handles, drawer-handles, dressing-combs, &c. Taking the average at fourteen hundred horns to the ton, the mortality among buffaloes in the East to supply our manufacturing demands must be nearly a million a year, besides what may be required for continental and American use."*

The stag horns used in Sheffield for cut-

* Measures have lately been taken to improve the quality of the Punjaub wool, in which there is now a large export trade *vid* Kurrachce, reaching from thirty to forty thousand maunds of about 75 lbs. It has increased about ninety per cent. over previous years. The wool-staplers of Khorassan, and the producers of wool on the hills north of Cabul, Ghuznee, and various parts of Central Asia, bring it down by caravans to the frontier; and as the navigation of the tributaries of the Indus becomes developed, a further increase of the produce brought down may be looked for.

* *Catalogue of the Collection of Animal Products belonging to Her Majesty's Commissioners for the Exhibition of 1851.*

lery purposes are chiefly supplied by Hindoostan and the Island of Ceylon. Madras, Bombay, and Colombo (Ceylon), export to England annually over four hundred tons of stag-horn. These are much valued. The horns dropped on the hills and plains of India and Ceylon are very heavy, and almost as solid as bone. The horns shed by more than a quarter of a million head of deer are gathered in India for the manufactures of Sheffield. The value ranges from £25 to £50 per ton.

Tortoiseshell is brought to Europe chiefly from the Eastern Archipelago, and beautiful specimens of manufactured articles in that material both from India and China.

India sends to Europe great variety of shells and of marine animal products suitable for manufactures. Large quantities of the calcareous plate (commonly called bone) which strengthens the back of the cuttle-fish are brought from the Persian Gulf to Bombay, and thence shipped to Europe.

We receive from India about a thousand tons of cowrie shells (*Cypræa moneta*) yearly, chiefly for transmission to the west coast of Africa, where a string of about forty is worth 1*d.* or 2*d.**

Of black-edged mother-of-pearl shells about a hundred tons are annually shipped from Bombay.

There is a shell which, although not much sent to Europe, forms an important item in the coasting trade of India; and in the trade of Ceylon figures as an export to the Indian continent. It is called chanks (*Turbinella pyrum*), and is a solid porcellaneous fusiform shell, used for cutting into armlets, anklets, &c., known as "bangles" in the East Indies, which are often highly ornamented. More than 4,300,000 of these shells are sometimes shipped in a year from Ceylon to the ports of Calcutta and Madras. Chanks, also called *kauncho rings*, are cut out by means of rude circular saws into narrow slips, which, when joined very accurately, give the whole an appearance of being formed from the most circular part of the shell. There is a small process, or button, at the base of each shell, which is sawn off, and, after being ground to a shape resembling that of a flat turnip, is perforated for the purpose of being strung. When so prepared, these receive the name of *krantaks*, of which two rows, each containing

from thirty to forty, are frequently worn round the necks of sepoys in the East India Company's service as a part of their uniform—a substitute, indeed, for their stocks. The city of Dacca, so famous for its muslins, receives a large number of these shells, which are used for beating the finer cloths manufactured in that populous and rich emporium of cotton fabrics. The jawbone of the boalee fish is also used for carding cotton for the Dacca muslins.*

The Island of Ceylon is famous for its pearl fisheries, as has been shown in the chapter treating of that island. In the chapter on China the skill of the Chinese in producing artificial pearls has been noticed. These are articles of export to Europe. The pearl-shells, as well as their precious contents, are imported into England from Ceylon.

From the Red Sea and the Persian Gulf coral is chiefly procured. Bombay is the chief depot for this commodity for shipment to Europe. Large coral deposits have been lately found on the coasts of Oran, and a bank on the southern coast of the Island of Ceylon.

Wax is a valuable article of Indian foreign trade. From China the best description is obtained, but India is rich in this product, which is also of excellent quality. About 300,000 lbs. of beeswax are annually shipped from Madras.

It has already been shown that the vegetable dyes of India are valuable, especially indigo; pigments and dyes yielded by animals form also an important element of Indian export trade.

Cochineal is only exported in small quantities to Europe. India has not done justice to herself in this branch of trade, for the Punjab possesses the insect abundantly;† and certain writers allege that the dyers of Lahore have from time immemorial used the dye which it produces. This, however, is denied by naturalists in the service of the East India Company. From observations and experiments made in the Punjab, it has been established that the wild cochineal of that district will produce the most beautiful dye known under that name.‡ The supply of the English market is chiefly from America, but the Dutch have gathered the insect abundantly in Java;§ and although attempts to introduce the American insect to India failed, no proper attention was paid to that which was in-

* The shells of *Cypræa moneta*, *Cypræa annulus*, and some small white shells of the genus *Marginella*, were formerly employed occasionally in European medicine. In Scinde they are at the present day calcined, and the powder sprinkled over sores. Sixteen hundred and twenty-five hundredweight of cowries have been imported in one ship from Ceylon for this country.

* *Shells and their Uses.* By P. L. Simmonds.

† *Journal of the Agricultural and Horticultural Society of India*, vol. vii. part i.

‡ *Observations on the Wild Cochineal of the Punjab and the North-Western Provinces.* By Dr. Dempster.

§ Dr. McClelland, of the Botanical Gardens, Calcutta.

digenous to India.* The attention of the governor and secretary of the north-western provinces was directed to the subject in 1855-6, and the probability is that this article of commerce will be brought to command more attention in the European markets.

The lac dye is a product peculiar to India, using the term in the more extended signification. It reaches us from India in the various shapes of stick-lac (deposited round the branches of trees), seed-lac, thread-lac, melted down into a resin, forming the basis of sealing-wax and lackers or varnishes; and the red colouring matter, in cakes, known as lac-dye, which forms a dye-stuff. Lac is obtained chiefly on the hilly parts of Hindoostan, on both sides of the Ganges, and in Birmah. From the port of Calcutta upwards of 4,000,000 lbs. are annually shipped.

Lac insects (*Coccus lacca*) are found in enormous numbers in the mountain forests on the sides of the Ganges, and line the branches of various trees, as the *Ficus Indica*, *Ficus religiosa*, *Croton lacciferum*, and others. When about to deposit their ova, these insects puncture the young shoots and twigs of the various trees: the branches then become encrusted with a reddish-coloured resinous concretion, which consists of the inspissated juice of the plant imbued with a peculiar colouring matter derived from the insect: the insects, when attached to the branches of the trees, soon become enveloped in the layer of resinous matter, which hardens on exposure: this is the stick-lac of commerce. The insect dies, and the body shrivels into an oval bag, containing a minute drop of red fluid: this is extracted from the lac, and when formed into small masses becomes the lac-dye of commerce. It is extensively used as a substitute for cochineal.

Stick-lac, which is chiefly obtained from Siam and Bengal, is the basis whence lac-dye and shell-lac are manufactured. These are the stick-lacs of commerce, the resinous substance mentioned above.

After the lac-dye has been separated from the stick-lac, the preparation of which is usually carried on in India, the substances remaining are formed, and become articles of commerce.

Ruby, garnet, and orange shell-lac are exported from India; the darker qualities are used in the manufacture of spirit varnish or French polish, and all the three qualities are used in the stiffening of the bodies or shapes of hats. Ruby and orange button-lac are used by sealing-wax makers and hat manufacturers. The quality is similar to shell-lac, but stronger in body.

* Dr. McClelland.

Ruby seed-lac and orange seed-lac are also articles of commerce, being used in the manufacture of spirit varnishes, lac-wax, white and yellow. Bleached lac is extensively used in the manufacture of the finer sorts of sealing-wax, and the wax which separates during the purification of the lac is called lac-wax, and comparatively little known. This substance is readily fused, and may be well employed in taking casts, which it does with great sharpness. It is probable, also, that it might be advantageously used to mix with other and more fusible materials in the manufacture of candles.

Lac is found encircling the branches of many trees in India in the form of a tube, half an inch to an inch in diameter. The broken branches, with incrustations at various distances, is called in commerce stick-lac, and it ought to be semi-transparent. The lac is formed by the insect into cells, somewhat resembling a honeycomb, in which the insect is generally found entire, and owing to whose presence stick-lac yields, by proper treatment, a red dye, nearly if not quite as bright as that obtained from cochineal, and more permanent.

The colouring matter exhibited by grinding stick-lac, and then treating it with water, constitutes seed-lac. The crude resin is abundant in the jungles of India: the best is produced upon the koosumba (*Schleichera trijuga*), which yields the colouring matter twice a year.

We import upwards of 1500 tons annually of crude shell-lac and lac-dye, of the value of £88,000.

The native process of making the lac-dye in cakes* is as follows:—The lac having been carefully picked from the branches, is reduced to a coarse powder in a stone hand-mill, and is then thrown into a cistern, covered with two inches of water, and allowed to soak for sixteen hours. It is then trampled by men for four or five hours, until the water appears well coloured, each person having about ten pounds' weight of lac to operate upon. The whole is then strained through a cloth, a solution of hot alum water is poured over it, and the decoction is drawn off, remaining a day to settle. It is subsequently passed into other cisterns, the water is run off, and the colouring matter deposited is taken up, and placed in a canvas strainer to drain. It is then passed through a press to remove all remaining moisture, and the cakes

* Lac-dye usually comes into commerce in the form of small square cakes, or as a reddish black powder, and contains, in addition to a considerable quantity of resinous matter, a carmine-like pigment, employed in dyeing scarlet, for which purpose it must be dissolved in sulphuric acid or in a strong acid solution of tin.

of dye are made up with the distinguishing letter or mark of the manufacturer.*

The lac-dye imported into England during 1856 weighed 18,123 cwt. In 1857 the importation was less.

Various animal substances used in pharmacy and perfumery are exported from India.

Civet, the odoriferous substance produced by the civet cat, is brought from Calicut and other parts of the East Indies. Musk is derived from Eastern and Central Asia as well as from other places.

Bezoar is a name given to a concrete substance found in the stomachs of animals, and to which many valuable properties were formerly ascribed. It had the supposed virtue of being an antidote to poison, and was considered an absorbent.

There are several kinds of bezoar met with, but the oriental is most esteemed, which is brought from Borneo and some of the seaports of the Persian Gulf. It has a smooth glossy surface, and is of a dark green or olive colour. Varieties of this concretion are found in the stomach of the wild boar of India, in the gall-bladder of the ox, common in Nepaul, and in the gall-bladder of the camel; this last is much prized as a yellow paint by the Hindoos. The Persian bezoar is said to be procured from the chamois, or wild goat (*Capra gazella*). Cow bezoar will fetch about 40s. per lb. in the Indian bazaars, and bezoar stone from the ghauts 6d. per lb. According to Frezier, bezoars have been found in guanacoas.

Specimens of the Indian blistering beetles, *Mylabris pustulata*, and *Mylabris punctum*, a smaller species, were shown at the Madras Exhibition by Dr. Collas of Pondicherry, accompanied by a full interesting report on their blistering properties and careful researches into their natural history, which he published in the *Moniteur Officiel*, at Pondicherry, on the 2nd of March, 1854. Both insects are found in large quantities at certain seasons all over Southern India. Some other blistering flies are also met with in India, such as the meloe (*Mylabris cichorii*), the *tilini* of the Hindoos, common about Dacca and in Hyderabad. It yields, according to Dr. O'Shaughnessy, on an average, one-third more of cantharidin than the Spanish fly of the European shops.†

Of late fresh efforts have been made to make these insects articles of commerce for medical purposes, and with every prospect of success.

The following statement for 1856, in reference to Bengal alone, of the measure and value

* *Catalogue of the South Kensington Museum.*

† Dr. Hunter, *Transactions of the Asiatic Society.*

of particular articles, the exportation of which are upon the increase, will set forth the importance of the export trade of the chief presidency:—

	£
Castor-oil, 12,435 maunds*	16,748
Raw cotton, 173,908 maunds	173,853
Lac-dye, 27,985 maunds	81,591
Lac (shell), 47,974 maunds	43,458
Lac (stick), 1606 maunds	1,263
Gunny cloths and bags, 20,221,016 pieces	430,732
Hides and skins, 4,788,129 pieces	368,888
Jute, 1,194,470 maunds	327,476
Linseed, 2,538,225 maunds	507,824
Mustard-seed, 1,307,115 maunds	261,541
Poppy-seed, 114,526 maunds	22,938
Opium, 44,937 chests	3,638,917
Rice, 9,187,259 maunds	1,047,133
Wheat, 950,036 maunds	100,469
Other grain—including paddy, grain, dholl, and peas, oats barley, with flour and bran, 665,558 maunds	59,420
Safflower, 15,495 maunds	30,765
Saltpetre, 737,273 maunds	423,406
Silk, 18,229 maunds	703,822
Sugar, 1,221,393 maunds	1,134,154
Total	9,374,392

The value of hemp from Bengal in 1855 was £38,000.

The export trade of certain non-regulation provinces in connection with the Bengal government has also greatly increased. Thus, Arracan was a swamp when, thirty years ago, it was wrested from Birmah. In 1856 its exports exceeded in value a million sterling, rice being the chief commodity. Its imports were almost exclusively silver.

The following is a view of the imports and exports of the three presidencies during the year 1856:†—

MERCHANDIZE.

1855-6	IMPORTS.			
	British. £	Foreign. £	Total. £	Treasure. £
Bengal . . .	6,892,294	1,644,523	8,536,717	6,011,225
Madras . . .	981,231	1,134,166	2,313,387	1,371,069
Bombay . . .	2,999,420	3,704,502	6,603,923	4,973,380
	10,872,945	6,501,181	17,374,027	12,356,274
1855-6	EXPORTS.			
	British. £	Foreign. £	Total. £	Treasure. £
Bengal . . .	4,943,547	8,689,483	13,633,030	254,361
Madras . . .	976,221	1,941,569	2,917,090	441,875
Bombay . . .	3,413,799	5,829,118	9,243,898	1,349,016
	9,332,548	16,160,470	25,494,018	2,046,252

The following is a memorandum of some of the items included in the trade from Bengal to other countries than Great Britain:‡—

* A maund is 80 lbs.

† The value is computed at the rate of two shillings the rupee.

‡ Bonnaud's *Commercial Annual of Calcutta.*

MERCHANDIZE.

FRANCE.		
	Imports. £	Exports. £
1854-5	139,494	437,975
1855-6	249,496	753,772
NORTH AMERICA.		
1854-5	120,154	876,508
1855-6	89,548	1,033,840
CHINA.		
1854-5	240,395	3,306,621
1855-6	201,562	3,284,884
NEW HOLLAND AND SYDNEY.		
1854-5	51,483	116,178
1855-6	34,796	148,786
SINGAPORE.		
1854-5	81,958	501,793
1855-6	80,830	572,158
ARABIAN AND PERSIAN GULFS.		
1854-5	75,136	106,457
1855-6	65,517	108,467
MADRAS AND COROMANDEL COAST.		
1854-5	125,510	221,282
1855-6	104,547	185,574
BOMBAY AND MALABAR COAST.		
1854-5	207,644	472,781
1855-6	210,576	456,657
PEGU.		
1854-5	102,064	305,926
1855-6	95,181	378,810
MAURITIUS.		
1854-5	5,377	202,279
1855-6	3,923	193,409
BOURBON.		
1854-5	5,097	87,206
1855-6	3,918	171,478

The importance of Bombay as a port of export has already been asserted. The following is a comparative view of the export of cotton during 1856 from the three presidencies : *—

MERCHANDIZE.

EXPORTS TO GREAT BRITAIN.

1855-6.	lbs.	£
Bengal	12,028,480	150,356
Madras	4,792,388	58,899
Bombay	165,380,930	2,320,454
<i>Total Export.</i>		
Bengal	13,912,640	173,353
Madras	21,013,464	252,134
Bombay	217,487,418	3,074,089

Of the large quantity exported to other countries than Great Britain, the average export to China from Bombay alone in the last five years was 54,450,579 lbs., of the annual

* Mr. G. S. Porter.

average value of £812,380. Indeed, cotton to Great Britain, and cotton and opium to China, constitute a very large portion of the aggregate exports of Bombay. The opium exported in 1854-5 was valued at £2,540,000, and in 1855-6 at £2,560,000.

The *Calcutta Review* gives an elaborate statement of the imports and exports of each presidency up to 1856 inclusively from 1853. The following are extracted from these details. These estimates take no cognizance of re-exports, and state the import and export of each presidency to all places out of that presidency, whether in India or in places beyond its limits. The exports from port to port of the same presidency are not stated. The statement for 1855-6 is alone given in the extract.

BENGAL PRESIDENCY.

TRADE.

Imports, 1855-6.

	£
Merchandize	8,186,162
Company's ditto	170,555
Treasure	6,011,225
Total	14,367,942

Exports, 1855-6.

Merchandize	13,633,030
Treasure	255,361

Total 13,888,391

Total Trade.

Imports	14,367,942
Exports	13,888,391

Total 28,256,333

BILLS OF EXCHANGE.

Bills on Bengal by the court of directors	1,232,683
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SHIPPING.

Arrivals, 1855-6.

	Vessels.	Tonnage.
Square-rigged	1529	864,227
Native craft	514	56,005
Total	2043	920,232

Departures, 1855-6.

Square-rigged	1555	861,546
Native craft	593	61,958
Total	2148	923,504

MADRAS TERRITORIES.

TRADE.

Imports, 1855-6.

	£
Merchandize	2,318,887
Treasure	1,371,669
Total	3,685,056

Exports, 1855-6.

	£
Merchandise	2,917,090
Treasure	441,875
Total	3,358,965

Total Trade.

Imports	3,685,056
Exports	3,358,965
Total	7,044,021

SHIPPING.

Arrivals, 1855-6.

	Vessels.	Tonnage.
Square-rigged	1221	356,641
Native craft	4439	213,918
Total	5660	570,559

Departures, 1855-6.

Square-rigged	1633	463,736
Native craft	4875	231,829
Total	6508	695,565

PORT OF BOMBAY.

TRADE.

Imports, 1855-6.

	£
Merchandise	6,529,663
Horses	74,260
Treasure	4,973,380
Total	11,577,303

Exports, 1855-6.

Merchandise	8,940,639
Horses	2,260
Treasure	1,345,016
Total	10,287,915

Total Trade.

Imports	11,577,303
Exports	10,287,915
Total	21,865,218

SHIPPING.

Arrivals, 1855-6.

	Vessels.	Tonnage.
Square-rigged	320	229,403
Native craft	5845	223,524
Total	6165	452,927

Departures, 1855-6.

Square-rigged	324	231,496
Native craft	4372	167,824
Total	4696	399,320

This return, however, thus far applies only to the port of Bombay. The returns for the other ports of the Bombay presidency are as follows:—Alibangh, Bassein, Broach, Bulsar, Caringah, Dholarah, Gogo, Ghurbunds, Jum-

bosur, Kurrachee, Mahonu, Oolpar, Omergun, Panwell, Rajpooree, Rutnagur, Soovendroog, Surat, Tarrapore, Tromboy, Unjunwell, Vin-gorla, Vizradroog, Waghra, Warree, exhibiting in detail the imports and exports, appear in the report of the external commerce of Bombay for 1855-6. The amounts given by these returns are:—

IMPORTS.

	£
Merchandise	286,930

EXPORTS.

Merchandise	285,643
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But we have not the means of presenting a comparison with former reports, and therefore will omit them in the aggregates which we shall have to present.

The report of the administration of the province of Pegu affords some considerable information of its external trade, both by sea and the rivers. The returns (deducting £200,000 annually, as the fair estimate of imported government treasure) may be stated as follows for the aggregate of the four ports of Rangoon, Dalhousie, Toongoo, and Thyat-Mew:—

PROVINCE OF PEGU.

TRADE.

Imports, 1855-6.

	£
Merchandise	1,267,071

Exports, 1855-6.

Merchandise	663,783
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The following is the estimate of the review for 1857 (the statement does not exactly agree with the parliamentary returns):—

CALCUTTA.

TRADE.

Imports, 1856-7.

	£
Merchandise	7,841,730
Treasure	6,638,685
Total	14,480,415

Exports, 1856-7.

Merchandise	13,618,626
Treasure	1,003,676
Total	14,622,302

MADRAS TERRITORIES.

TRADE.

Imports, 1856-7.

	£
Merchandise	2,905,498
Treasure	1,613,515
Total	3,919,413

Exports, 1856-7.

	£
Merchandize	3,717,380
Treasure	344,186
Total	4,061,566

PORT OF BOMBAY.

TRADE.

Imports, 1856-7.

	£
Merchandize	7,629,221
Treasure	8,248,361
Total	15,877,582

Exports, 1856-7.

Merchandize	10,963,008
Treasure	1,588,873
Total	12,571,881

The parliamentary return for Indian commerce is as follows:—The total value of the merchandize and treasure imported into the several presidencies of India in 1856-7 amounted to 28,60,82,855 rupees, against 25,24,89,453 in 1855-6, and 14,77,09,286 in 1854-5. Bombay figured for 11,89,50,606; Madras for 2,54,07,396; and Bengal for 14,17,24,853. The exports from India in 1856-7 amounted to 26,59,18,811, against 23,64,04,451 in 1855-6.

Upon his own statements the reviewer makes the following observations:—

The foregoing results, it must be observed, are afforded (as to all but the Straits' settlements) by the official values. It then becomes an important and interesting question how far these official estimates are true criteria of the real value. That the official value, on the whole, affords a correct index in the case of the imports appears to be admitted: being, it may be, erroneous, in respect of some articles, by too high a valuation, and erroneous by too low a valuation in respect of others, but, on the whole, affording a fair estimate of the aggregate value of the imports, at least in Bengal. But this is not so at present in respect of the exports, as we shall proceed to show.

These results, too, recall Lord Grenville's most masterly and noble speech in 1813—the greatest speech ever delivered on Indian affairs. At that time the aggregate of the trade of India with Great Britain was not £2,500,000 a year (exports and imports), and the evidence given for the East India Company, by its witnesses, went to show the improbability of any extended demand for European goods. Such was the doctrine gravely propounded by eminent witnesses in defence of the monopoly—Warren Hastings, Sir

Thomas Munro, Sir John Malcolm, and others. But said Lord Grenville in the House of Lords, "To what extent this trade of India may be carried, presumptuous indeed would be the man who would now venture to pronounce. On what evidence, what conjecture, would he found his judgment? What present knowledge, what past experience of India, could possibly decide that question? 'No commerce,' Trebatius or Quintus Cicero, returning from a campaign in Britain, would probably have informed the Roman senate—'no commerce can ever be carried on with that uncivilized uncultivated island, divided absolutely from the whole world by tempestuous, unnavigable seas, and inhabited only by naked and houseless barbarians.'—'No commerce,' some sage counsellor of Henry and Elizabeth might, with equal authority, have assured those monarchs, 'can ever be opened with the dreary wild of North America, a land covered with impenetrable forests, the shelter only of some wandering tribes of the rudest and most ferocious savages.' Yet of these predictions the folly might be palliated by inexperience. In the defect of better knowledge, such conjectures might even pass for wisdom. But what shall we say to those who deny the possibility, not of opening new sources for the commerce of mankind, but of enlarging its present channels, who tell us that the trade we now carry on with India, must, in all future times, be limited to its actual amount? Strange and unprecedented necessity, which has thus set bounds to human industry and enterprise, arresting the progress of commercial intercourse, and by some blasting and malignant influence, blighted the natural increase of social improvement! With full and confident assurance may we repel these idle apprehensions. By commerce commerce will increase, and industry by industry. So it has ever happened, and the Great Creator of the world has not exempted India from this common law of our nature. The supply, first following the demand, will soon extend it. By new facilities new wants and new desires will be produced. And neither climate nor religion, nor long-established habits—no, nor even poverty itself, the greatest of all present obstacles, will ultimately refuse the benefits of such an intercourse to the native population of that empire. They will derive from the extension of commerce, as every other people has uniformly derived from it, new comforts and new conveniences of life, new incitements to industry, and new employments, in just reward of increased activity and enterprise." So spake the statesman; and history records the begun fulfilment of his prediction, and encourages the confi-

dent belief that larger anticipations than even that illustrious man himself probably ever entertained will be realized before a century has past from his delivery of that magnificent oration. The point to which we have already reached will be now ascertained by an inquiry into the value of the exports of the year we have last reviewed, 1855-6. The question of gradual progress will then next engage our attention.

It is at all times difficult to fix the value of goods for duty, but of course particularly so in a fluctuating market, and when the articles to be valued vary much in quality. Probably the best plan in large ports is to issue, yearly or half-yearly, tariffs of values, based on fair averages. If this be not done, there must always be much uncertainty, and great loss to the revenue from under-valuation, or complaints of restrictions on commerce from excessive duties. In the one article of sugar, for instance, the prices of the various sorts of one kind ranged, in 1855-6, from nine rupees eight annas (nineteen shillings) a maund to five rupees four annas, and the combined average price for all sorts of that one kind of sugar was seven rupees, or fourteen shillings; for the various sorts of another kind the range was from seven rupees to four rupees, the general average being five rupees ten annas; and for the third kind the range for various sorts was from six rupees fourteen annas to three rupees twelve annas, the combined average for this kind being five rupees two annas. This was the range of market for Benares, Date, and Dummah sugar. But this affords very little guide in now estimating the real value of this article, which is exported free of duty. Much less will any returns of this description afford an accurate guide for articles on which there is a duty levied on the real value, it being evidently anything but the interest of the exporter to assist the custom-house in assessing the utmost value. Moreover, while the returns afford evidence of the gross quantities shipped,—and it is easy to ascertain the range of prices for any particular descriptions of an article,—it is almost impossible, when the fluctuation of prices has been considerable and frequent, when there is no mode of testing the relative amounts and proportions of the different sorts of such an article shipped, to determine absolutely what the real value of any past year's shipment has been. It is clear, however, that if there has been a decided general rise in prices, and that the chief activity in shipping prevailed at the time when prices were highest, then any return of values based on precisely the same data as to prices as were used under the lower standard of the previous year must be erro-

neous. And such was precisely the case with the Bengal exports of 1855-6. We have seen one calculation, by a very competent person, which makes the real value of the exports of 1856 to be £19,922,803, but this high estimate includes packing and shipping charges, duties, commissions, &c. &c.: this plan having been adopted in that table with reference to other calculations respecting the exchanges. Our own impression, from careful consideration and attentive examination of the subject, certainly is that the real Calcutta market value of the exports of the year 1855-6 (the official year), which were valued at £13,888,391, was nearly £16,500,000. But as the value of the imports is based on the invoices, which include the charges, insurance, and freight, the comparison between this 16,500,000 as our market value with the value of imports will be delusive. We need not, indeed, add the freight of exports, as it is not usually paid in India, but other charges, to the amount of more than ten per cent, must be added, making the aggregate value of exports, to be repaid in India by merchandize, or bullion, or remittances of the company's bills for our tribute, probably £18,000,000. But it is to be remembered that not all the imports can be set off against the exports, for some certainly come to this country for permanent investment. Such is the case with importations of railway materials.

A very brief examination of details will illustrate our position as to the market value as contrasted with the official. Taking linseed for example, the official value at two rupees for 2,538,225 Indian maunds (about 900,000 tons) was £507,824; but it may be questioned if four rupees a maund was too high an average for the whole of the linseed shipped in that year. This would give £1,015,648. The difference in saltpetre was not so remarkable, but still the real value exceeded considerably the official. In the case of jute the official value for 1,194,470 maunds was £327,476, at ten rupees a bale of three hundred pounds; but a very careful calculation gives an average of at least twelve rupees eight annas, or twenty-five per cent additional. In the case of rice the official value of 9,187,259 maunds (328,000 tons) was £1,047,133, but we believe that at least one rupee a maund may fairly be added to this estimate, giving a result of upwards of £900,000 additional. On this article there is a fixed duty of one anna and a half a maund, and there is consequently no reason for concealment of the value; and now steps are being taken, by monthly returns from the chamber of commerce, to ascertain the value accurately. In the case of raw silk the duty is three annas and a half per seer

(or two pounds), and in this case also the real value probably could henceforth be easily ascertained. The official value given for 18,229 maunds in 1855-6 was £703,822—that is, for 729,160 seers—an average of somewhat less than ten rupees (£1) a seer. It is difficult now to form an opinion on the subject with any confidence, from the varieties of silk that were in the market, but on the whole it may probably be stated with tolerable confidence that twelve rupees eight annas would be a fair average, giving in this case also an increase of twenty-five per cent. The proportionate increase in mustard seed, of which 1,307,115 maunds were shipped, and were valued (at two rupees a maund) at £261,541, may be taken to be equal to that in linseed, or a hundred per cent. In the case of opium 44,937 chests are valued officially at £3,638,917, and this is doubtless correct, and the official value of sugar may also be correct, if it does not indeed exceed the real value. But taking a long series of articles—indigo, cotton, wheat, and other grain, castor-oil, gunnies and gunny cloth, hides, lac, poppy seed, provisions, rum, safflower, tea, &c.—it may be fair to say that from twenty to twenty-five per cent. on the average might be fairly added to the official value. The rise of prices in the course of the official year was undoubtedly very great, and continued almost up to its termination. The news of the peace was entirely unexpected, and did not reach Calcutta in a definite and authentic form till March.

The rise in the prices in the other presidencies probably was not so great, and the consequent temporary disparity between the real and the tariff value, not so great as in Bengal. But if it be stated generally that the real market value of exports from the three presidencies, Pegu, and the Straits, was thirty-six or thirty-seven millions sterling, instead of £32,199,056, as previously calculated from the official returns, or nearly *forty millions*, with the duties and charges, few perhaps will question the accuracy of the supposition.

The general subject of prices in India is

one of much interest and importance, but at present it is too early to reach any definite conclusion. In the interior it is notorious that prices of produce, of labour, and of boat hire, have risen greatly. Shippers, the railway company, and the government, alike feel it.

In consequence of a return lately moved for in the British House of Commons by Mr. H. Baillie, the tariff now in force in British India has just been published as a parliamentary paper. The import duties are principally *ad valorem*. Coffee pays an import duty of $7\frac{1}{2}$ per cent. in all the presidencies; coral, 10 per cent.; cotton and silk goods, 5 per cent.; foreign cotton and silk goods, 10 per cent.; camphor and cassia, 10 per cent.; foreign books, 3 per cent.; alum, 10 per cent.; marine stores, 5 per cent., and foreign stores, 10; British metals, 5, and foreign, 10 per cent.; opium, 24 rupees a seer of 80 tolas (the export of the drug is prohibited); beer, ale, porter, &c., 5 per cent.; salt, 2 rupees, 8 annas per maund of 80 tolas per seer in Bengal, 14 annas per maund in Madras, and 12 annas per maund of 3200 tolas in Bombay (if not covered by a pass); spirits 1 rupee 8 annas per gallon; sugar (prohibited, if “not the growth of a British possession into which foreign sugar cannot be legally imported”); vermillion, 10 per cent.; British and foreign woollens, 5 and 10 per cent.; wines and liquors, 1 rupee per imperial gallon; tea, 10 per cent.; tobacco, 5 per cent. in Madras (export duty, 10), and 1 rupee 8 annas per maund in Bombay (the same export duty).

Some of these imposts are obviously made only for the purposes of revenue, but others are incompatible with the doctrines of free trade. It cannot be for the interests of India or England, or for the general advantages of commerce, to prop up the trade in sugar or in any other commodity by artificial means. The indirect operation must in such cases always be the restriction of the industry proper and peculiar to the country where such tariff regulations exist.

CHAPTER XXIII.

COMMERCE (*Continued*):—COMMERCE OF OUTLYING SETTLEMENTS.

THE commerce of what may be termed the outlying posts of our Eastern empire must receive much more attention from the public and legislature of Great Britain than has yet been given to it. The trade of some of these settlements has increased in a ratio greater than that of the old possessions on continental India; and others are adapted to a great commerce if the government of India, or the imperial government, only perform their duty. The neglect of the latter in some of these settlements has been such as seriously to reflect upon its credit and patriotism, and upon the intelligence and independence of a people who, being free, permit the like.

The settlement of Aden, from its geographical position, is one of the most favourable in the world. It is on the new highway between the East and West, formed by "the overland route." A carrying trade may be established from that port of a most extensive kind. From thence to Kurrachee, Bombay, Madras, the Island of Ceylon, Calcutta, the eastern shores of the Bay of Bengal, and the Straits' settlements, all goods which are not necessarily brought round the Cape may be borne, and an important passenger trade established. Aden may be pronounced, in travellers' phraseology, the "half-way house" between England and her Eastern empire. As at present governed it is a pest-house. The European troops die off in great numbers, and so do the sepoys. The Aden ulcer and a species of dropsy, both fatal, and alike arising from the impoverishment of the blood, carry off great numbers; many also die of scurvy. The chief causes of the horrible mortality which prevails, are want of vegetables, and the labour imposed upon the troops in a climate perhaps more enervating than any other where there is a British garrison, not even excepting Trincomalee. Vegetables are easily procured, and the relentless imposition of labour is unnecessary. Yet while so much is heard about the errors and misdeeds of the East India Company, here is a place under the direct control of the imperial government, where the neglect of human life amounts to atrocity. Of course these circumstances must bear upon the commerce of the place, as the ratio of deaths will give it a bad reputation as to health, and check all foreign enterprise there. The cruelty of the government is not confined to the soldiery under its care, who are permitted to "rot off"

at a fearful ratio. Coolies from the Indian continent have been employed on public works, and treated with the same inhumanity. In the *Bombay Daily Times and Journal of Commerce*, so recently as December 10, 1856, it is related that a vessel had ten days previously arrived from Aden, being a month on the voyage, and landed sixteen coolies, "the pitiable remains of a party of forty-one she had taken on board,—twenty-five of whom had died on board. True, they were only coolies who had gone in the public service, they had no status beyond that of children in the commonwealth, and therefore nobody minded them. But they were human beings not the less, whose lives and sufferings must be answered for by those who have been the means, directly or indirectly, of sending them from the world before their time." It appears that these coolies proceed in large numbers from Bombay for employment in Aden; they are the subjects of injustice from the time they embark for that purpose until they return, or are sent to their long home by the atrocious neglect and cruelty to which they are subjected. The advances made to them upon engagement are so regulated as to prove a snare and a mockery. On the voyage they are badly supplied with water, and rarely at all with vegetables. Their arrival at Aden is followed by the imposition of an amount of labour which is merciless, and under which many of them sink. They are supplied with food so inappropriate, that if the intention of government was to destroy them by rapid degrees, it could not be more effectually performed. Vegetables are seldom supplied because they are not produced on the spot; consequently scurvy, or the Aden ulcer, or the fatal *beri-beri*, a peculiar drop-sical disease, soon set in and drain the life of the wretch left by his unpaternal government to die, or as is more usually the case, he is sent away to die on the passage, or, if he reach his home, there to perish. Hardly any of the poor coolies reach Bombay without scorbutic disease, aneurism, or affections of the heart, lungs, or bowels, if they are not dying of *beri-beri*, or Aden ulcer. When men are sent on board ship for Bombay in this deplorable condition no report is made of it, they are accounted for in the returns as having gone to their homes, although the officials know that they are sent away with death upon them, and in many cases destined to be thrown

overboard as rotting carcasses. Yet all this cruelty saves nothing in a pecuniary way, on the contrary, it is an expense as well as a reproach. The pension list is heavily encumbered by the want of humanity characteristic of the British government in Aden. There is no difficulty in procuring labour at Aden, but government humanity is very scarce. The character of the climate seems, however, adverse to extensive settlement, as well as local peculiarities. The author has been favoured with an original report on this subject, in a correspondence between Mr. Coles, the acting secretary of the Bombay medical board, and Dr. Collum, whose experience and intelligence peculiarly qualify him to offer an opinion on the subject. The publication of this opinion will be of use to travellers and commercial men, to officers of the army, and persons having either Europeans, sepoys, or coolies under their charge.

To the Secretary of the Medical Board, Bombay.

Aden, May 12th, 1856.

SIR,—In reply to your letter No. 1103 of the 25th ultimo, I have the honour to submit the following information.

2. The climate of Aden consists of two seasons only, the hot and the cool, the former commencing towards the end of April, and terminating about the middle of October. These two periods correspond severally with the south-west and north-east monsoons, which distinctly mark their setting in and duration. Nevertheless it is to be remarked that for the space of a month between the two seasons the wind and weather are very variable, but the atmosphere is generally sultry, and not unlike the climate of Bombay in May and October.

3. With regard to the *hot* season it may truly be so called, the weather is then very hot; but the *cool* is only so termed comparatively, inasmuch as the sun appears to be equally powerful all the year round, and the only abatement to its effects during the day is produced by the wind, hence, sheltered from the wind, the atmosphere in Aden is always warm, and there is no period throughout the year when even gentle exercise does not produce profuse perspiration.

4. The effect of the wind in cooling the atmosphere is fully borne out by the meteorological statistics collected from the hospitals in camp, and that at Steamer Point, during the year ending March 31st, 1856. From these it appears that the average mean temperature on the lowest ground in camp, but which is quite open to the north-east monsoon, is from November to April 77°, whereas at the Hospital Steamer Point, which though on an eminence is sheltered from that wind, it reaches 80°. On the other hand during the south-west monsoon, *i. e.* from May to October, when the Point is open to the wind and the camp shut in, the average mean temperature is 80°, and at the latter 85°.

5. It is principally on account of this evident influence of the prevailing winds in keeping down the heat of the climate, and of the established superiority of an elevated position in effecting the same result, that I have lately recommended Marshag as the most eligible site for the proposed new barracks and hospitals at Aden. That promontory which is distant only about one mile from the present cantonment, and rises to an elevation of from five to six hundred feet, is open to the prevailing winds at both seasons of the year, and is decidedly the coolest

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available locality, besides offering from its contiguity from the camp and town many other advantages not to be met with in any other part of the peninsula.

6. Strictly speaking there is no rainy season in Aden itself, though abundance of rain falls periodically in the interior and neighbourhood twice during the year, *viz.* during two or three months from the breaking out of the south-west monsoon, and again for a similar period, beginning from December. It is only rarely, however, that Aden partakes in this benefit, which I attribute mainly to the peculiar construction of the peninsula. It is observable that whenever rain falls the wind is always from the north-east, and consequently blows directly into the circle around the crater formed by the high hills of Shumshum, and its offshoots, finding no escape except through one or two narrow passes, the wind collects in the valleys, and rushes upwards in a compact volume, thus dispersing the clouds which had been attracted by the mountain peaks. Consequently it is only when the clouds are too heavily charged to be dispersed by this agency, or when the wind is very high, that any rain falls in Aden. This phenomenon, moreover, accounts for the great variation in the falls here in different years. Thus, some years the fall of rain has been excessive, whereas during the year ending March 30, 1856, it was only 1.50 inches. The descents, moreover, are very variable in these periods, but usually they occur in April and August, and again in November, December, and January. The falls during these latter months generally partake of the nature of showers, whereas in the former they are more like the heavy rains of the tropics, and huts and cattle have been washed away by the torrents which have descended furiously from the mountains.

No statistics of past years have been preserved by the civil or political authorities, nor in any of the medical establishments at this station, excepting the jail, and from the information supplied in my return 3 inches 92 cents. appears to have been the average fall of rain for the last five years.

I have the honour, &c.,

R. COLLUM, M.D.,

Jail Hospital. Superintendent Medical Department.

When describing the Straits' settlements, notice was taken of their commerce, as some reference to it was inseparable from an account of those places, and the social condition of the people.

PRINCE OF WALES' ISLAND.

Imports, 1853-4.

	£
Merchandise	581,239
Treasure and Bullion	93,061
Total	674,300

Exports, 1853-4.

Merchandise	689,002
Treasure and Bullion	179,945
Total	868,947

MALACCA.

Imports, 1853-4.

Merchandise	84,162
Treasure and Bullion	956,144
Total	1,040,306

Exports, 1853-4.

Merchandise	845,133
Treasure and Bullion	25,339
Total	870,472

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In chap. x. a general account of these settlements will be found, and there certain statistics are given in connection with the commerce of Singapore, and the reason assigned for furnishing them in that place. The trade with countries using the dollar as a monetary medium, and also with those using the rupee, is respectively stated for the years 1852-3 and 1853-4. The following was the general value of the commerce of Singapore for 1853-4:—

SINGAPORE.	
<i>Imports, 1853-4.</i>	
	£
Merchandise	2,389,788
Treasure and Bullion	1,018,017
Total	3,407,805
<i>Exports, 1853-4.</i>	
Merchandise	3,191,546
Treasure and Bullion	956,144
Total	4,147,690
<i>Total for the Straits' Settlements.</i>	
Imports	5,862,296
Exports	5,147,215

This is exclusive of the intermediate trade.

The report of the administration of the Straits' settlements, during 1855-6, does not give any detailed statement of the trade, but it contains the following remarks:—"While the trade of Penang and Malacca has but little increased since 1850-1, that of Singapore has experienced a very remarkable rise, and is now nearly seventy-five per cent. greater in amount than in 1850-1, showing an extent during the past year of ninety-five millions of rupees (£9,500,000)."

A caution is then added against entire reliance on the returns of trade, as the port being a free port, no check exists on the values and estimates of the traders; and it is then said:—"The position of Singapore, in a commercial point of view, is so admirable, that little surprise is felt at the great and annually increasing amount of trade that has there developed itself. Its harbour is open, accessible from all quarters, and free from all dangers of winds and waves. Every ship between India and China must, it may be said, go through the harbour, while it becomes a depot for the produce of the whole of the Malayan Peninsula and Archipelago, of Borneo, of Siam, Cambodia, and Cochin China, which it attracts with double force, by its freedom from all the annoyances and vexatious interference of a custom-house and its myrmidons. Such freedom is peculiarly grateful to the sensitive and jealous Malay,

not on account of the absence of all money payments, but that he has no apprehension of being meddled with, cheated, and perhaps ill-treated; and so long as that freedom continues, so long may we look forward to a perennial augmentation of a trade that is already almost unexampled in its growth and magnitude."

A paper is then annexed, which, without distinguishing merchandize and treasure, gives us the following aggregate of exports and imports for Singapore alone:—

SINGAPORE.		
	Imports.	Exports.
	£	£
1854-5	3,974,624	3,339,937
1855-6	5,144,167	4,427,229
Increase	1,169,543	1,087,292

It is stated in the report for 1853-4 that the total number of square-rigged vessels which had imported into the Straits in the preceding year was 1124 of 382,032 tons; the number that had exported was 1152 of 380,688 tons, exclusive of 1605 vessels of 189,115 tons, trading between the three stations. Of native craft, 4559 vessels, aggregating 115,619 tons had imported, and 5384 aggregating 112,187 tons had exported, exclusive of 1273 vessels aggregating 46,768 tons, trading between the three stations.

The following statement is given by the commissioner as an illustration of the value of these settlements to the mother country, and of their relations to the Dutch colonies, demonstrating "the judicious selection of Singapore, as an emporium, and its advantages as a free port":—

Trade of Penang with Great Britain.

	£	£
Imports in 1853-4	103,572	
Ditto in 1852-3	83,610	
Increase		19,962
Exports in 1853-4	174,533	
Ditto in 1852-3	132,027	
Increase		42,506
Total increase in 1853-4		62,468

Trade of Singapore with Great Britain.

	£	£
Imports in 1853-4	1,184,333	
Ditto in 1852-3	790,610	
Increase		393,723
Exports in 1853-4	564,142	
Ditto in 1852-3	407,696	
Increase		156,446
Total increase in 1853-4		550,169

Trade of Singapore with the Australian Colonies.

Imports in 1853-4	118,249
Ditto in 1852-3	27,922
Increase	90,327
Exports in 1853-4	167,633
Ditto in 1852-3	115,809
Increase	51,824
Total increase in 1853-4	142,151

Trade of Singapore with Java, Macassar, Rhio, Bally, Sombok, and Sambawa.

Imports in 1853-4	491,552
Ditto in 1852-3	274,393
Increase	217,159
Exports in 1853-4	347,585
Ditto in 1852-3	211,856
Increase	135,679
Total increase in 1853-4	352,838

The articles principally imported in the last mentioned year were cotton goods chiefly from the United Kingdom, valued at about £850,000, grain, China petty goods, cheroots, silk and silk goods, opium, sugar, tea, tobacco, and spices; and the exports were cheroots, birds' nests, cotton goods, rice, gums, metals, opium, silk goods, spices, sugar, and timber.

Of the vessels that arrived at Singapore in 1853-4, the following is the list:—

Austrian	1	Native (Flag)	20
American	47	Portuguese	14
Arabian	9	Peruvian	2
Belgian	3	Prussian	3
Bremen	8	Russian	2
Danish	9	Siamese	25
Dutch	179	Swedish	15
French	18	Spanish	6
Hambro	21	British	644
Norwegian	2		

The cosmopolitan character of Malacca and of Penang (the port of Prince of Wales' Island) is very similar.

The use of opium in the Straits' settlements is very demoralising. This is especially the case at Singapore. Dr. Little states that in 1847 there was in Singapore a population of forty thousand Chinese, male and female, of whom about fifteen thousand of both sexes smoked opium: the average quantity being about twenty grains' weight per day for each person, although ranging from ten to two hundred grains (the latter in rare cases) per day. In the course of his investigations he visited eighty licensed smoking shops, and examined six hundred and three persons who smoked opium. The rate of wages for a labourer there is about six dollars per month, or one shilling per day, and this sum is also about the average sum daily expended on opium by the Chinese in that settlement: the poorer victims in some cases expending their whole earnings. Some of these had been

addicted to the vice for twenty-five years; but a much shorter period produced sickness and emaciation. He states, as the result of his experience, that "the habitual use of opium not only renders the life of the man miserable, but is a powerful means of shortening that life." He adds, "I cannot suppose, after what has been written, that one individual can be found to deny the evil effects of the habit, the physical disease it produces, with the prostration of mind and the corruption of morals."

In the *Singapore Bi-monthly Circular and Prices Current*, printed at the office of the *Straits' Times*, March 6th, 1858, there is the following statement of port regulation and of weights:—"The port of Singapore is free from import or export duties; the only dues levied being three cents. of a dollar per ton (for defraying the cost of the Horsburgh, Floating, and other lights in the Straits of Malacca), payable by all square-rigged vessels. The usual credit given is three months for European articles. Native produce is always sold for cash. Weights:—1 catty = 1½ lbs. avoirdupois; 84 catties = 1 cwt.; 1 picul = 100 catties, or 133½ lbs.; 16 piculs 80 catties = 1 ton; 40 piculs = 1 coyan; a bunkal, or 2 dollars weight = 835 a 836 grains troy. The coerge consists of 20 pieces." The prospects of this settlement, from the most recent commercial intelligence, is very encouraging. The British flag was hoisted at Singapore on February 1st, 1819, and ever since the place has grown in political importance and commerce.

Among the most important of the outlying settlements are those on the coast of Borneo.* Although a brief description has been already given in the appropriate place, it is pertinent here to observe that it is one of the most fertile islands in the world. It is crossed by the equator, and therefore the climate is very hot, but the geological peculiarities of the country mitigate the intensity of the heat, and in some places it is alleged to be as temperate as the south of Europe. The advocates of the settlement affirm that it is more important, rich, and salubrious than Australia, and altogether better adapted for a British settlement. Borneo is rich in animals, whereas Australia is in that respect deficient. There are not many plants proper to the tropics which do not grow in the former. Its minerals are more varied than those of Australia. A few years ago a diamond was found which it is asserted is the largest in the world. The gold gathered by the people amounts in value to half a million sterling yearly. It is reasonably presumed that Europeans would be able

* For description see chap. x. p. 203.

to obtain much larger quantities. In the geographical description of the country reference was made to its extensive coal mines; according to accounts which have reached the author since writing that chapter he has reason to believe that the coal-fields of Borneo, are even more extensively diffused than he then supposed. Both the commercial and political value of Borneo are increased by that circumstance more than if its gold regions were as productive as those of Australia or California.

In the historical portion of this work justice will be done to Sir James Brooke, the Rajah of Sarawak, to whose enterprise England is indebted for any interest she has at present in the island. The author of this history is aware, on the authority of that distinguished man himself, of his willingness to sacrifice his own interests to the interests and honour of his country, and to surrender the fine regions, over which he is the actual sovereign, to the queen of these realms. The apathy of the government of this country is unaccountable, unless some political game is to be played in the interests of Holland, as the Dutch are eagerly watching their opportunity to seize the island, and place it under the sovereignty of their flag. To permit this would be cruel and unjust to Sir James Brooke, impolitic on the part of our government, and injurious to the interests of the people of the United Kingdom generally, and especially in the great Eastern Archipelago. Now, in May, 1858, while these pages are passing through the press, Sir James Brooke is appealing to the people of England, to impress upon their government the folly and detriment of any longer dallying with this subject. It is to be feared that the prominent political members of the legislature are more intent upon party debates and victories than upon the assertion of their queen and country's interests and honour. Manchester, which, as a great commercial community, has so often taken the lead in questions of political economy, and of commercial policy, has already moved in this matter. Sir James Brooke has been welcomed to a public entertainment among the citizens, and a petition has been numerously signed by bankers, merchants, manufacturers, and public men of the liberal professions, for presentation to parliament, which will probably be attended to, as Manchester is generally heard in the legislature when the voice of justice and truth, unless thus supported, is unheeded. The petition of the Manchester citizens places this question, as a commercial one, upon grounds that are wise and discreet, and at the same time just and spirited; and it presents the commercial importance of

Borneo in its full proportions before the parliament and people of England:—

"That your petitioners are deeply interested in the development of the foreign trade of this country. That it is an essential condition to the progress of this trade that public faith should be observed and enforced on all sides. That, in seeking fresh fields for our commerce, and opening out new markets for our manufactures, the safety of the lives and properties of the British subjects concerned must be secured, and their rights protected against aggression, by the support of the home government. That the outlying dependencies of the present East India Company in the Indian and China seas are of the first importance to British commerce, and that it is the paramount duty of the government to secure such a hold in those distant waters as shall maintain an efficient control of their navigation, and guarantee the free working of our ships. That at present one link is wanting in the chain of British influence which shall attain those ends. That this desired position is to be found in the territory on the north-west coast of Borneo, now under the rule of the Rajah of Sarawak. That the energy, enterprise, and administrative ability of that ruler—a British subject—have won this important position to England's use and benefit, if she chooses to avail herself of it. That, with the north-west coast of Borneo under the direct control of the crown, England would practically hold the gates of the only great highway to China, the trade with which empire, in your petitioners' judgment, is destined to be one of vast extent. That a grievous injury would be inflicted on this trade, and a blow be struck at England's supremacy, if, unfortunately, the position in question were allowed to pass into the hands of the Dutch, or any other European power. That it appears to your petitioners that the time for action has now come; that further delay will prove fatal to great interests involved, while it may jeopardize the lives and properties of Englishmen who have been induced to embark upon distant enterprises in full reliance upon the good faith and justice of England, and her respect for the obligations of treaties. Your petitioners therefore humbly pray that your honourable house will adopt such measures as to your honourable house in its wisdom may seem most fit:—1. To bring the future government of the Straits' settlements under the direct control of the colonial department of her majesty's government. 2. To secure for the benefit of British commerce the manifold advantages, natural and geographical, of the Sarawak country. 3. To urge upon the executive government



SIR JAMES BROOKE.

(RAJA OF SARAWAK.)

From a daguerotype taken at Singapore for an "Album" by Robert Walker.

LONDON: JAMES S. COOK, 1858.

at once to conclude arrangements with Sir James Brooke, K.C.B., the present Rajah of Sarawak, for the cession of his rights and powers, either by making that country at once a British settlement, or by bringing it into direct dependency upon the new Straits' government."

Sir James Brooke must know more of the capabilities of Borneo than any other living man, and his opinion in reference to the desirableness of occupying it is before the public. The claims of the Dutch seem to stand in the way of any decisive action on the part of our government. The correspondence of Lord Aberdeen and M. Dedel, the Netherlands minister, in 1844-5*, will inform those desirous to look closely into the subject, how the case stands as to what Sir James Brooke properly and expressively describes as "British rights *versus* Dutch claims." The British rajah maintains that the Netherlands never exercised, and never had sovereignty on the north-west coast of Borneo beyond their present limits; the English have positively asserted their right to form settlements on that coast wherever their interests required. There can be, therefore, no delicacy on the part of the British government as to the conflicting interests of a friendly power, and no difficulty in the way of adopting Sir James Brooke's views. Labuan has been for ten years past a British settlement. Sarawak, which was once countenanced and protected by the British government, is now abandoned by it, and (in the opinion of all who know the circumstances) most faithlessly. The Europeans and natives there hold this opinion, and among the latter the prestige of British truthfulness and honour has been lowered. It remains to be seen whether the British people will uphold their government in thus acting, or compel a course consonant with integrity and justice to the intrepid and gifted rajah, to the settlements, and to British interests.

The *Sunday Times*, a journal better informed on oriental questions than probably any other in London, has put the arrival of Sir James Brooke, and the connection of Borneo with British interests, in a sound and intelligent point of view in the following article:—"Sir James Brooke, we are told, offers to put the sovereignty of the north-west coast into our hands. Sir James Brooke makes no such offer, for the very sufficient reason, that he himself is not the sovereign of the north-west coast of Borneo. He possesses upon that coast a splendid principality, and it is of that principality that he offers to cede the sovereignty to the British govern-

* Blue-books.

ment. It appears, meanwhile, to be forgotten, that for upwards of ninety years the whole northern division of Borneo has belonged to Great Britain, having been regularly made over to us by the Sultan of Sulu, in whose possession it was at that time. If the country would listen to Sir James Brooke, he would enable it to direct its commercial and political energies into several profitable and grand channels, in that distant part of the world, to which his genius, courage, and enterprise have forcibly directed the attention of mankind. We hear much of the cotton-mills of Lancashire working only half time, and of prodigious heaps of capital lying idle; but they who suffer from these circumstances richly deserve all the losses they sustain. Numerous and vast fields lie open before them, which they refuse to enter upon. If even a moderate portion of that capital were employed in developing the resources of Borneo, it would very speedily work wonders. There is scarcely any article of tropical produce which the plains and uplands of that immense island would not supply abundantly, together with numerous materials which are found nowhere else. We think the manufacturers of Manchester should form themselves into an association to work out the Indian Archipelago—to civilise its inhabitants, to give them a taste for shirts, chemises, trousers, and petticoats—to prove to them, practically, that, by employing themselves a few hours every day, they may render themselves masters of all sorts of fine things—swords, battle-axes, rifles, great guns, if they like; with houses, boats, beads, blue bottles, and turbans. At every step we take eastwards, the materials of opulence thicken around us; but we are timid—not through moderation, as some of our contemporaries would fain persuade the world, but through gross ignorance. The English are an ambitious people, fond of conquest, when it can be rendered profitable, commercially as well as politically. This, however, has been the case with all great nations. None has ever been so puerile as to desire to extend its dominions merely for the sake of extending them. All conquerors have had an eye to profit; if any one could be found who had not such an idea, he would, unquestionably, be the most ridiculous of them all. If the English conquer, or otherwise extend their dominion, they at once benefit themselves and the populations they receive within the circle of their rule. In Borneo there would be no need of war, since the natives are willing to become our fellow-citizens, and, indeed, would only be too happy to be protected from the evils of outrage and anarchy by our

strength. To explain what advantages would accrue to the British people, from admitting them into political fellowship with us, Sir James Brooke ought to deliver a speech like that which he delivered at Manchester, to the inhabitants of every great town in the kingdom. Whatever may be pretended, a majority of persons in this country, educated or uneducated, look upon Borneo as something very much like a myth. They see it, indeed, upon the maps, where it occupies a few inches of paper, and is scratched over with two or three uncouth names; but they do not realise to themselves that it is nine hundred miles long—that it contains mountains little inferior to Mont Blanc in height—that it abounds with great rivers, with extensive forests, with beautiful hills, with rich plains—that its bowels teem with gold, silver, diamonds, antimony, and coal, still more precious than all—that cotton, coffee, and a thousand admirable productions might be obtained from it, in exhaustless plenty—and that Sir James Brooke has it in his power peaceably to throw open to us the door of this magnificent country. But let us give Sir James himself a piece of advice, which is, that nothing is to be done in England without eternal repetition. What people hear every hour in the day they end by believing."

The whole question of English interests in the Straits' settlements and the Archipelago must be thoroughly ventilated. The Dutch have done great injury to our commerce by their restrictive measures, and their aggressions are contrary to the treaty of 1824. The Java Sea, from Torres Straits to the Natunas, from Anjer to Sulu, is wholly in their power, and the telegraphic communication between Singapore and Australia, by whatever route it may ultimately be carried out, will be entirely in the hands of our astute neighbours, who will be able at any time to interrupt it. Acheen, and the greater part of Sumatra, have submitted to their rule, and from thence we are excluded; and the same may be said of the greater part of Borneo, Sambawa, Flores, Timor, the Spice Islands, and New Guinea. The Spaniards, on the other hand, have seized upon Sulu, abandoned by us to their rapacity, and they threaten still further irruptions on the north-east coast of Borneo; while the French openly covet the mineral riches of Cochin China; and the Americans do not disguise their inclination to annex, as best they may, some portion of the Archipelago. To the eastward and southward of Singapore, with the exception of the much-neglected colony of Labuan, no British settlement exists between it and China or Australia. The Honourable East

India Company, too much occupied with its vast possessions, has overlooked imperial interests in those most important seas. We find, therefore, our predominance everywhere undermined, if it can be said to exist; and if the present want of system is permitted to continue, we shall shortly find the Chinese Sea as closed to England as to the Javanese. This subject is certainly one which should be deeply interesting to the Singapore merchant, and one which should engage his earnest consideration; and now that the Straits' settlements are about to be placed under the crown, not only should their political position be determined, and the proposed form of government ascertained, so that their entire freedom of trade may be maintained in all its integrity, but British influence in the East should be resuscitated, and our national and commercial interests vindicated by a bold, straightforward, and liberal policy. The plan which the Singapore merchants urge upon the government are:—

1. The transfer of the Straits' settlements to the crown, including them and Labuan in one government.

2. The formation of a naval station at Singapore.

3. British influence maintained, so as to promote commerce, and check native misrule.

4. Authority vested in a proper officer to watch and report on the territorial extensions and commercial aggressions of the Dutch, Spanish, French, or Americans.

5. The suppression (effectual) of piracy.

6. A protectorate granted to Sarawak, or its annexation as a country of national importance, from its valuable supply of coal, and as commanding an influential position in the China Sea.

These points are of an importance which admit of no delay.

The reasons already adduced render Singapore far superior to Trincomalee, or any other place, for a naval station. It is undoubtedly the key of the Eastern seas politically and commercially, and its interests are in every way imperial, and not Indian.

The protectorate on the north-west of Borneo would connect Labuan with the other British possessions, and the rapidly increasing demand for coal, already exceeding 100,000 tons per annum, would be supplied from this settlement and the coast. Let any man of sense consider the consequences to our position, our communications, and our commerce, should an interruption of the supply of coal from England occur. And yet this is what we risk, and what will certainly happen from another war, another Australian emigration, or any other of the many causes which

may excite a large demand for tonnage. Why, then, are the ministry so blind to the vast national advantages offered for their acceptance? Why do they turn a deaf ear to the prayers of those resident on the spot, and to the voice of the influential classes in England, and refuse to entertain those simple measures by which alone British influence can be made complete and permanent in those seas, and our power and commerce placed upon a secure and prosperous footing?

Having described the general commerce of India, with many of its especial features, it is unhappily necessary to refer to some circumstances and transactions connected with the debt of India, which has an effect upon commerce not only in the indirect way with which it is affected by whatever shakes public confidence in government, but as directly influencing the trade in money, upon the soundness of which in any country the healthy operations of general commerce must much depend. Mr. Crawford moved in the imperial parliament, in the spring of 1858, for certain returns as to the debt of India, which were published on the 27th of April. These show the total liabilities of the territorial government up to the beginning of the present year. All the various notices issued by the authorities during the last twenty-four years in connection with the opening of new loans or the redemption or conversion of old ones are likewise included in the return. Among these the most important is the notification put forth for the reduction of the five per cents. into four per cents. in April, 1854, to which the holders were led to assent by certain flourishing representations of the condition and prospects of the treasury, and which was followed in less than twelve months (March, 1855) by a new proposal from the government to borrow £2,750,000 at the old rate of five per cent. This fresh loan was called the Public Works Loan, and is not redeemable until 1870. It excited great indignation, since the fact of the government again coming into the market to borrow on such terms of course caused a terrible depreciation in the property of those who had believed any such prospect to be far distant, and who, under that impression, had expected the four per cents. to be maintained at or above par. This transaction has been shown to have had a serious effect in damaging the financial prestige of the company; and although an attempt was made to repair the mischief in July last by an announcement that the four per cent. paper would be received to the extent of one-half in all subscriptions to a five per cent. loan, which was then and still is open, the recollection of it even at this time is

thought to exert a prejudicial influence. Annexed is an abstract of the aggregate debt:—

		£
Loan bearing 10 per cent interest . . .	715	
" " 8 " " " . . .	14,437	
" " 6 " " " . . .	345,725	
" " 5 " " " . . .	3,744,141	
" " 4 " " " . . .	39,392,844	
" " 3½ " " " . . .	530,730	
		<hr/> 44,028,593
Temporary loans	219,656	
Treasury notes	967,711	
Deposits, including the Carnatic and other funds	5,267,410	
		<hr/> 50,488,869

In addition to the above there have been loans opened since the 1st of May, 1856. One at four and a half per cent., which was opened on the 30th of August, 1856, and closed the 16th of January, 1857, to which—

		£
The subscriptions were	368,137	
And one at 5 per cent., opened January 16, 1857, to which, up to the 20th of February last, there had been subscribed in cash	3,788,788	
And in paper of the 3½, 4, and 4½ per cent loans	1,877,959	
		<hr/> 5,666,747

This is exclusive of the £6,000,000 of India stock at home, as well as of the £7,000,000 which the company are authorized to raise here on bonds (an authority believed to have been exercised to within £1,000,000 of its full extent), and also of the £4,397,000 four per cent. debentures just issued. The company are likewise under guarantee to pay interest on the following amounts of railway capital, which raise their total liabilities to little short of £100,000,000:—

		£
East Indian Railway	10,731,000	
Eastern Bengal	1,000,000	
Madras	4,000,000	
East Indian Peninsula	8,333,300	
Scinde and Punjab	2,500,000	
Bombay, Baroda, and Central India . .	1,750,000	
		<hr/> 28,314,300

These statistics show the debt of India to be nearly £100,000,000, but it is necessary to remark that more than one-fourth of the whole, £28,000,000, consists of guarantees upon railways. This seems to be a safe source, for, according to present experience, the lines in course of formation are likely to yield a higher rate of interest than the guarantee, while they enrich the country through which they are instrumental in opening up communications, so as to enable it to pay an increased revenue, and still more increase the

value of the particular property concerned. Another amount of £6,000,000 consists of capital of the company, which in 1874 will be paid at the rate of £200 for every £100 stock by a sinking fund now in operation.

The policy of contracting a debt in *India* for the purpose of public works there is politic on the part of the government, as well as beneficial to the country, for the more extensively the natives of India subscribe to loans, the more hold the government has upon their loyalty. The subscriptions of the railway enterprises went upon another principle—that of securing to the people of the United Kingdom the property in those roads; the result is that should we be driven from the country, the people of India would have all the benefit of the outlay, and the money would be lost to the British subscribers.

There is rather an extensive impression that if the imperial cabinet assume the government of India, the people of England will become responsible for the debt. This will not be the case; the same security which now exists will continue, whatever form the government of India may assume, and with that security the holders of India stock must remain content. Since these lines were written returns have been made to parliament, which further illustrate this subject. A return to the House of Lords (in further part) shows that the total estimated net produce of all the revenues of India for the year 1856-7 amounted to the sum of £21,196,894, including £14,317,805 from the land revenue, subsidy, and tobacco; £1,961,124 from customs, £1,833,411 from salt, £3,177,242 from opium, £528,293 from stamps, and £157,418 from mint, &c., receipts. The charges of collection altogether amount to £7,137,501. Upon this net revenue of £21,978,364 there was an estimated total charge of £22,931,721, so that there would be a deficit in 1856-7 (the last year of the returns) amounting to £953,357. The charges include £3,288,819 for the civil and political establishments, £2,472,336 for judicial and police establishments, £10,945,224 for military and war charges, and £2,155,301 for the interest on the debt; there is also a charge of £2,623,744 for territorial payments in England.

As the progress of railways so much influences the state of the money market, and thereby indirectly the course of trade, as well as the development of the resources upon which commerce relies, it will also assist the reader in judging of the prospects of the trade of India to offer the following statistics of reports made since the foregoing lines were written. The report of the *East Indian* states that the works on the South Beerbhoom

district are making good progress, and that the first twenty-four miles will probably be opened by the 1st of June; the construction of the other parts of the line is also being actively carried on. Arrangements have been made for the immediate recommencement of the Soane Bridge. Beyond the Soane, nearly up to Allahabad, the state of the country in February has not permitted operations to be proceeded with to any great extent. About sixty miles of railway are open between Allahabad and Cawnpore for the conveyance of troops, &c., and every exertion will be made to complete the whole of the hundred and twenty-six miles in the course of a few months. From considerations arising out of the mutiny, it is contemplated by the government to change the route of the line above Cawnpore, and the terminus will probably be at Meerut instead of Delhi. The number of passengers during the past half-year was 522,360 (of whom 488,904 were third-class), and the tonnage of goods and minerals was 70,355 tons, showing in the latter case an increase of 25,660 tons over the corresponding period of 1856. The total receipts in 1857 were £132,434 against £96,100 in the previous year; and the interest paid or payable to the proprietors to the 31st of December last amounted to £349,417. The net profits for the past year on the portion open between Calcutta and Raneegeunge are estimated to be equal to a dividend at the rate of six and five-eighths per cent. The sum of £1,881,426 has been disbursed by the government of India on account of interest upon railway capital from the commencement of operations in that country up to the present time—viz., £1,800,748 in England, and £80,678 in India. The capital raised by the six railway companies, and paid into the treasuries of the company, amounts to £16,073,584, and of this only £576,979 was raised in India.

Notwithstanding the struggle which rages in India while these pages are being written, all evidence concurs in leading to the belief that a brighter future awaits that wondrous land. Although such writers as Bayard Taylor, Train, and other correspondents of the American press, have decried the labours of missionaries and philanthropists, these high moral agencies are telling upon the community quietly and decisively wherever they are at work. It is not improbable that a perception of this urged many of the fanatics of 1857 to their war of extirpation against the English. But God does not work moral and social changes by direct moral agencies only; it pleases him to use material media for effecting the great moral revolutions which subserve his grand and benevolent designs.

There are no material changes which have not their moral relations and aspects. Commerce is not simply a material process, carried on under intellectual guidance; it is always associated with the inner life of communities. It creates and develops moral as well as intellectual tastes, and both as strikingly as it promotes material civilization. Man cannot meet man without interchange of thought. The products of one country cannot be spread upon the lap of another without exciting new desires, and suggesting trains of reflections which even the most thoughtless cannot wholly dismiss. The heart as well as the mind of a people is left upon the works of their hands. Every such work is a cardi-phonism, by which those who look upon it are addressed. The good and evil that are in us spread with our commerce in proportion as the stronger mind and will obtain in all things mastery over the weaker. He must be little gifted with an observing habit and philosophic temper who cannot see that upon the hard mental and moral types of oriental character our intercourse and commerce are telling as well as our direct spiritual agencies; just as the most colossal and durable idol, exposed to the sun and the monsoon, will at last bear obvious and lasting impressions of their effects. The day of oriental seclusion is gone; the highway is open in the desert; the footfalls of the busy throng of traders, soldiers, and politicians, resound to far-off Eastern nations; and already the swarthy children of the sun are learning to descry other visitors, and to exclaim, "How beautiful upon the mountains are the feet of those who bring the gospel of peace!" It were a blindness to the ways of Providence, and cowardice as to our own mission, not to hope for India, and for the honour of performing there a great and noble work; and among the bonds which shall bind that glorious region to this ruling country shall be the golden chain of commerce, graced and strengthened by the links of many a realm between.

The commerce of India, as well as of the Straits' settlements and Hong-Kong, will be promoted by the present satisfactory relations with Siam. There are various avenues of profit which a well-established and well-regulated trade with that country would open up. The hostility of the Indo-Chinese nations to the intercourse of strangers has hitherto shut up this field of enterprise even more than others in Eastern Asia. By a return presented to both houses of parliament, by the command of her majesty, in the session of 1857, the public have been put in possession of a treaty of friendship and commerce between her Britannic majesty and the kings

of Siam, signed on the 18th of April, 1855, the ratifications being exchanged on the 5th of April, 1856.

The first article of this treaty affirms perpetual peace and amity, and the reciprocal protection "and assistance" of Siamese and British subjects within their respective dominions.

ARTICLE II.

The interests of all British subjects coming to Siam shall be placed under the control of a consul at Bangkok. The consul, in conjunction with Siamese officers, to hear and determine all disputes arising between British and Siamese subjects; but the consul shall not interfere in any matters referring solely to Siamese, neither will the Siamese authorities interfere in questions which only concern the subjects of her Britannic majesty.

It is understood, however, that the arrival of the British consul at Bangkok shall not take place before the ratification of this treaty, nor until ten vessels owned by British subjects, sailing under British colours and with British papers, shall have entered the port of Bangkok for purposes of trade, subsequent to the signing of this treaty.

ARTICLE III.

If Siamese in the employ of British subjects offend against the laws of their country, or if any Siamese, having so offended or desiring to desert, take refuge with a British subject in Siam, they shall be searched for, and, upon proof of their guilt or desertion, shall be delivered up by the consul to the Siamese authorities. In like manner, any British offenders resident or trading in Siam, who may desert, escape to, or hide themselves in Siamese territory, shall be apprehended and delivered over to the British consul on his requisition. Chinese, not able to prove themselves to be British subjects, shall not be considered as such by the British consul, nor be entitled to his protection.

ARTICLE IV.

British subjects are permitted to trade freely in all the seaports of Siam, but may reside permanently only at Bangkok, or within the limits assigned by this treaty. British subjects coming to reside at Bangkok may rent land, and buy or build houses, but cannot purchase lands within a circuit of two hundred *sen* (not more than four miles English) from the city walls until they shall have lived in Siam for ten years, or shall obtain special authority from the Siamese government to enable them to do so; but, with the exception of this limitation, British residents in Siam may at any time buy or rent houses, lands, or plantations, situated anywhere within a distance of twenty-four hours' journey from the city of Bangkok, to be computed by the rate at which boats of the country can travel. In order to obtain possession of such lands or houses, it will be necessary that the British subject shall, in the first place, make application through the consul to the proper Siamese officer: and the Siamese officer and the consul having satisfied themselves of the honest intentions of the applicant, will assist him in settling, upon equitable terms, the amount of the purchase money, will mark out and fix the boundaries of the property, and will convey the same to the British purchaser under sealed deeds. Whereupon he and his property shall be placed under the protection of the governor of the district and that of the particular local authorities; he shall conform in ordinary matters to any just directions given him by them, and will be subject to the same taxation that is levied on Siamese subjects. But if through negligence, the want of capital, or other cause, a British subject should fail to commence the cultivation or improvement of the lands so acquired within a term of three years from

the date of receiving possession thereof, the Siamese government shall have the power of resuming the property upon returning to the British subject the purchase money paid by him for the same.

ARTICLE V.

All British subjects intending to reside in Siam shall be registered at the British consulate; they shall not go out to sea, nor proceed beyond the limits assigned by this treaty for the residence of British subjects, without a passport from the Siamese authorities, to be applied for by the British consul: nor shall they leave Siam if the Siamese authorities show to the British consul that legitimate objections exist to their quitting the country; but within the limits appointed under the preceding article British subjects are at liberty to travel to and fro under the protection of a pass, to be furnished them by the British consul, and counter-sealed by the proper Siamese officer, stating, in the Siamese character, their names, calling, and description. The Siamese officers at the government stations in the interior may, at any time, call for the production of this pass, and immediately on its being exhibited they must allow the parties to proceed; but it will be their duty to detain those persons who, by travelling without a pass from the consul, render themselves liable to the suspicion of their being deserters, and such detention shall be immediately reported to the consul.

ARTICLE VI.

All British subjects visiting or residing in Siam shall be allowed the free exercise of the Christian religion, and liberty to build churches in such localities as shall be consented to by the Siamese authorities. The Siamese government will place no restrictions upon the employment by the English of Siamese subjects as servants, or in any other capacity; but wherever a Siamese subject belongs or owes service to some particular master, the servant who engages himself to a British subject without the consent of his master may be reclaimed by him; and the Siamese government will not enforce an agreement between a British subject and any Siamese in his employ, unless made with the knowledge and consent of the master, who has a right to dispose of the services of the person engaged.

ARTICLE VII.

British ships of war may enter the river, and anchor at Paknam, but they shall not proceed above Paknam, unless with the consent of the Siamese authorities, which shall be given where it is necessary that a ship shall go into dock for repairs. Any British ship of war conveying to Siam a public functionary accredited by her majesty's government to the court of Bangkok, shall be allowed to come up to Bangkok, but shall not pass the forts called Pong Phrachamit and Pit-patch-nuck, unless expressly permitted to do so by the Siamese government; but, in the absence of a British ship of war, the Siamese authorities engage to furnish the consul with a force sufficient to enable him to give effect to his authority over British subjects, and to enforce discipline among British shipping.

ARTICLE VIII.

The measurement duty hitherto paid by British vessels trading to Bangkok under the treaty of 1826 shall be abolished from the date of this treaty coming into operation, and British shipping and trade will thenceforth be only subject to the payment of import and export duties on the goods landed or shipped. On all articles of import the duties shall be three per cent., payable, at the option of the importer, either in kind or money, calculated upon the market value of the goods. Drawback of the full amount of duty shall be allowed upon goods found unsaleable and re-exported. Should the British merchant and the custom-house officers disagree as to the value to be set

upon imported articles, such disputes shall be referred to the consul and proper Siamese officer, who shall each have the power to call in an equal number of merchants as assessors, not exceeding two on either side, to assist them in coming to an equitable decision.

Opium may be imported free of duty, but can only be sold to the opium farmer or his agents. In the event of no arrangement being effected with them for the sale of the opium, it shall be re-exported, and no impost or duty shall be levied thereon. Any infringement of this regulation shall subject the opium to seizure and confiscation.

Articles of export from the time of production to the date of shipment shall pay one impost only, whether this be levied under the name of inland tax, transit duty, or duty on exportation. The tax or duty to be paid on each article of Siamese produce previous to or upon exportation, is specified in the tariff attached to this treaty; and it is distinctly agreed that goods or produce which pay any description of tax in the interior shall be exempted from any further payment of duty on exportation.

English merchants are to be allowed to purchase directly from the producer the articles in which they trade, and in like manner to sell their goods directly to the parties wishing to purchase the same, without the interference, in either case, of any other person.

The rates of duty laid down in the tariff attached to this treaty are those that are now paid upon goods or produce shipped in Siamese or Chinese vessels or junks; and it is agreed that British shipping shall enjoy all the privileges now exercised by or which hereafter may be granted to Siamese or Chinese vessels or junks.

British subjects will be allowed to build ships in Siam on obtaining permission to do so from the Siamese authorities.

Whenever a scarcity may be apprehended of salt, rice, and fish, the Siamese government reserve to themselves the right of prohibiting, by public proclamation, the exportation of these articles.

Bullion or personal effects may be imported or exported free of charge.

ARTICLE IX.

The code of regulations appended to this treaty shall be enforced by the consul, with the co-operation of the Siamese authorities; and they, the said authorities and consul, shall be enabled to introduce any further regulations which may be found necessary, in order to give effect to the objects of this treaty.

All fines and penalties inflicted for infraction of the provisions and regulations of this treaty shall be paid to the Siamese government.

Until the British consul shall arrive at Bangkok, and enter upon his functions, the consignees of British vessels shall be at liberty to settle with the Siamese authorities all questions relating to their trade.

ARTICLE X.

The British government and its subjects will be allowed free and equal participation in any privileges that may have been, or may hereafter be, granted by the Siamese government to the government or subjects of any other nation.

ARTICLE XI.

After the lapse of ten years from the date of the ratification of this treaty, upon the desire of either the British or Siamese government, and on twelve months' notice given by either party, the present, and such portions of the treaty of 1826 as remain unrevoked by this treaty, together with the tariff and regulations hereto annexed, or those that may hereafter be introduced, shall be subject to revision by commissioners appointed on both sides for this purpose, who will be empowered to decide on and insert therein such amendments as experience shall prove to be desirable.

ARTICLE XII.

This article referred to formalities as to the time of taking effect, interpretation, signatures of plenipotentiaries, &c.

After the articles follow general regulations, under which British trade is to be conducted in Siam. The general drift of these is the protection of the Siamese government from the arrival of armed ships, under pretence of trade, nearer to Bangkok than Paknam, and the preservation of Siamese authority in reference to such vessels. Then follows a tariff of the export and inland duties to be levied on articles of trade, which shows the nature and variety of our commerce with Siam.

SECTION I.

The undermentioned articles shall be entirely free from inland or other taxes, on production or transit, and shall pay export duty as follows:—

	Ti.	Sa.	Fu.	
	cal.	lung.	ang.	Han.
Ivory	10	0	0	0 per picul.
Gamboge	6	0	0	0 "
Rhinoceros horns	50	0	0	0 "
Cardamums, best	14	0	0	0 "
" bastard	6	0	0	0 "
Dried mussels	1	0	0	0 "
Pelicans' quills	2	2	0	0 "
Betel-nut, dried	1	0	0	0 "
Kruchi wood	0	2	0	0 "
Sharks' fins, white	6	0	0	0 "
" black	3	0	0	0 "
Lukrahan seed	0	2	0	0 "
Peacocks' tails	10	0	0	0 per 100 tails.
Buffalo and cow bones	0	0	0	3 per picul.
Rhinoceros hides	0	2	0	0 "
Hide cuttings	0	1	0	0 "
Turtle shells	1	0	0	0 "
Soft "	1	0	0	0 "
Bêche de mer	3	0	0	0 "
Fish-maws	3	0	0	0 "
Birds' nests, uncleaned	20			per cent.
Kingfishers' feathers	6	0	0	0 per 100.
Cutch	0	2	0	0 per picul.
Beyché seed (<i>Nux Vom.</i>)	0	2	0	0 "
Pungtarai seed	0	2	0	0 "
Gum benjamin	4	0	0	0 "
Angrai bark	0	2	0	0 "
Agilla wood	2	0	0	0 "
Ray skins	3	0	0	0 "
Old deer horns	0	1	0	0 "
Soft, or young deer horns	10			per cent.
Deer hides, fine	3	0	0	0 per 100 hides.
" common	3	0	0	0 "
Deer sinews	4	0	0	0 per picul.
Buffalo and cow hides	3	0	0	0 "
Elephants' bones	3	0	0	0 "
Tigers' bones	5	0	0	0 "
Buffalo horns	0	1	0	0 "
Elephants' hides	0	1	0	0 "
Tigers' skins	0	1	0	0 per skin.
Armadillo skins	4	0	0	0 per picul.
Stick-lac	1	1	0	0 "
Hemp	1	2	0	0 "
Dried fish, <i>Plaheng</i>	1	2	0	0 "
" <i>Plasalit</i>	1	0	0	0 "
Sapan wood	0	2	1	0 "
Salt meat	2	0	0	0 "
Mangrove bark	0	1	0	0 "

Ti. Sa. Fu.
cal. lung. ang. Han.

Rosewood	0	2	0	0 per picul.
Ebony	1	1	0	0 "
Rice	4	0	0	0 per coyan.

SECTION II.

The undermentioned articles being subject to the inland or transit duties herein named, and which shall not be increased, shall be exempt from export duty.

Ti. Sa. Fu.
cal. lung. ang. Han.

Sugar, white	0	2	0	0 per picul.
" red	0	1	0	0 "
Cotton, cleaned and uncleaned	10			per cent.
Pepper	1	0	0	0 per picul.
Salt-fish, <i>Platu</i>	1	0	0	0 per 10,000
Beans and peas	One-twelfth.			
Dried prawns	One-twelfth.			
Tilseed	One-twelfth.			
Silk, raw	One-twelfth.			
Beeswax	One-fifteenth.			
Tallow	1	0	0	0 per picul.
Salt	6	0	0	0 per coyan.
Tobacco (bundles)	1	2	0	0 per 1000.

SECTION III.

All goods or produce unenumerated in this tariff shall be free of export duty, and shall only be subject to one inland tax or transit duty, not exceeding the rate now paid.

JOHN BOWRING.

(L.S.)

(Signatures and seals of the five Siamese plenipotentiaries.)

On the 13th of May, 1856, a supplementary agreement to this treaty was signed with the Siamese authorities, by Harry Smith Parkes, Esq., on behalf of the British. The object of this supplementary agreement was two-fold: first, that such articles of an old treaty, made in 1826, as were abrogated by the new, should be distinctly mentioned; secondly, that any clause of the new treaty, not sufficiently clear, should be fully explained. The only article of this supplementary agreement which need be stated is the following:—

ARTICLE I.

On the old treaty concluded in 1826.

The articles of the old treaty not abrogated by the new treaty, are I, II, III, VIII, XI, XII, XIII, and XIV, and the undermentioned clauses of Articles VI and X. In Article VI the Siamese desire to retain the following clause:—

"If a Siamese or English merchant buy or sell, without inquiring and ascertaining whether the seller or buyer be of a good or bad character, and if he meet with a bad man, who takes the property and absconds, the rulers and officers on either side must make search and endeavour to produce the property of the absconder, and investigate the matter with sincerity. If the party possess money or property, he can be made to pay; but if he does not possess any, or if he cannot be apprehended, the authorities cannot be held responsible."

Of Article X, Mr. Parkes desires to retain that clause relating to the overland trade, which states:

"Asiatic merchants of the English countries, not being Birmese, Peguans, or descendants of Europeans, desiring to enter into and to trade with the Siamese domi-

nious, from the countries of Mergui, Tavoy, Tenasserim, and Ye, which are now subject to the English, will be allowed to do so freely overland and by water, upon the English furnishing them with proper certificates."

Mr. Parkes, however, desires that all British subjects, without exception, shall be allowed to participate in this overland trade. The said royal commissioners therefore agree, on the part of the Siamese, that all traders, under British rule, may cross from the British territories of Mergui, Tavoy, Ye, Tenasserim, Pegu, or other places, by land or by water, to the Siamese territories, and may trade there with facility, on the condition that they shall be provided by the British authorities with proper certificates, which must be renewed for each journey.

The commercial agreement annexed to the old treaty is abrogated by the new treaty, with the exception of the undermentioned clauses of Articles I and IV.

Of Article I the Siamese desire to retain the following clause :

"British merchants importing fire-arms, shot, or gunpowder, are prohibited from selling them to any party but the government. Should the government not require such fire-arms, shot, or gunpowder, the merchants must re-export the whole of them."

Article IV stipulates that no charge or duty shall be levied on boats carrying cargo to British ships at the bar. The Siamese desire to cancel this clause, for the reason that the old measurement duty of 1700 ticals per fathom included the fees of the various officers, but as this measurement duty has now been abolished, the Siamese wish to levy on each native boat taking cargo out to sea, a fee of 8 ticals 2 salunga, this being the charge paid by Siamese traders; and Mr. Parkes undertakes to submit this point to the consideration of her majesty's minister plenipotentiary to the court of Siam.

In the treaty of Sir John Bowring, it was stipulated that British subjects should have the right to buy and occupy houses and lands, under the conditions specified, but their right to sell them again was oddly overlooked. Mr. Parkes inserted a clause in the new agreement giving them that right.

The Siamese government insisted on the powers of prohibiting the exportation of rice, salt, and fish, in seasons of famine. Mr. Parkes consented to this on the condition that a month's notice should always be given before the prohibition should be enforced. By the seventh article of the treaty, bullion may be exported or imported free of charge. With reference to this clause, the Siamese royal commissioners agreed, at the request of Mr. Parkes, that foreign coins of every description, gold or silver, in bars or ingots, and gold leaf, should be imported free; but manufactured articles of gold and silver, plated ware, and diamond or other precious stones, must pay an import duty of three per cent.

One article of the supplementary agreement was eminently absurd on the part of Mr. Parkes. The Siamese commissioners requested that whenever the Siamese government deemed it to be beneficial for the country to impose "a single tax or duty" on any article not then subject to a public charge

of any kind, it might do so without infraction of the treaty, so far as non-duty articles were concerned. Mr. Parkes considered that he had kept clear of this trap by adding, "provided that the said tax be just and reasonable."

The indefinite article of the treaty, allowing British residents to travel a journey of twenty-four hours' distance, was made more satisfactory by clear definitions of distance by actual measurement or mutual agreement.

Rates of assessment upon English plantations, established in Siamese territory, were to be the same as those paid by the native planters or gardeners.

The neighbourhood of Bangkok, especially some distance in the interior, is admirably adapted to the growth of valuable fruits and timber; such as betel-nut, cocoa-nut, siri vines, mango, maprung, darian, mangosteen, langsat, orange, jack-fruit, bread-fruit, mak-pai, guana, laton, and rambutan trees. Excellent pine apples are grown in every direction around the capital; also tamarinds, custard-apples, plantains, and pepper vines.

From various causes this treaty and the supplementary agreement, failed to give that satisfaction in India which, from its terms, generally might be expected. It was alleged that Sir John Bowring was outwitted; that a consciousness of this led to the mission of Mr. Parkes, to amend the treaty; that the mender had done no better than the original maker; that the treaty with Siam was practically a nullity; and that the opening up of the commerce of that country is yet a *desideratum*. It is certain that several of the stipulations are useless, and others mischievous, laying the foundation for future disagreements; but on the whole the treaty and its supplement must appear to those, not initiated in the tricks of Eastern trade and the subterfuges of Eastern diplomatists, as fair and reasonable. Better terms would have been desirable; but so far, something considerable was accomplished by her majesty's negotiators, which may lead, and is likely to lead, to more intelligent and liberal arrangements. It is well that some of the best organs of public opinion, both in England and in India, appreciate what has been done. One of the best edited publications in India, *The Bombay Quarterly** expresses its approval in no measured terms:—"It establishes a just and reasonable scale of duties, destroys monopoly, and offers every inducement to increased cultivation and enterprise on the part of the Siamese. It is very creditable to their present monarchy to have so freely overthrown the previously existing system of

* July, 1857.

taxation, and to have adopted a liberal policy before unknown to the country. The innovation was startling, and it required considerable foresight and faith in principles to introduce it without preliminary experience. In taking this step, the kings abandoned their former sources of revenue, and trusted entirely to the effect of a moderate tariff, and to the rapid increase of transactions under its fostering influences. The abolition of the corn laws, and the reduction to penny postage—measures forced out of our own government—in no way adequately represent the comparative magnitude of the reform now freely accorded by the sovereigns of Siam."

The same writer again expresses himself in his review of the treaty, and of the spirit and policy of the Siamese government, in these hopeful terms:—"We are inclined to believe that the measure, concluded by the moderation and good management of Sir John Bowring, may be but the first stride of a people rapidly and continuously proceeding up the scale of civilization." That there are good grounds for such a hope must be evident to all who look into the circumstances of that country, and who consider the spirit of its rulers. The climate is one of the finest in the East, although the mean temperature is as high as 84°. It is a healthy country, there being few places in the world where instances of longevity are so frequently met with. The American missionaries, who have been the benefactors of the country, say that it is not at all uncommon to meet with persons whose age exceeds a century.

The productions of the country may, as already observed, be seen from the list of commodities in the tariff appended to the treaty. The articles which form the grand staple of Siamese exports, are, sugar, pepper, cotton, hemp, rice, metals, gums, cardamums, gamboge, ivory, horns, hides, silks, sapanwood, &c. The cotton of Siam is of the finest quality yet discovered, and in the growing demand for this commodity, and the slowness of America and India in approaching the pace of that progress, Siam may become a grand mart for its production. Soil, climate, facilities of river navigation, and the enlightened character of the government, all combine to justify this prospect. There are other valuable productions capable of vastly enlarging its commerce: the finest and purest copper exists in great abundance; there are also tin, lead, zinc, antimony, and iron. It is alleged that there are auriferous districts in Siam rivalling any existing elsewhere; certainly gold has been obtained there by the natives in quantities which sustain such an opinion. Silver, it is supposed, will yet be

obtained there in sufficient quantities to readjust the relative value between it and gold. Precious stones are also abundant in districts much resembling those in which they are found in Ava. A French gentleman, travelling in a hilly district for a short distance, gathered in the course of his progress two handfuls of rubies, topazes, garnets, and sapphires.

The rice and sugar exports might be vastly increased by British merchants and capitalists settling in other places as well as Bangkok.

The chief import of Siam is, unhappily, opium. This, however, is consumed in a great proportion by the Chinese, who are very numerous at Bangkok and elsewhere, and who serve the country by their industry. The religious belief of the majority of the Chinese being identical with that of the Siamese, and the habits of the two people being similar in many respects, the Chinese are allowed to settle in the country, where, as usual, they work hard and thrive well.

The time which has elapsed since the signatures of the plenipotentiaries were attached to the agreement supplementary to the treaty has been so very short, that it is difficult to gather from its events the probabilities of the future. By way of China it is reported that the effect has been surprising. During a decennial period, previous to the treaty, the average number of vessels entering the river of Bangkok from foreign parts was *ten*; since the treaty the number has increased twenty-fold, a progress unparalleled in any part of the Asiatic world.

The area of the country is not less than two hundred thousand square miles, well watered by mountain streams and by undulating rivers, which enrich a large portion of country suitable for rice and other tropical commodities. Besides the great distance which the navigable rivers enable ships to pass to the interior, there are innumerable canals suitable to boat navigation, in which art the people are very expert. There is a very important consideration connected with the commerce between India and Siam, which has not yet sufficiently engaged the attention of engineers and scientific persons acquainted with the Indo-Chinese peninsula. It is alleged that water communication could easily be opened between the Bay of Bengal and the Gulf of Siam across the isthmus, so as to save the comparatively long voyage round by the Straits of Malacca. By an examination of Wyld's maps, with scale, the reader will perceive how considerable a space might be saved by a ship canal, so as to avoid the *détour* of the Straits. The direct distance

across the isthmus is about fifty miles. A ship-canal would not be required for the whole of this distance, as there are navigable rivers which might be united by a few miles being cut for the purpose. The chief river, the Meinam, on the banks of which the capital is built, fertilises a vast extent of country, which is at once extremely rich and very beautiful. The area of the valley of the Meinam has been computed at upwards of twelve thousand miles. From such a country what may not be expected for British commercial enterprise? Should a ship-canal connect the existing water-ways, so as to open up a connection between the Bay of Bengal and the Gulf of Siam, it would be important not only as to the trade of the latter country, but also with Cochin China and China. The expectations entertained as to the future commercial intercourse are justified by past experience. Calcutta and Canton were at one time the only superior ports to Bangkok in the Eastern seas—there were more than sixty British ships engaged in the trade.

The chief causes of the decline arose from the misgovernment of the monarchs and the tyranny of the nobles. The former adopted a policy exclusive and barbarous, and especially jealous of foreigners; the latter ground down the people by the heaviest oppression. This class is still inimical to all improvements as dangerous to its privileges; it regards foreign commerce with hostility, and those who profit by it, natives or strangers, with envy and dislike. The nobles are especially hostile to the settlement of European planters, or the travels of Europeans within the interior. It is a pleasing and encouraging circumstance that the kings* are opposed to the nobles in those illiberal ideas, and that the premier—who is the most influential man in the kingdom—is decidedly adverse to the policy of the prejudiced and selfish sections of the people. There is no Eastern country which presents three such men as the two kings of Siam and their vizier. The kings are brothers, the sons of the chief queen of a former monarch, and occupy the throne legitimately according to the laws and regal usage of Siam. A son of their father by an inferior queen possessed himself of the throne, and one of the present occupants was for twenty-seven years an inmate of a Buddhist monastery. There he devoted himself to the study of European science, and of the English language, of which he is master, but writes it quaintly, after the old models. The reception given by this monarch to Sir John Bowring, and afterwards to Mr. Parkes, was enlightened

* There are two—called First and Second, who, however, act together in one government.

and cordial. The second king is a more accomplished man than the first, and writes much more accurate and agreeable English than either her majesty's plenipotentiary Sir John Bowring, or his diplomatic adjutant Mr. Parkes. The second sovereign is, like the first, liberal and enlightened, and favourable to the English. Both are authors, and have written works, not only in Siamese, but in other oriental languages, and in English. These works are of a practical nature, such as geography, topography, Siamese history, law, and government. They have also written some modest scientific books. They are especially fond of astronomy, in which science they have made considerable progress, and when they dispatched, in 1857, two ambassadors to Queen Victoria, they especially enjoined upon them to procure them scientific instruments, models of steam engines, telescopes, and various optical instruments, &c. From such monarchs good government is to be expected, and a friendly feeling towards our merchants. The nobles are adverse to the policy of their sovereigns, on the ground that if the English gain a footing within their dominions they will increase their acquisitions of land until they become masters of the whole country. The kings entertain some timidity on the same ground. The missions of Sir John Bowring and Mr. Parkes were calculated to dispel this alarm, and the advent of the ambassadors here from their Siamese majesties, and the impressions they derived during their sojourn, are still more conducive to the like results. The chief minister, however, appears to be the mainstay of Sir John Bowring's hopes for the stability of his treaty, for in a work* recently published by the learned doctor and gallant knight, he represents this dignitary as one of the most remarkable men he ever met. In the journal of Sir John the following references relating to this minister occur:—"His excellency also pressed much the necessity of opening the trade with Cochin China. Again and again the *kalakon*† said he wished that the treaty should benefit the people; that the government could make the sacrifice of revenue for two or three years, and wait for the beneficial results which trade would bring with it. He insinuated more than once that if there were difficulties they would be from other quarters. He again and again told me that if my policy is to save the people from oppression, and the country from monopoly, he shall labour with me, and if I succeed my name will be blest to all

* *The Kingdom and People of Siam; with a Narrative of a Mission to that Country in 1855.* London, J. W. Parker.

† Designation of the minister.

ages. He unveils abuses to me without disguise, and often with vehement eloquence. If he prove true to his profession, he is one of the noblest and most enlightened patriots the world has ever seen. To him Siam owes her fleet of merchant ships. They* urged the conclusion of the treaty, so that the *Rattler* might get away by the next tide. They wished to have them one after another,† in the hope that the whole may be concluded to day. Inshallah! Such promptitude was, I believe, never before exhibited in an Asiatic court. It is mainly due to the Phra kalakon's energetic influence; he has a great work to accomplish, and he is working while it is day, aye, and by night as well." However excellent the dispositions of this friendly court and government towards the English, and however hospitable towards her majesty's representative, it is obvious that they were very desirous to see the last of the negotiator, and more especially of his war steamers. This desire may have been in part dictated by the impatience of the nobles, and even of the highest courtiers, at the presence of the plenipotentiary, and the vicinity of the men-of-war; and it is not impossible that more than a spark of oriental suspicion glimmered in the breasts of the monarchs and their ministers, that some evil purpose might lurk behind those British guns, for although Bangkok contains four hundred thousand inhabitants, a large portion of them are Chinese, and the city would probably prove even more helpless for defence than Canton.

As no description was given of Siam in the geographical part of this work, no portion of it being under British sovereignty, and it having never been a theatre of battle to our forces, it seemed desirable to dwell more at length, under the head of commerce, upon the resources of the country, and the character of its rulers, as connected with the prospects of future commercial intercourse with it.

The character of commercial men and commercial dealings in India have been the subject of much animadversion of late years. This subject might properly come under the head of the social condition of India, but it is still more appropriate in this place. The character of the East India Company as traders has already come up incidentally, and will in the historical portion of this work be frequently brought before the reader; it is therefore unnecessary here to point out in what respects the monopoly had a moral in-

fluence, favourable or otherwise, upon those who profited by it, or upon others. When the trade became free, and in proportion as it became so, speculators from England, especially from London and Liverpool, embarked in Indian commerce, which, through their instrumentality, soon assumed new features. Many of the adventurers had little capital, and their enterprises were undertaken upon the principle of making such an appearance as to gain credit, and so trade upon the capital of others. The nature of their resources gave a character to their dealings, which were a series of desperate risks, sometimes successful, far more frequently otherwise, bringing ruin upon all who had trusted to them. There was nothing in the nature of the trade essentially to make it perilous, but those engaged in it of the description here referred to were uneducated men, ignorant of the principles of political economy, and the laws of finance, and who, by sharp practice, specious appearance, and a thorough intimacy with the usual dodges of corrupt trade, were enabled to find creditors, and to impose upon them. The respectable capitalist and merchant was often robbed and sometimes destroyed by this class, in his personal dealings with them; besides, he sustained injury by a competition based upon capital extensively and fraudulently obtained; upon credit procured by the cleverly sustained appearances of noted resources.

In the year 1830-1, a monetary and commercial crisis occurred in the great trading cities of India. The gambling which had taken place in all East Indian commodities, had reached a degree of desperation which precipitated a convulsion. There was a general crash. "Houses" had been trusted by old officers, civil servants, and their widows. Those establishments had been the banks of the non-trading classes for the custody of their savings; the poor soldiers, who had saved a little to purchase discharge, or send home to wife or child, had placed it in the hands of those "great merchants," whose philanthropy was as ostentatious as their benefactions were large, and their style of living magnificent. The hollowness of the system, and the faithlessness of those who, through its instrumentality, practised such extensive imposition, became at once apparent amidst the loss and pecuniary destruction of all the confiding classes who supposed that the mansions and charities of "the merchant princes" were indices of their wealth and magnanimity. It would be difficult for description to convey the extent of the disaster which the overthrow of the great Indian trading establishments caused at that time.

* The king and minister, and the minister of foreign affairs, also an able and enlightened man.

† Sir John here refers to the articles of the treaty, but his style of writing is so loose and inaccurate, it is often difficult to determine his meaning.

Many begged their bread, whose deposits in the hands of the speculators had amounted to a handsome fortune. Upon them the desolation permanently rested; but the traders, after passing the ordeal of failure, of composition, or bankruptcy, began again, and soon lived in the same splendour, and easily found fresh victims—so credulous and ignorant were the respectable classes from whom this plunder was gleaned. Calcutta obtained an unenviable notoriety in this species of piracy. One house there failed for a sum which would have been incredible, if named beforehand—amounting to four millions sterling! The assets were a little more than a shilling in the pound. It must not be supposed by the astonished reader that this illustrious “house” stood alone; it was surrounded by others almost as great. One of these failed for only £300,000 less than the amount of the liabilities of the former; another for three millions six hundred thousand sterling; a fourth for three millions; a fifth for two millions and a quarter; but these houses paid on an average a fifth of their obligations. More than eleven millions sterling was lost to the community by the failure of six houses, after all their assets were valued and applied.

The individuals who entailed all this misery by means so palpably culpable, did not “lose caste” (as the natives would say); they were treated by the officers of government, and by the commercial world more particularly, as unfortunate; but the moral effect upon the European and native communities, as well as upon the character of English commerce, was soon obvious. The civil and military functionaries did not so generally leave their money in the custody of these houses. The native capitalists, themselves frequently dishonest, had been outwitted and lost much; they therefore became more timid of trusting their money in the hands of Englishmen. The traders succeeded in regaining the confidence of European officials, or at least of gaining new victims in that class, long before any considerable number of natives were caught in the same trap. Credit slowly revived; by degrees officers, and the families of deceased officers, civilians, and Europeans in the humbler walks of trade, were again ensnared, to form a renewed illustration of the fraudulent system which had so largely obtained in banking and commercial transactions in the East.

One of the consequences of these failures was the establishment by the civil and military servants of banks, in which they could have confidence. The first of these was at Agra, whence branches were formed in various other great cities and stations. This institution

was followed by the Bank of Bengal, which started with a capital, or nominal capital, of five hundred thousand pounds; other establishments of a like kind, on a great scale, were speedily placed in competition with the first two, and all appeared to prosper. The nature of these banks was very peculiar; they have been with propriety described as “Loan Societies,” as their business consisted in lending money, chiefly to civil servants, on personal security; in cases of large advances some collateral security was taken, but not generally of a more substantial nature. Many of the shareholders were unable to pay “the calls” when the great custom (for there were plenty of borrowers) of the banks rendered it necessary to make them. These shareholders being civil servants were allowed to hold over their shares, the amount of the calls being treated as debts to the banks, and as the shares were at a premium, the holders were soon able to dispose of them, and after remitting the debt thus incurred, enjoyed a profit. The progress of the new banking establishments was as iniquitous as that of the old; and, finally, as disastrous. The very classes who had been plundered by the bankers of a former period, became in their turn fleecers of others. All the disclosures in the case of the British Bank, and other banking institutions in England, in 1857-8, appear to those acquainted with Indian banking incidents, from 1847 up to a recent period, as a mere repetition of what was so well known in Calcutta. Planters and merchants were befriended, until the entire capital of the banks were absorbed; indigo factories were jobbed on private account with bank funds; bank post bills, at a heavy discount, were received from directors as cash; paper of all descriptions was floated; liabilities of presidents and secretaries were transferred to the bank in the company's books; young civilians were accommodated with loans at a heavy interest; all ordinary precaution and proper management were neglected; bills sent them for sale and remittance, on account of others, were disposed of, and the proceeds applied to stop a momentary gap;—although the directors must have known that they were insolvent, and that a month or two at most would witness the termination of their fictitious existence. The new houses of business were unable to obtain credit on the same facile terms as their predecessors, and were obliged to lean almost wholly on the banyans, a native class described in a former page. Many sircars, or native accountants, who had saved or gained money were now lenders; and the business of Calcutta more especially fell, so far as the capital was concerned, chiefly into native hands. These men bear them-

selves with intolerable insolence; they treated all Europeans, but especially those not engaged in the direct service of government, with most insulting contempt. They displayed the same spirit, in their own degree and opportunity, which the sepoy revolvers showed in 1857. The bitterest dislike and scorn for Europeans were openly avowed whenever the natives had a money power over them. The roguery of the banyans is more systematic and secure than that of his European customer, or servant, as he may almost be termed. The banyan cheats his English confederate in every conceivable way. He alleges that a higher price is paid for a commodity than is actually given, and he ships off an article inferior to the sample, entailing loss and financial and commercial disarrangement on the part of the English branch of the firm. The merchant in India in vain remonstrates, upbraids, denounces; the banyan only reiterates his innocence, and alleges that the evil doing has been in England, not with him; and, as he is a heavy creditor, disposes of the subject with one of those impudent and caustic sneers which the native has always at his command for a European in his power. A gentleman, well acquainted with the morality of Indian commerce, thus describes the course of trade as it proceeds in the present day:—

“Formerly all the London houses acting as agents for Calcutta and Bombay firms were possessed of ample means, and to a limited extent this is still the case. It was then the practice for these agents or correspondents to purchase or make advances against consignments of manufactured goods, either on their own account, or jointly with their Indian friends, who sold the invoice on arrival, and remitted home the proceeds in bills of exchange or in some article of produce. Under the new *régime* this is no longer the case. The London firm have a little credit and less money; but they cannot accept bills drawn against goods to be shipped either on the manufacturers' or their Indian friends' account. This done, the bills are discounted, and so the manufacturer is reimbursed. The goods—grey cloths from Manchester perhaps—are shipped; and then the London merchant, who has not paid a farthing for them, is enabled to draw against them on his India correspondent, through a bank, who takes the bill of lading for security; and in this way the shipper obtains hard cash, with which he buys another parcel of goods—metals, possibly—ships these, draws against them, and with these fresh means repeats the operation, which, it is clear, may be thus carried on to a large extent. Before the first parcel of goods can be sold at Bombay or Calcutta, the manufac-

turer's bill upon the shipper falls due, and is met by a renewal; that is, by another bill drawn in a similar manner, and understood to be for the purpose of being discounted, to enable the acceptor of the first bill to take it up, in other words, to pay it when presented.

“Meanwhile the goods arrive at their destination. The agent of the London bank who advanced money upon them holds the bills of lading; and to get these, and consequently the goods, the ‘Calcutta correspondent’ applies to his banyan, who at once does the needful, redeems the grey goods from their bondage, and sells them for his principal. The proceeds are now remitted home in sugar, or silk, or indigo, the bills of lading for which are forwarded to the London house, which at once draws against it, in order to meet the ‘renewals’ of the Manchester bills then falling due; finally, the produce-broker in Mincing Lane makes an advance to the importer on the arrival of the sugar or indigo, which enables him to redeem the bills of lading from the strong box of the bank, and the goods are sold.

“So long as the selling prices at both ends leave a shadow of profit over and above the amount of commissions and other charges, all goes on well. The shipper, the banker, the correspondent, the banyan, the London broker, the Manchester manufacturer, all are content. The operations are extended considerably, the commercial wheel is kept moving, money is made, the houses at both ends obtain the reputation of doing a large stroke of business, the partners are looked upon as sharp, shrewd men, and although there may be a few bad debts, a few losses, and now and then a heavy year, the books show a large amount of commissions earned. Still the banyan is a large creditor, though by interest, per centage, &c., he has cleared off more than the amount of their liabilities to him. One or two bad seasons follow rather rapidly; the house has invested largely in estates, an operation popularly termed developing the resources of the country; the banyan becomes rather more troublesome and overbearing than of wont; the senior partner takes alarm, withdraws with a hundred thousand pounds, and twelve-months afterwards the firm suspend payment for a million and a half sterling, at which nobody is in the least degree surprised, except the banyan, who wonders how they managed to keep up so long. This, reader, is a faint, and no doubt an imperfect sketch of the course of operations of an Indian commercial house of the present time; and it deserves a place in these pages, as illustrative of that Saxon energy of character, that fine spirit of enterprise which so distinguishes the

men of Liverpool and Glasgow, and by means of which they rear gigantic fabrics out of literally nothing. Here we have seen how a fortune of a hundred thousand, and an insolvency of a million and a half, had their first origin in nothing more than a few bales of Manchester 'grey goods.' *

It is alleged that within the last two or three years an improvement has taken place; that more capital is embarked in commercial undertakings; that the finance of commerce is conducted on sounder principles; and that the commercial morality of bankers and merchants stands higher than at any previous time.

CHAPTER XXIV.

SCIENCE AND ART OF THE HINDOOS.

LITTLE acquaintance can be had with the condition of any people, and a very imperfect opinion can be formed of their prospects, unless information be possessed concerning their progress in science and art. Of late years the state of the ancient Hindoos in these respects has been investigated with pertinacious inquisitiveness; their ancient writings have been ransacked for the purpose by scholars whose capacity was equal to the self-imposed task. The state of the people of Hindostan as to science, and to a great extent even as to art, is now what it was two thousand years ago, notwithstanding the invasions which have swept over portions of their country by peoples more advanced in these particulars. The colleges and schools established by the English for the advantage of native youth, both of the higher and lower classes, have effected but little,—except so far as the religious influence extended. The number of educated natives of the wealthy classes who have a knowledge of European science, and a perception of the fine arts as cultivated in Europe, is, however, steadily increasing.

The progress both of science and art among all ancient peoples seems to have run a similar course. The science of astronomy seems universally to have been the first cultivated; and the natives were familiar with the phenomena of the heavenly bodies, and philosophised concerning them, long before sublunary subjects of investigation engaged their attention. This is not difficult to account for. A philosopher, to whom economical science in Great Britain owes much, has thus given the rationale of the fact:—

"There are various causes which render astronomy the very first of the sciences which is cultivated by a rude people: though from the distance of the objects, and the consequent mysteriousness of their nature and motions, this would seem not to be the case. Of all the phenomena of nature, the celestial appearances are, by their greatness and beauty,

* *Rise and Progress of the British India Possessions.*

the most strikingly addressed to the curiosity of mankind. But it is not only their greatness and beauty by which they become the first objects of a speculative curiosity. The species of objects in the heavens are few in number; the sun, the moon, the planets, and the fixed stars. All the changes, too, which are ever observed in these bodies, evidently arise from some difference in the velocity and direction of their several motions. All this formed a very simple object of consideration. The objects, however, which the inferior parts of nature presented to view, the earth and the bodies which immediately surround it, though they were much more familiar to the mind, were more apt to embarrass and perplex it, by the variety of their species, and by the intricacy and seeming irregularity of the laws or orders of their succession. The variety of meteors in the air, of clouds, rainbows, thunder, lightning, winds, rain, hail, snow, is vast, and the order of their succession seems to be most irregular and inconstant. The species of fossils, minerals, plants, animals, which are found in the waters and near the surface of the earth, are still more intricately diversified; and if we regard the different manners of their production, their mutual influence in altering, destroying, supporting one another, the orders of their succession seem to admit of an almost infinite variety. If the imagination, therefore, when it considered the appearances in the heavens, was often perplexed and driven out of its natural career, it would be much more exposed to the same embarrassment, when it directed its attention to the objects which the earth presented to it, and when it endeavoured to trace their progress and successive revolutions." *

The admirers of everything Indian have praised the attainments of the Hindoos in the science of astronomy. Sir William Jones has given them credit for an amount of erudition in this direction, only to be accounted for by his kindly feeling to the people begetting a

* Dr. Adam Smith's *Essays*, pp. 97, 98.

generous credulity of anything alleged in their favour, and of their own pretensions to an enlightened antiquity. Mr. Mill, on the other hand, seldom credulous when the glory or greatness of the Indian race is concerned, unsparingly decrys the claims which their panegyrist urge on their behalf. Professor Playfair, of the University of Edinburgh, who, in his good opinion of early Indian science, was, according to Mill, a disciple of Monsieur Bailly, the distinguished French mathematician, gives the following estimate of the Indian astronomers of modern times:—

“The astronomy of India gives no theory, nor even any description of the celestial phenomena, but satisfies itself with the calculation of certain changes in the heavens, particularly of the eclipses of the sun and moon, and with the rules and tables by which these calculations must be performed. The Brahmin, seating himself on the ground, and arranging his shells before him, repeats the enigmatical verses that are to guide his calculation, and from his little tablets and palm-leaves, takes out the numbers that are to be employed in it. He obtains his result with wonderful certainty and expedition; but having little knowledge of the principles on which his rules are founded, and no anxiety to be better informed, he is perfectly satisfied, if, as it usually happens, the commencement and duration of the eclipse answer, within a few minutes, to his prediction. Beyond this, his astronomical inquiries never extend; and his observations, when he makes any, go no further than to determine the meridian line, or the length of the day at the place where he observes.”*

Professor Wilson of Oxford, reviewing the different opinions entertained, thus sums up the evidences adduced:—“As compared with the state of astronomical science in modern times, Hindoo astronomy, of course, is far from excellence, as Schlegel remarks, ‘Il n’est pas besoin de faire de gros livres pour le prouver;’ it is, perhaps, inferior to the astronomy of the Greeks, but it exhibits many proofs of accurate observation and deduction, highly creditable to the science of Hindoo astronomers. The division of the ecliptic into lunar mansions, the solar zodiac, the mean motions of the planets, the precession of the equinoxes, the earth’s self support in space, the diurnal revolution of the earth on its axis, the revolution of the moon on her axis, her distance from the earth, the dimension of the orbits of the planets, the calculation of eclipses, are parts of a system which

could not have been found amongst an unenlightened people. That the antiquity of the Hindoo astronomy has been exaggerated is no doubt true, but there is no reason to conceive that it is not ancient. Even Bentley himself refers the contrivance of the lunar mansions to B.C. 1424, a period anterior to the earliest notices of Greek astronomy, and implying a course of still earlier observation. The originality of Hindoo astronomy, if this era be granted, is at once established, but it is also proved by intrinsic evidence, as although there are some remarkable coincidences between the Hindoo and other systems, their methods are their own. ‘If there be any resemblances,’ says Professor Wallace, ‘they have arisen out of the nature of the science, or from what the Indians have borrowed from the Arabians, who were instructed by the Greeks, rather than from anything borrowed from the Indians by the Arabians or the Greeks.’* There is no occasion to suppose the Greeks were instructed by the Hindoos, but the Arabians certainly were. Their own writers affirm that Indian astronomers were greatly encouraged by the early caliphs, particularly Haroun-al-Reschid and Al Mamun; they were invited to Bagdad, and their works were translated into Arabic. The Hindoos were, fully as much as the Greeks, the teachers of the Arabians.”

The divisions of the zodiac among the Birmans, as well as among the Brahmins, are the same as among Europeans; and Dr. Buchanan, as well as Sir William Jones, ascribes to them a Chaldaic origin. Much of the reputation of the Hindoos for early astronomical knowledge, founded upon ancient writings, is accounted for by Dr. Buchanan by the fact of the necessity for renewing the writing at short intervals, because of the fragile quality of the paper. Upon every such renewal the learned doctor opines that such additional knowledge as had gained access into India would, by the Brahminical transcribers, be linked with the original, in order to support the authority of the caste for ancient learning, and so sustain their power over such portions of the people as would be likely to be reached through such media of influence. This view is reasonable, for the Brahmins arrogated the exclusive possession of learning; and, as Mr. Mill well observes, in promoting an admiration of it among the people, they were promoting an admiration of themselves.

Forming an impartial judgment upon the arguments of the Philo-Indians, and those who are unfavourable to the extravagant claims set up by them, it must be pronounced

* *Transactions of the Royal Society of Edinburgh*. Playfair on the *Astronomy of the Brahmins*, vol. ii. pp. 138, 139.

* *An Account of British India*.

that astronomy was at a very remote period cultivated by the Hindoos, and that the probability is that they derived it, with the elements of their religion, from the Chaldeans. For very many centuries the Hindoo philosophers made no progress; and since the first settlement of Europeans on the coasts of Coromandel and Malabar, any scientific progression is due to what has been learned from them.

The works transmitted to the present time are scientific treatises and tables. The principal among the former is called the *Surya Siddhanta*, upon which those of the latter description have been based. The pretensions made for the extreme antiquity of the *Surya Siddhanta* have vanished before proper investigation. Of the tables based upon this book there are four, known to Europeans as the *Tirvalore Tables*.

It has been observed that the Hindoos divided the zodiac, and designate those divisions, in nearly the same manner as the Arabs, from whom the European mode is derived. The signs are thus noted:—

Mesha, the Ram.
Vrisha, the Bull.
Mithuna, the Pair.
Karcota, the Crab.
Sinha, the Lion.
Canya, the Virgin.
Tula, the Balance.
Vrischica, the Scorpion.
Dhanus, the Bow.
Macara, the Sea-monster.
Cumbha, the Ewer.
Mina, the Fish.

The imperfect notion of the planetary system from which our days of the week were originally taken is the same with theirs, showing also a common origin of their ancient system and our own. *Addita*, the sun; *Toma*, the moon; *Brahaspati*, Jupiter; *Mangala*, Mars; *Bonta*, Mercury; *Soukra*, Venus; *Sanni*, Saturn. Their week begins on Friday, and the days are thus named:—

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|---------------------------|-----------------------|------------|
| 1. <i>Soncravaram</i> | or day of Venus . . . | Friday. |
| 2. <i>Sanivaram</i> | " Saturn . . . | Saturday. |
| 3. <i>Additavaram</i> | " the Sun . . . | Sunday. |
| 4. <i>Somavaram</i> | " the Moon . . | Monday. |
| 5. <i>Mangalavaram</i> | " Mars . . . | Tuesday. |
| 6. <i>Bontavaram</i> | " Mercury . . | Wednesday. |
| 7. <i>Brahaspativaram</i> | " Jupiter . . . | Thursday. |

To find the latitude of a place, the Hindoos observe the length of the shadow of a perpendicular gnomon when the sun is in the equator, and compute the angle which their instrument makes with the line drawn from its top to the extremity of the shadow. The longitude is found by observations of lunar eclipses calculated from the meridian of Lanka, which passes through Ongein, in the Mahratta country.

A glance at the chronology of the Hindoos will appear in the opening chapter on their history. The claims made for their nation by the Brahmins, to an antiquity beyond the existence of man according to the Scripture account and the chronologies of Archbishop Usher, and Hales, are too absurd to require confutation. Those claims have been submitted to every test applicable to the subject, and the result has been irrefragable proof that they are spurious: the astronomical tests by which they have been tried have especially furnished a complete and obvious confutation, and a confirmation of the Christian Scriptures, wherever such could incidentally arise.

Closely connected with astronomy, mathematical science must of necessity be found; and accordingly the Hindoos, at a very remote period, had made progress in that science. They demonstrated the properties of triangles; they understood that of the area being expressed in the terms of the three sides; they were aware of the proportion of the radius to the circumference of a circle. The *Surya Siddhanta*, already referred to, contains a treatise on mathematics as well as astronomy. Interwoven with many absurdities, this book contains a rational system of trigonometry, which differs entirely from that first known in Greece or Arabia. In fact, it is founded on a geometrical theorem, which was not known to the geometricians of Europe before the time of Vieta, about two hundred years ago. And it employs the sines of arcs, a thing unknown to the Greeks, who used the chords of the double arcs. The invention of sines has been attributed to the Arabs; but it is possible that they may have received this improvement in trigonometry, as well as the numeral characters, from India.*

The supposition of Professor Leslie (of the chair of moral philosophy in Edinburgh), that the Arabs derived their trigonometrical science and their numeral characters from India, is generally disputed; and some maintain, notwithstanding the high and well-grounded claims of the Hindoos to considerable attainments in geometry, that the Arabs had been their teachers, and that both had received their knowledge from a more ancient race. The invention of some signs by which to record and preserve the results of arithmetical computations seems almost as necessary as language itself, and would be undoubtedly coeval with, if not anterior to, written language. According to Prescott, the Mexicans had from time immemorial signs for numbers; Humboldt also affirms this. Algebraic signs have given rise to similar discussion, arising

* *Edinburgh Encyclopedia*—Geometry.

from the facts, that we have received these signs from the Arabians, and that their neighbours, the Hindoos, possessed the like from an extreme antiquity. It seems a palpable *non sequitur* to affirm that the Arabians derived this invention from the Indians; but the admirers of the latter very energetically maintain it on no better evidence. The algebraic forms which Europe obtained from Arabia were little better than signs for words; they were rather stenographic than scientific. Mr. Colebrooke, the great Sanscrit scholar, attributes to the Arabians a knowledge of algebra anterior to that possessed by the Hindoos, but he considers it next to certain that they derived it immediately from the Greeks. He, however, gives the Hindoos credit for an independent progress, displaying superior mental endowments, perseverance, and discriminating study, and indicating a high degree of very early civilization. Mr. Mill, who is extremely jealous of the claims of that race to any considerable civilization at a remote period, takes advantage of an admission of Mr. Colebrooke, that the object for which the Hindoos studied mathematics was to aid them in astrology, and that astronomy was pursued for astrological purposes. Upon this acknowledgment Mr. Mill founds a decision, so far as Mr. Colebrooke's evidence goes, that the civilization of the Hindoos must have been inferior when sciences of such value were prosecuted for objects so worthless and foolish. Professor Wilson, whose edition of Mill is more properly a confutation than a continuation of that work, makes the following remarks:—"The authority of Professor Wallace is recognised by Mr. Mill, and his conclusions from Mr. Colebrooke's publication are of a very different complexion from those of the text. The *Surya Siddhanta*, he states, contains a very rational system of trigonometry. In expressing the radius of a circle in parts of the circumference the Hindoos are quite singular. Ptolemy, and the Greek mathematicians, in their division of the radius, preserved no reference to the circumference. The use of sines, as it was unknown to the Greeks, forms a difference between theirs and the Indian trigonometry. Their rule for the computation of the lines is a considerable refinement in science first practised by the mathematician Briggs. However ancient a book may be in which a system of trigonometry occurs, we may be assured it was not written in the infancy of the science. Geometry must have been known in India long before the writing of the *Surya Siddhanta*. The age of Brahmagupta is fixed with great probability to the sixth or beginning of the seventh century, a period earlier than the first dawn of

Arabian sciences. Aryabhatta appears to have written as far back as the fifth century, or earlier; he was therefore almost as old as the Greek algebraist Diophantus. The *Lilavati* treats of arithmetic, and contains not only the common rules of that science, but the application of these to various questions on interest, barter, mixtures, combinations, permutations, sums of progression, indeterminate problems, and mensuration of surfaces and solids. The rules are found to be exact, and nearly as simple as in the present state of analytical investigation. The numerical results are readily deduced; and if they be compared with the earliest specimens of Greek calculation, the advantages of the decimal notation are placed in a striking light. In geometry, though inferior in excellence to the algebra, there is much deserving of attention. We have here the celebrated proposition that the square on the hypotenuse of a right-angled triangle is equal to the squares on the sides containing the right angle, and other propositions, which form part of the system of modern geometry. There is one proposition remarkable—namely, that which discovers the area of a triangle when its three sides are known. This does not seem to have been known to the ancient Greek geometers. In algebra the Hindoos understood well the arithmetic of square roots, and the general resolutions of equations of the second degree, which it is not clear that Diophantus knew—that they attained a general solution of indeterminate problems of the first degree—which it is certain Diophantus had not attained—and a method of deriving a multitude of answers to problems of the second degree when one solution was discovered by trial, which is as near an approach to a general solution as was made until the time of La Grange. Professor Wallace concludes by adopting the opinion of Playfair on this subject—"that before an author could think of embodying a treatise of algebra in the heart of a system of astronomy, and turning the researches of the one science to the purposes of the other, both must have been in such a state of advance as the lapse of several ages and many repeated efforts of inventors were required to produce." This is unanswerable evidence in favour of the antiquity, originality, and advance of Hindoo mathematical science, and is fatal to all Mr. Mill's references and conjectures. We have also historical evidence that the Arabs derived their mathematical sciences in part from the Hindoos; and we have every reason, from the differences of method, and in some instances superiority of progress, as well as from the absence of all evidence to the contrary, to conclude that the

Hindoos were as little indebted to the Greeks. A people who had pursued for ages researches of this nature could not have been merely upon the threshold of civilization. The test of civilization proposed by Mr. Mill, and the school to which he belonged, 'utility,' will not be generally admitted in the restricted sense in which he employs the term: but even that is inapplicable, for in the estimation of those nations amongst whom astrology was credited what could, in their eyes, be more useful than rules of conduct derived from astrological calculation? It is not true, however, that the mathematical sciences of the Hindoos were applied to astrology alone, as the greater number of the results which their arithmetic, algebra, and geometry, and even their astronomy, afford, have no relation to that kind of knowledge, but are indispensable to the ordinary purposes of social life."

Although the bias of Colebrooke and Wilson, in common with nearly all the company's officers, civil or military, who have served in India, in favour of the Hindoos, is obvious throughout the arguments they maintain in favour of the early possession by that people of a civilization of a superior type, and although the jealousy entertained by Mr. Mill of the statements and arguments of the writers of that school however learned and honest, was wise and necessary—yet, in this case, the impartial reader cannot refuse the weight of evidence to be on the side of the Philo-Hindoos. The early mathematical knowledge of the Indians, wheresoever derived and whatever the objects for which they prosecuted it, was very extensive; so as to excite surprise when the little improvement made afterwards, through so long a period, is considered. Notwithstanding the allegation of Professor Wilson, in reply to Mr. Mill, as to the social and practical purposes for which the Hindoos studied mathematics, the assertion of the latter gentleman is not invalidated. The main object for which such studies were valued, was their supposed subservience to astrology; and upon this, in all its absurdity, the time, talent, and energies of the scientific Hindoos were wasted. There is little evidence of any extensive application of the science of Hindostan to practical and social purposes; while it must be obvious to Professor Wilson, that astrological practices and studies were intensely followed.

The ancient natives of India had made less progress in geography than in any other science. This surprises the student of Indian history, when he is told of a people so far skilled in mathematics and astronomy, as authorities quoted in the foregoing pages allege. So far as the geography and topo-

graphy of India were concerned, or at all events portions of India, there was an accurate knowledge, but beyond India little was known. Allusion is made to a people called Chinese, who resided in the north-west, who it is supposed were the early occupiers of the vast land to the east now called China, or who overrun that country, conquering an earlier race of inhabitants. The country of China was known to them, and something of the Indo-Chinese Peninsula. The Scythians and Greeks made themselves known on Indian soil, and are spoken of as the Sacæ, and the Yavans, or Javans. A very imperfect knowledge was formed of the direction of the countries from which these warlike intruders came. The Persians and Egyptians were known to the Indians from the connection maintained with India by these people, as noticed on other pages. Some have maintained that the Egyptians themselves are an Indian race.

In the eighth century a Hindoo writer, describing the different languages spoken in the world, says that there are four barbarian tongues. The Parasica (by which the Persians are evidently meant); the Yavana (intended for the Greek); the Rasmaen (obviously the Roman or Latin); the Barbera, a generic name for the languages which they could not characterise.

Of chemistry, or any other of the natural sciences, they had no knowledge, but practised a rude alchemy, without appearing to have stumbled by its instrumentality upon any important discoveries.

Botany was less studied, and so far as it was studied, was less systematically and successfully pursued than would be readily supposed of an ingenious people, such as the Indians are represented to be, and in a country prolific in the produce of the soil.

The arts, and especially those most intimately connected with science, evidently did not flourish so much as the Philo-Indians love to represent, and are themselves so ready to believe, upon slender evidence.

Agriculture is not one of the earliest attainments of man, although the cultivation of the soil is a necessity to them, unless when the nature of their country, and the scantiness of the population lead rather to the wild and unsettled life of the hunter and fisher. Probably no ancient people equalled the Egyptians in the knowledge of proper cultivation of the soil, except the Jews, who acquired from them their knowledge. The institutions of Moses were much better adapted than the institutions of Menu to regulate the relations of classes, and secure the occupation of the land on a system the most enlightened. There

is great diversity in the present cultivation. Professor Wilson, in his vigilantly performed task of showing Mill to be in error, thus eulogises the present agriculture of India :—"That there is much slovenliness in Indian agriculture may be admitted, but Hindoo cultivators are by no means deficient in common observation and good sense, and are regulated in their proceedings by a knowledge of their soil and climate; in which the heavy implements and laborious culture of Europe would be wholly out of place. To say that the Indian farmer is ignorant of the fittest season for sowing is the contradiction of known facts; as nothing can be more regular than the periodical recurrence of the harvests. Nor is the Indian farmer unacquainted with the advantage of a rotation of crops; although, in general, the soil does not require it:—where, as in the case of sugarcane, the produce exhausts the soil, we have Dr. Roxburgh's evidence that the Indians 'do not attempt to rear a second crop oftener than every third or fourth year; allowing the land either to rest, or employing it for the growth of such plants as are found to improve the soil; of which the Indian farmer is a perfect judge.'* Few persons had better opportunities of estimating the character of Indian agriculture than Sir Thomas Munro, and he calls it 'a good system.'"[†]

A gentleman who resided in India, and is certainly an impartial observer, gives an account which scarcely harmonises with that of the learned and amiable professor:—"With such a soil, and at the same time with so few inducements to exercise any agricultural ingenuity, the Hindoo raises most of his vegetable productions in a very imperfect and inferior condition. Indifferently grown, often taken from the ground before reaching maturity, imperfectly cured, badly housed, and taken to market in a slovenly and dirty condition, the agricultural productions of Hindostan are all highly susceptible of improvement. That this is so, there cannot be a greater proof than in the vast changes effected in some articles which have been taken in hand by Europeans. Wherever their skill and capital have been brought to bear, we find a perfect revolution effected in the quality and value of the productions grown or manipulated; and, although in the article of cotton not nearly so much has been accomplished as in other produce, an improvement is still visible in that valuable staple."[‡] Again the same author describes the general appear-

ance of the country as to its agricultural aspect:—"An agricultural district in the East bears but small resemblance to such a tract in England. No hedges mark the boundary of every field, or the possessions of each cultivator; no stacks of corn greet the eye; no well-filled barns stud the country. A row of stones,* or a small ridge of earth, defines the extent of the ryots possessions; while rice, cotton, fine grain, and tobacco, may be seen growing in close proximity, as though the seed had been scattered over the land by the merest caprice."

The character of the agricultural implements given by the author of the *Three Presidencies of India*, is precisely that given by Mr. Mill, with whose strictures upon Indian agriculture Professor Wilson is so much displeased. Mr. Capper, with the desire evidently of describing things as they are and have been, and without any reference to disputed questions of ancient Indian civilization, observes:—"There is little doubt that in their agriculture as in many other matters, the Hindoo pursues identically the same system as was followed by his ancestors at the commencement of the Christian era. The agricultural implements of the natives of India are simple to rudeness. Their ploughs are usually of a light and fragile description, only calculated, and indeed only required, to make a slight entrance into the friable soil. These are of hard wood, and drawn by one or at most two bullocks or buffaloes. A heavier iron-shod plough is occasionally employed on ground that is rather stiff, or which has perhaps become weedy or less fruitful, and therefore requires somewhat deeper ploughing. Their harrows consist of a mere board pierced with rough pegs, or more frequently a tree, upon which a weight is set, or some children are seated, to give it the necessary pressure. These, and a hoe and mattock comprise the entire stock of farming utensils." This passage not only gives a picture of the present, but past, life of agricultural India for thousands of years. This photograph of the Indian cultivator agrees with the representations presented of other oriental nations in remote ages. Dr. Jahn, in his *Biblical Antiquities*, gives the following account of the agricultural instruments of the Jews, in the earliest and in advanced periods:—"The culture of the soil was at first very simple, being performed by no other instruments than sharp

* *Asiatic Annual Register*, 1802; *Tracts*, p. 8.

† Evidence, 1813

‡ *The Three Presidencies of India*, by John Capper, F.R.A.S.

* "The custom of marking the boundaries of lands by stones, although it prevailed a long time before (Job xiv. 2) was confirmed and perpetuated in the time of Moses by an express law, and a curse was pronounced against him who, without authority, removed them."—*Biblical Antiquities*, by JOHN JAHN, D.D.

sticks. By these the ground was loosened, until spades and shovels, and not long after ploughs, were invented. All these implements were well known in the time of Moses. (Deut. xxiii. 13; Gen. xlv. 6; Job i. 14.) The first plough was doubtless nothing more than a stout limb of a tree, from which projected another shortened and pointed limb. This being turned into the ground made the furrows; while at the further end of the longer branch was fastened a transverse yoke, to which the oxen were harnessed. At last a handle was added, by which the plough might be guided. So that the plough was composed of four parts; the beam, the yoke, which was attached to the beam, the handle, and what we should call the coulter. (1 Sam. xiii. 20, 21; Micah iv. 3.)* It was necessary for the ploughman constantly and firmly to hold the handle of the plough, which had no wheels; and that no spot might remain untouched, to lean forward and fix his eyes steadily upon it. (Luke ix. 62.)† The staff by which the coulter was cleared served for an ox-goad. In the East, at the present day, they use a pole about eight feet in length, at the largest end of which is fixed a flat piece of iron for clearing the plough, and at the other end a spike for spurring the oxen. Hence, it appears that a goad might answer the purpose of a spear, which indeed had the same name. (1 Sam. xiii. 21; Judg. iii. 31.) Sometimes a scourge was applied to the oxen. (Is. x. 26; Nah. iii. 2.) There seems to have been no other harrow than a thick clump of wood, borne down by a weight, or a man sitting upon it, and drawn over the ploughed field by oxen; the same which the Egyptians use at the present time. In this way the turfs were broken in pieces. At a later period wicker-drags came into use, which Pliny mentions. (N. H. xviii. 43.) All the ancient vehicles were moved upon two wheels only."‡ Those used for agricultural purposes were extremely rude in construction.

The spirit of patient industry manifested by the natives is worthy of the highest praise. Were they not so wedded to their customs, and prejudiced against even the most advantageous changes, lest innovation should in any way affect their religion, or their injurious social distinctions, they are capable of carrying out improvements, originated by others, to ultimate success. Mr. Capper says that where irrigation has not been provided on a large scale by the local governments, it is throughout many parts of the country per-

formed by the villagers themselves. "For miles the patient Hindoo will carry the tiny stream of water along the brow of mountains, round steep declivities, and across yawning gulfs over valleys, his primitive aqueducts being formed of stones, troughs, and hollow bamboos. Sometimes, in order to bring the supply of water to the necessary height, a bucket-wheel is employed, worked by oxen."

The following description of the dangers and difficulties of the poorer Indian agriculturist excites sympathy and interest, as well as furnishes information of the state of the ryots:—"Harvest-time is a season of anxiety to the Indian cultivator; for there are many destructive foes ready at this time to prey upon his little field. His sugar-canes may be swept away in one night by the ravages of the elephant, the wild boar, or the porcupine; his tobacco may be uprooted or trampled down by herds of wild swine; and his grain may be devoured in the ear, in open day, by flights of birds, which are everywhere most numerous and harassing. To guard against all these calamities, the ryot is compelled at the critical season to mount guard over his little tract of produce, which he usually does perched up in a sort of jungle-stage, open on all sides but covered at the top, whence he is able to watch the whole extent of his field, and by dint of cries and sundry artificial sounds, he is enabled to scare away all unwelcome intruders. The harvest being secured, the grain is trodden out by the feet of buffaloes, and the little that may remain, if indeed it be any, is carefully stored in deep pits lined with straw; but in too many cases all that the ryot retains possession of will be just sufficient for seed for his little tract of land at the next sowing time." With the above statements the accounts given by all modern travellers in India agree, who are not committed to some particular theory, religious, philosophical, or political, in connection with the character of the people, the country, or the government.

The art of weaving has been referred to when treating of the commerce of the country, the perfection to which the natives of India have for ages brought their manufacture of cotton and silk is notorious. In this the Indians share a reputation common to Asiatic nations from time immemorial. Some have attributed the art of weaving to the Hindoos, but it is certain that the Persians attained high eminence in it as far back as history can trace their usages. Pliny attributes the invention to Semiramis. According to Mr. Bryant it was in the city of Arachne that the art was first carried to any degree of perfec-

* Pliny (N. H. xviii. 47) speaks of ploughs constructed with wheels, which in his day were of recent invention.

† Pliny, N. H. xviii. 49, No. 2.

‡ Ward's *Library of Standard Divinity*.

tion. Mr. Mill describes the process of the manufacture in India as extremely rude:—"That ingenuity is in its infancy among the Hindoos, is shown by the rudeness still observable in the instruments of this their favourite art. The Hindoo loom, with all its appurtenances, is coarse and ill-fashioned to a degree, hardly less surprising than the fineness of the commodity which it is the instrument of producing. It consists of little else than a few sticks or pieces of wood, nearly in the state in which nature produced them, connected together by the rudest contrivances. There is not so much as an expedient for rolling up the warp. It is stretched out at the full length of the web, which makes the house of the weaver insufficient to contain him; he is therefore obliged to work continually in the open air, and every return of inclement weather interrupts him."

Dyeing, and printing on cloths, were arts as ancient probably as weaving; it appears to have been so with the Hindoos, for in all ages of which we have any record, their dyers were celebrated. Tennant, in his *Indian Recreations*, describes the beauty of "the painted cloths," which he appears to designate as painted because the dye was applied to them instead of the cloth being dipped in a vat. Staining by application of the colouring matter to the fabric was the most ancient form of dyeing. Tennant attributes the richness, brilliancy, and durability of the colours to the climate and the clearness of the water; but in many places the rivers of India, especially the large rivers, hold much earthy matter in solution, and are rendered opaque or discoloured by the substances which they carry in their current: the Brahmapootra and Ganges are so through a large extent of their course. It is more likely that the patient and ingenious method of preparing the dye stuffs, and the length of time taken in the processes of their application, will account for the purity and permanency of colours in Indian textile fabrics.

The fine arts never flourished in India, although instances of genius and taste in this department have not been wanting there in either ancient or modern times. Those arts, however, which, without being classed with the fine arts, border on their domain and partake of their character, were much better known.

The jewellery of the Bengalees has been referred to in previous chapters. At the museum of the India-house magnificent specimens of the skill and taste of the Indian jeweller attest the talent of the natives in polishing gems and precious stones, and the chasing of gold and silver. These works are

accomplished by the simplest tools, two or three of the rudest kind serving the purpose of numerous instruments of ingenious and scientific construction, which would be used in European processes. The time consumed by the oriental workman is, however, in proportion to the common construction of his tools. The rose chains of Trichinopoly exemplify the skill displayed in working the precious metals. The inlaid-work of Benares rivals most executions of Indian skill. Although the setting of precious stones is a work on which the Hindoos pride themselves, and for which many English writers demand large praise on their behalf, others impugn their taste in this particular occupation:—"Scarcely equal to their other productions are the works of the Indian jewellers: the setting of precious stones forms an exception to the general good taste and high finish of Eastern artificers. There is invariably a heaviness and total absence of propriety in the jewelled ornaments of India, which, despite the rare beauty of the gems, and the richness and profusion of the ornamental work lavished upon them, cannot fail to strike an European eye as singularly in contrast with their other mechanical productions, whether of the loom, the forge, or the crucible."*

The pottery of the Hindoos assumes the character of artistic excellence. In its general features it resembles the pottery of Egypt, and ancient specimens of the former rival in beauty the best specimens of the latter. Bengal is the chief seat of this art. In the Hyde Park Exhibition of 1851, the Indian department was rich in specimens; and in the South Kensington Museum, and in the Museum of the India-house, specimens are to be seen of kindred character.

Marble and *petra dura* vases, garden seats, ornamental vessels, and figures, are executed by the Indians with much delicacy and propriety of style. Specimens of such works may be seen in the London museums above-named.

The architecture of the Hindoos has of late years engaged much attention, and, like everything else connected with India, excited much discussion. There are two classes of architectural remains in India, which are very distinct: one class is of constructions cut in rocks, or formed in caves, the other of raised buildings. The notices of both have been so numerous when describing the various districts and cities in which they are, that it will not be necessary to dwell long on the subject here. The cave temples of Ellora, Ajunta, Elephanta, and Cashmere, are wonderful for their number. The mountains of Cashmere

* *The Three Presidencies of India.*

are said to contain twelve thousand, a number which is probably an exaggeration. Their magnitude is in some cases vast, and their peculiarities most striking. Perhaps there are none more celebrated and truly magnificent in their solemn vastness than the caves of Ajunta. They are situated in a wild and picturesque part of the peninsula, excavated from a portion of the huge ghauts, which, to the south of the valley of the Tapti, rises some hundreds of feet, and supports the great table-land of the Deccan. The entrance to the caves is through one of the many narrow and winding ravines which exist in various parts of these ghauts. They are twenty-seven in number, and vary as much in their size as in their form and degree of ornament. A few of them are vaulted without cells; but by far the greater number are monastic in construction, having cells and flat roofs. In one or two of these caves there exist no ornaments whatever beyond a reeded course over each of the cells; whilst in shape they are square, and about thirty-six feet each way. In others pillars are found; and here they have been used standing on the sills for the purpose of dividing the windows into three lengths. On the walls are sculptured various figures of lions, antelopes, and boys in attitudes of prayer, executed in the very best style of the Hindoos. It would appear that in more than one instance the walls have been stuccoed and painted; but of these works of art little now remains, not more than sufficient to determine their nature. The largest of these cave temples had at one time as many as twenty-nine pillars surrounding the nave; they are simple octagons, without either capital or base, and have been at one time elaborately decorated. The aisles in this cave are of stone, whilst the nave had evidently been ornamented with wood, which has now disappeared, with the exception of some of the pins and battens which served to fasten it to the rock, as also the fastenings of the ribs, which, having been sunk to some depth in the solid rock, still remain. The whole of the walls appear to have been covered with ornamental stucco-work; and on some of the pillars, as well as in the panels of the roof of the aisles, a few of the paintings still remain in tolerable preservation. There are also the remains of several inscriptions, but, with the exception of one on the exterior of the cave, high above the entrance, they are too imperfect to be of service. The external inscription alluded to is of some length, and in the Lath character, from which it may be inferred that these excavations were the work of the first or second century before our era.*

* *The Three Presidencies.*

The walls of some of the cave temples are covered with human figures; and Mr. Capper, no indiscriminate admirer of the Indians, thus describes them:—"Many are fully armed, and illuminated with scrolls and wreaths of flowers, whilst the pillars are gracefully and artistically formed. Some of these groupings are executed with a high degree of art, bearing in mind the age in which they must have been executed; they certainly leave the works of Europe of the same period far behind in perspective, grouping, and general details. The human figure is especially well executed. The character of all these caves is Buddhistical, the figure of that deity being found in several of them."

In the manipulation and laying on of their colours they were very successful—so much so, that at the present time many of the paintings to be found in these rock-cut temples appear as fresh and brilliant as though but the work of a few years since, whereas many of them must have existed for little less than two thousand years. In the paintings alluded to, especially those in Ajunta, there has been far more attention bestowed on the grouping than is usually met with in Hindoo works of art, and, at the same time, a nearer approach to modern notions of perspective.

There existed remarkable facilities for these extraordinary constructions such as few countries—if, indeed, any country—could present. A gentleman who has rendered large services to art, and has brought a more correct estimate of Indian art before the British public, says:—"The whole cave system of India is composed of horizontal strata of amygdaloid, and other cognate trap formations, generally speaking of very considerable thickness and great uniformity of texture, and possessing, besides, the advantage of their edges being exposed in perpendicular cliffs, so that no rock in any part of the world could either be more suitable for the purpose or more favourably situated than these formations are. They were easily accessible, and easily worked. In the rarest possible instances are there any flaws or faults to disturb the uniformity of the design; and when complete they afford a perfectly dry temple or abode, singularly uniform in temperature, and more durable than any class of temple found in any part of the world."* In India proper (without passing into the boundary of Cashmere, Scinde, or the Punjab) there are about fifty groups of caves, and the number of distinct caves is about a thousand. Those which are of Jain and Brahminical origin, taken together, do not exceed a hundred; all the rest are Bud-

* *The Illustrated Handbook of Architecture.* By James Fergusson, M.R.I.B.A.



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From a sketch by W. Verelsteden

dhist temples or monasteries, the temples not exceeding thirty in number.

About nine-tenths of the caves known are on the western side of India. The oldest are those of Bahar, supposed to have been excavated B.C. 200. These are without decoration, square, with a sloping jammed doorway, narrower at the top than the bottom. The style is commonly called Egyptian; and similar constructions exist in Ethiopia, Etruria, Asia Minor, and Greece. Some of the Bahar caves were obviously temples, and these have decoration of form, but are gloomy and heavy. From the date at which these were constructed up to nearly the era of the Mohammedan conquest, the habit of forming cave temples and monasteries existed in India. It is, however, believed that the taste, skill, and zeal for their formation began to decline a few hundred years after the Christian era.

The group which is probably next in antiquity to that at Bahar is the Oodaygeeree, near Cuttack. The rocks were peculiarly adapted to excavation, and accordingly an opportunity was afforded to the excavators for more taste, variety, and grandeur of design and decoration. This group affords examples of all varieties of these residences, from the simple cell of the solitary ascetic to the rich and populous monastery. The small cells consist of rooms not more than ten or twelve feet square, with a porch of two pillars protecting the single doorway. The caves, however, were gradually extended in length, verandahs were formed in front of them, wings were projected at right angles with the principal façade, and, lastly, second stories were added to the height, so that the larger residences were capable of accommodating from forty to fifty monks. No shrine, nor any position in which one could be placed, is discoverable; and the probability therefore is, that these caves were attached to some sacred edifice which has long since disappeared.

In Western India the simplest form which the cave assumes is that of a square hall, surrounded by small cells. As the hall grows longer, first four, then twelve, and eventually a larger number of columns are introduced, to afford the necessary support to the superincumbent rock. At length, the worship having by this time degenerated considerably from its original purity, a sanctuary is added, which contains an image of Buddha, and sometimes two side chapels, with images of subordinate saints, sometimes male, sometimes female. The extreme depth of excavation required by the square arrangement offers an obstacle which appears to be perceived when the caves have attained a large size. A more oblong form is therefore subsequently adopted,

and the sanctuary projected forward assists with the pillars in supporting the roof; by-and-bye it is even pushed out into the centre of the hall, and made to form the only real support. The decadence of the style has, however, here been reached, and the dignity and beauty of the composition have almost entirely disappeared.*

In their ornamentation the cave architects employed with great skill that system of equal distribution of both form and colour, the introduction of which to European notice was one of the successful results of the Great Exhibition of 1851, and which has since that time become the fashionable object of Western design, though the oriental artists to whom its invention is due are still without rivals in its employment. As regards the cave-pillars, where ornament is employed at all, it is not confined merely to the base and capital, but is spread nearly equally over the whole surface of the pillar, thus not only giving singular richness, but also, paradoxical as it may appear, greater simplicity, because the grand outline is thus uninterfered with, and the attention undistracted, by patches of too great brilliancy. The general mode of embellishment adopted in the caves is painting in some sort of distemper.* "In some of the older caves," says Mr. Fergusson, "not only the walls and roof, but even the pillars, are wholly covered with stucco, and ornamented with painting. This painting is divided, generally speaking, according to the following rule:—On the walls are extensive composition of figures and landscapes; on pillars single detached figures, representing either Buddha or Buddhist saints; while the paintings on the roof are almost invariably architectural frets and scrolls, often of extreme beauty and elegance, rivalling many of those at Pompeii and the Baths of Titus. This threefold division is in fact the only one admissible in good taste, or only with the slightest possible modification where figures and conventional ornaments are to be combined. At a later period many of the ornaments which had been painted on the earlier pillars came to be carved on them in relief, as happened in Europe on the transition from the Norman to the Gothic style. The pillars were naturally the first to undergo this transformation, but it was extended in some instances to the walls, and even to the roofs. In some cases there still exist traces of painting on these engraved ornaments, but it seems that in the last ages of the style, the architects were satisfied with the effect produced by the light and shade of bold reliefs, and abandoned

* *Bombay Review*, vol. v. No. 11.

† *Ibid.*

colour to a considerable extent at least, if not altogether."

The cave temples date in the first century after Christ, and in the eight or nine following centuries; the best example is that of Karlee, and the other principal specimens are at Ellora and Kanari. They vary in dimensions from about a hundred and twenty-five feet in length by forty-five feet in width, to forty-five by twenty-three. The first objects which strike the visitor are two lion-pillars, resembling in some degree the lats described on another page. The outer porch is considerably wider than the body of the building, and is closed in front by a screen composed of two massive octagonal pillars, which support a plain face of rock ornamented by a wooden gallery. Above is a dwarf colonnade of four pillars, with pilasters, which, with a wooden cornice, complete the façade. Within this porch is the entrance, placed under a gallery, exactly corresponding with the rood loft of a Gothic cathedral, and consisting of three doorways, one leading to the centre, and one to each of the side aisles. The whole end of the hall above the gallery forms itself into one great horse-shoe window, through which all the light is admitted. The interior of the cave temple corresponds to a great extent with that of an early Christian basilica; it consists of a nave and side aisles, terminating in an apse or semi-dome, round which the aisle is carried. The pillars which separate the nave from the aisles have tall bases, octagonal shafts, and capitals, whose rich sculpture supplies the place occupied by frieze and cornice in Grecian architecture. In other examples plain painted surfaces occupy the same space. Above the columns springs the semicircular roof, ornamented either by a series of wooden ribs, or by imitations of them in stone. The aisles are dark, and the nave itself in comparative obscurity, but one undivided volume of light, passing through the single-arched opening overhead, falls directly upon an altar under the apse, which is the principal object in the temple, and which recalls the more ancient Buddhist tope or dagoba. "It certainly is," says Mr. Fergusson, "as solemn and grand as any interior can well be;" and when to the general mysterious gloom and the brilliancy of the sacred object are added the solemn associations of a mountainous and secluded situation, and the sound of the royal drum, whose rich tones reverberate from the rock-hewn dome, an effect is obtained which may well induce in the half-civilized worshipper every sensation of superstitious awe.

Intermediate, as it were, between the Buddhist caves and the structural edifices are the

rock-cut Shaivite temple of Kylas, at Ellora, and the raths of Mahavellipore. The Kylas belongs to the ninth or tenth century; its general form is extremely similar to that of the southern Hindoo structural temples, externally as well as internally; for in this case the excavators were not satisfied with the more natural design of cutting away a chamber, like the Buddhists, in the rock, but aspired to the formation of a complete temple such as might have been erected in the plain. For the purpose of providing an exterior they were compelled to dig down into the rock, thus placing the temple "in a pit," and giving it much of the appearance of an exhumed edifice. At Mahavellipore, on the contrary, the carvers escaped this dilemma by the employment for their purpose of seven massive boulders of granite protruding from the sands on the edge of the ocean. The raths were excavated probably about A.D. 1300. Mr. Fergusson discovers in them close copies of the monasteries and temples of the Buddhist style of architecture—transition specimens in fact—which link that style with the architecture of the south of India. They are particularly valuable in reference to the older style, as rendering intelligible the external forms of buildings, of which the rock-hewn caves were probably merely internal copies. One of the raths "represents with great exactness all that we know and all that we read of the Buddhist monasteries;" a second exhibits to us the form of a cave temple such as that of Karlee, with the side aisles, however, open externally; a third displays an approximation to the many-pinnacled pyramidal roof, common afterwards in Hindoo styles. The raised structures do not attest so much industry, nor so singular and original a character of mind on the part of their builders.

The admirers of everything Indian are extremely lavish in their praise of Indian architecture; and it is obvious that there is a disposition to decry it on the part of some who deemed it a duty to check the incessant praise of all things connected with the Hindoos, fashionable a short time ago. Mill, always on this side of the dispute, quotes with elaborate industry an array of authorities unfavourable to the architectural genius of the Hindoos. Sonnerat informs us "that the architecture of the Hindoos is very rude, and their structures in honour of their deities are venerable only from their magnitude." "Mailcotay," says Dr. Buchanan, "is one of the most celebrated places of Hindoo worship, both as having been honoured with the actual presence of an avatar, or incarnation of Vishnu, who founded one of the temples, and also as being one of the principal seats of the

Sri Vashnavam Brahmins, and having possessed very large revenues. The large temple is a square building of great dimensions, and entirely surrounded by a colonnade, but it is a mean piece of architecture, at least outwardly. The columns are very rude, and only about six feet high. Above the entablature, in place of a balustrade, is a clumsy mass of brick and plaster, much higher than the columns, and excavated with numerous niches, in which are huddled together many thousand images, composed of the same materials, and most rudely formed. The temple itself is alleged to be of wonderful antiquity, and to have been not only built by a god, but to be dedicated to Krishnu, on the very spot where that avatar performed some of his great works." Of the celebrated pagodas at Congeveram the same author remarks that "they are great stone buildings, very clumsily executed, both in their joinings and carvings, and totally devoid of elegance or grandeur, although they are wonderfully crowded with what are meant as ornaments." Elphinstone in the main agrees with Mill, but praises the tall columns as graceful. According to the *Journal of the Bengal Asiatic Society*, Hindoo architecture is characterised by a profusion of columns, sometimes of slender construction, and raised to considerable elevation, sometimes massive, square at the base, octagon in the second division, having sixteen sides in the third architectural division, and round at the top. Various other columnal forms are described, and so various in their descriptions, that it would require a separate treatise to give the detail.

The interior temple ornaments are various and original, although some of the mouldings resemble those known in Europe. Frequently the walls are covered with representations of the gods, especially in their wars. A people whose ethical taste surrounds the glory of their deities with the enmities and havoc of war, are not likely to remain themselves at peace longer than their interests or weakness constrain. It should be no matter of surprise to those Europeans who have stood within these temples, that India has been a land of civil feud and foreign war throughout its history.

The chief defects of Hindoo architecture are want of boldness, grandeur, and proportion, with too minute attention to minor excellences, and an exuberance of ornament.

According to Mr. Fergusson, the architecture of the Hindoo temples differs in style in different parts of the country, that of the south more especially being well defined in its difference from the north. The southern Hindoo temple is enclosed in a rectangular

court, the walls of which are high and plain externally, but internally ornamented by colonnades and cloisters, or buildings of various sorts adapted to the service of the sacred edifice. In the centre of the front wall, and in the corresponding position in the rear, are two gateways with lofty pyramidal roofs. A second inclosure succeeds the first, which exhibits, however, but one gate pyramid; within this again is the temple itself. The sacred building consists of two porches, or *mundups*, an ante-temple, or *pronaos*, and the *veeman*, which contains the object of worship. Each *mundup* is a square building, with a flat or pyramidal roof, and having a door on each of its four sides. The porches are sometimes detached from each other. When they are joined together the outer porch is open in front, so that it does not materially obstruct the passage of light to the interior. One of the principal objects of the architect is that of shrouding the adytum of the temple in mysterious darkness: he effects this partly by the ante-temple, which is usually of the same width as the cell, and about half as deep as it broad, and partly by excluding all light except such as is admitted by a single door. In addition to the principal shrine itself, the inclosures contain smaller temples, tanks of water, gardens, and colonnades or choultries. These last are of all grades, from the little pavilion supported on four pillars to the magnificent "hall of one thousand columns." "Their uses, too," says Mr. Fergusson, "are most various: in ancient times they served as porches to temples; sometimes as halls of ceremony, where the dancing-girls attached to the temples dance and sing; sometimes they are cloisters, surrounding the whole area of the temple; at others swinging porches, where the gods enjoy at stated seasons that intellectual amusement. But by far their most important application is when used as nuptial halls, in which the mystic union of the male and female divinities is celebrated once a year."

The details of these buildings can hardly be made intelligible without the aid of models. The *veeman* is square in plan, the perpendicular part of it is decorated with pilasters and niches, and supports a pyramidal roof, in small temples one story in height, but in the larger examples sometimes fourteen; the whole is invariably covered with a small dome-like termination, deriving its origin probably from the Buddhist *tope*. The gate-pyramid, or *gopoor*, is identical in form with the *veeman*, except that it is oblong instead of square in plan; its longer side is pierced with a gateway, and the circular crowning ornament is lengthened out to suit

the general shape of the building. In some cases the pillars of choultries are placed at equal regular intervals, and number as many as twenty-four in the width, but in others the central aisle is wider than the outer ones, and a space is thus presented which is too wide to be simply roofed by flat stones as in the smaller examples. A slender shaft is then added to the usual square pillar, and from thence a system of bracketing is carried up until the central space, remaining to be roofed, has been sufficiently diminished in size.*

Mr. Fergusson expresses himself in terms of high admiration of the Southern Indian temples, which he affirms bear a striking similarity to the Temple of Jerusalem, as rebuilt by Herod, and described in the pages of Josephus. The great choultry Mr. Fergusson represents as corresponding with the Stoa Basilica, and the outer court with that of the Gentiles.

The style of temple architecture in Northern India, according to Mr. Fergusson, begins abruptly upon the line within which that of Southern India flourishes. Examples are found in Orissa. The temple and superstation of Juggernaut, at Orissa, were described in a former page. The northern temple is in plan nearly identical with its southern neighbour. It is surrounded by a square court, enclosed by high walls, perfectly plain externally, but on the interior ornamented by cloisters or colonnades. A square mundup, with a door on each face, stands in front of the great tower which contains the object of worship. There are sometimes two porches, but when this is the case, the foremost one is either wholly detached, or connected only in a slight and temporary manner. The door-ways of the porches project, and are very richly ornamented, and the whole walls are covered with sculpture of elaborate minuteness. Above the perpendicular part rises a roof divided horizontally into three stages; the lower portion of each face is adorned with a range of caryatides, the upper portion is formed by five or six projecting ledges of stone. The whole is crowned by a termination of singular grace and beauty, which resembles an inverted lotus, and upon which rests the finial, called in modern temples a *kulus*, and probably deriving its origin from the umbrella ornament of the Buddhist style. The lower part of the tower corresponds exactly with that of the mundup, except that only the door opening into the porch is pierced, the others being filled in with sculpture. That which forms the distinguishing feature of the style is, however, the *shikur*, or spire, which rises above the cell containing the sacred object :

* *Bombay Quarterly*.

it is no longer pyramidal in outline, but always curvilinear or bell-shaped; the divisions are vertical instead of horizontal, as in Southern India; and the summit is crowned by the *kulus* just described. In advance of this style is that of the now desecrated temple at Barolli, in Upper India, situated in a wild and romantic spot near the falls of the Chumbul, whose distant roar in the still night is the only sound that breaks the silence of the solitude which surrounds them. This is also a temple of Siva, and it was erected, in Mr. Fergusson's opinion, "probably in the eighth or ninth century." Its general outline is identical with that of the Orissan temples, but the porch, instead of being essentially astylar, or devoid of pillars as heretofore, is now columnar; and in front of it is a detached porch, called—perhaps from its having been employed in similar festivals with those to which we have seen the choultries of Southern India were principally dedicated—a *choree*, or marriage-hall.* Another style kindred to that of Northern India is called by Mr. Fergusson the Jain style, but by other and still more recent writers the Gujarati style, for the reason that it was not confined to the objects of the Jain religion. It would appear, however, to have originated with the professors of that creed. A description of the difference of this style from the styles of Northern India generally would be too technical for a popular and general work. There is a representation of one of these buildings in a work called *Ras Mâlâ, or Hindoo Annals of the Province of Gujerat*,* which will afford the general reader a good idea of their character. The dome in this description of temple is extremely elegant. Colonel Tod, comparing its mode of construction with that of the domes of sacred buildings in the Western world, observes:—"One of the consequences of this mode of construction was, that all the decoration of the Indian domes was horizontal, or in other words, the ornaments were arranged in concentric rings one above the other, instead of being disposed in vertical ribs as in Roman or Gothic vaults. This arrangement allows of far more variety being introduced, without any offence to good taste, and practically has rendered some of these Jain domes the most exquisite specimens of elaborate roofing that can anywhere be seen. Another consequence deduced from this mode of construction was the employment of pendants from the centres of the domes, which are used to an extent that would have surprised even the Tudor architects of our own country. With them, however, the pendant

* *Bombay Quarterly Review*.

† Richardson Brothers, Cornhill, 1856, vol. ii. p. 188.

was an architectural *tour de force*, requiring great constructive ingenuity and large masses to counterbalance, and is always tending to destroy the building it ornaments; while the Indian pendant, on the contrary, only adds its own weight to that of the dome, and has no other prejudicial tendency. Its forms, too, generally have a lightness and elegance never even imagined in Gothic art; it hangs from the centre of a dome more like a lustre of crystal drops, than a solid mass of marble or of stone. 'It appears,' says the annalist of the Rajpoot clans, speaking of one of these pendants, 'like a cluster of the half disclosed lotus, whose cups are so thin, so transparent, and so accurately wrought, that it fixes the eye in admiration.'"

The Gujerat temple, however professional architects from Europe may enter into minute disquisitions as to the distinction of style, is very like that of Northern and Southern India, which also resemble one another in great national characteristics, notwithstanding the distinctions noticed. The temples of the province which gives its name to this peculiar style, consist of one or two mundups or porches, and a square tower containing the idol, and surmounted by a curvilinear spire. An enclosure containing pools, triumphal arches, and pillared halls, surround the temple proper, or *sanctum sanctorum* of the idolatry. The porch is sometimes detached, and it is then, as under similar conditions in other parts of India, called a choree or marriage-hall. In front, and on either side of the temple, is placed an ornamental frontispiece, called a *keerttee-stumbh*, or triumphal pillar. It is formed of two columns, with upper columns or attics, and double capitals. A *torun* of the circular form is placed between the columns, and touches at its upper point the centre of the entablature. Above is a cornice and curvilinear pediment, ending in a kulus. The whole frontispiece is covered with sculpture, from the base to the apex. The *torun* is a sort of truss placed between columns, which is skilfully used both to afford strength and decoration. The name was originally applied (and is still so used), to the garland of leaves, and the drapery festoons which are hung up at the doors of Hindoo houses on occasions of marriages and festivals. The application of the term to this particular feature of architecture is happy, and tastefully conceived. Frequently a *kond* or oblong reservoir of water is placed before the temple. It is surrounded on all four sides by flights of descending steps, with landings at intervals, and is ornamented with small niches placed chequer fashion. At the central points, with the exception of that nearest the temple, and

at the four corners, are placed small shrines, with shikurs or spires. Some of these temples were two or three stories in height, but almost the only remaining example of this class—the Roodra Mala of Sidhpore, is too much mutilated to afford us full information upon the subject. The defect is partially supplied by the minarets of Mohammedan mosques, which follow most faithfully the old Hindoo forms, and afford—if for their arched and foliated panels we substitute idol-sculptured alto-reliefs—perfect representations on a small scale of the two stories of a shrine tower, to which the imagination may easily add the curvilinear spires.

The edifice thus described stood within a square or rectangular court, the enclosure of which was formed by numerous small temples similar in form and style to the principal building, but of considerably smaller dimensions, and possessing each but a single columnar mundup. In some cases a small distance was allowed to intervene between these, but in most they were actually connected. The towers and shikurs were always placed on the outside, and the porches towards the great temple. In the centre of the rearmost side of the enclosure three small temples were pushed somewhat backwards, so as to form a break in the line, and the other central points were occupied by three pillared halls pierced for gateways. If, as at Sidhpore, the temple was placed on the bank of a river, the front gateway opened upon a *ghat*, or flight of steps, which was carried for some distance along the edge of the stream. These portraiture are of the Gujerat temple in its most complete form. The shrines commonly met with are, however, rarely complete; some want the enclosure, or the reservoir, or both; others possess but one columnar mundup; and not a few dwindle down to the simple idol-tower and spire.

The temples hitherto described belong to the Brahminical faith; those of the Jain religion are, however, nearly identical in form, but the reservoirs being unadapted to its ceremonies, are always omitted. In Jain temples, and in those dedicated to Shree Krishn also, there are not unfrequently three spire-covered idol cells instead of one, and the central shikur is raised higher than the other two.

Gujerat contains several of the sacred mountains of the Jains. Mount Aboo, Girnar or Joonagurh, Shutroonjye or Paleetana, Taringa, and Tulaja. It is amidst the sublime natural scenery and romantic associations of these consecrated spots, that the architecture of the Jain faith is exhibited most impressively. The temples are here clustered

together in greater or less numbers, and the whole mass is surrounded by a fortified wall. At Paletana especially, where, arranged in street after street, and square after square, and interspersed with subordinate buildings of a palatial character, with terraces, with reservoirs of water, and with gardens, they cover the rocky summit of the mountain, they impress the beholder with some such vivid ideas of sanctity, of beauty, and of power, as those with which the Jew of old must have contemplated, in her prime, the holy fortress-city of Mount Zion.

Perhaps the choicest examples of the style are those marble edifices which were erected about the middle of the eleventh century after Christ, upon Mount Aboo, and at Khoombhareea, upon the not far distant hill of Arasoor, by Veemul Sha, the viceregent of Bheem Dev I., King of Unhilpoor. At Khoombhareea the general features are almost identical with those of the Brahminical temples. At Aboo the temple of Veemul Sha has but one mundup, which is composed of forty-eight pillars, and is immediately connected with a double colonnade of smaller pillars, forming porticoes to a range of cells, fifty-five in number, which enclose the principal temple on all sides, exactly as in a Buddhist veehar. Externally, this temple is perfectly unadorned, and as the subordinate cells are without spires, there is nothing to indicate the magnificence within, except the shikur of the great temple peeping over the plain wall.

This system of connecting the central temple with the surrounding buildings, so as to form a more complete whole, is carried to perfection in the edifice which Koombho Rana, of Odeypore, erected at Ranpore, near Sadree in Mewar, "in a deserted glen running into the western slope of the Arauallee, before his favourite fort of Komulmer." "It is nearly a square," says Mr. Fergusson, "200 feet by 225 feet, exclusive of the projection on each face. In the centre of this stands the great shrine, not, however, occupied as usual by one cell, but by four, or rather four great niches, in each of which is placed a statue of Adeenath or Rishub Dev, the first and greatest of the Jain saints. Above this are four other niches similarly occupied, opening on the terraced roofs of the building. Near the four angles of the court are four other smaller shrines, and around them, or on each side of them, are twenty domes, supported by about 420 columns; four of these domes, the central ones of each group, are three stories in height, and tower above the others; and one, that facing the principal entrance, is supported by the very unusual number of sixteen columns, and is 36 feet in diameter, the others being only

24 feet. Light is admitted to the building by four uncovered courts, and the whole is surrounded by a range of cells, most of them unoccupied, each of which has a pyramidal roof of its own. The immense number of parts in the building, and their general smallness, prevent its laying claim to anything like architectural grandeur; but their variety, their beauty of detail—no two pillars in the whole building being exactly alike—and the grace with which they are arranged, the tasteful admixture of domes of different heights with flat ceilings, and the mode in which the light is introduced, combine to produce an excellent effect. Indeed, I know of no other building in India of the same class, that leaves so pleasing an impression, or affords so many hints for the graceful arrangement of columns in an interior."

In their religious buildings the Moham-medans borrowed largely from the Hindoos, although bringing with them a style of architecture peculiar to themselves. The *Builder*, a professional periodical published in London, and celebrated for its architectural lore, has suggested that the derivation of western religious architecture from the East is more easily traceable than many suppose, and, *apropos*, relates the following anecdote:—"I remember once standing before the magnificent west front of Peterborough Cathedral, in company with an old Indian officer, when he said, 'Why, this is just what we see throughout the East; huge pointed portals running up to the top of the building; spires, pinnacles—everything like the minarets—the aspiring character of Mussulman architecture.' And this style came into general use very shortly after the great crusade. We do not say that the dogma *post hoc, ergo propter hoc* is always correct, but surely it is in this instance."

It should be remembered that the oldest architectural monuments in India are religious, and were not erected by the Brahmins, but by the seceders from the Brahminical religion, who adopted the Buddhist creed. The *lats* are the oldest of these, and are undoubtedly of an antiquity which can be traced for nearly two thousand two hundred years. They are pillars, technically called monoliths, very slender and graceful, and apparently erected for the purpose of receiving superscriptions. They are generally about forty feet high, and are surmounted by capitals crowned with seated lions. There are ornaments upon them which connect them with the architecture of Western Asia and Eastern Europe. These *lats* were placed before buildings set apart for worship, serving in this respect as "the keertlee stumlehs and deep malas" of mediæval and modern Hindoo architecture;

and as the two pillars—Joakim and Boaz—which Solomon placed before the temple in Jerusalem. The lats were placed before the buildings called topes. In Central India, at Sanchi, near Bhilastone, of the best preserved of these is to be seen, although its antiquity is very great, dating more than a century before the Christian era. "The topes were domed structures, rising from a circular and sloping base, and crowned by a square terminal with projecting cornice. A broad double ramp, or sloping platform, such as that which conducts to the summit of the Campanile of St. Mark, Venice, afforded access to the top of the base, and at this level there ran round the foot of the dome a balustraded terrace, which was probably employed in the circumambulations commonly used in the Buddhist ceremonials; as in those of the nations of classical antiquity, of the British Druids, and of the disciples of the Poorans. The topes sometimes contained relic chambers called *dagobas*, at other times they were mere solid mounds of brickwork faced with stone, over which was laid a thick coating of cement, adorned either with painting or ornaments in relief. The terminal, which was called a *tee*, consisted of a square box, probably at first of wood, and afterwards copied in stone; around the upper part of it was a frieze of horse-shoe-shaped window heads, and the cornice was formed by three horizontal slabs projecting one beyond the other. There can be very little doubt that it was, or at all events represented, a *chasse*, or relic box, and it is more than probable that originally the relic was placed not in the tope, but on the top of it; a supposition which would account for the absence of relic-chambers in one class of these structures. The terminal appears to have been frequently surmounted by one or more umbrellas—the common symbols of regal state—which, originally of wood, but afterwards copied in stone, assumed at length a strictly architectural character, and very nearly resembled the kulus, or water-vessel, which forms a common feature in temples of Vishnu or of Siva. The tope was enclosed by a balustrade of stone posts, connected by horizontal cross-pieces, and at regular intervals in the circle thus formed were four gateways. These consisted each of them of two square pillars richly sculptured, and terminating in bold elephant capitals; they rose above the balustrade, and were continued upwards beyond the capitals, forming, with three cross lintels, and the uprights inserted between them, frontispieces of a peculiar and striking character. In the immediate vicinity of the tope, caves and tumuli presented themselves to view, the former being the residences of

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priests, the latter for the most part burying-places, perhaps in some instances smaller relic shrines. The tumuli of India now remaining have no features which would entitle them to be regarded as architectural objects, but are remarkably analogous to the barrows of Europe and other parts of the world; it is probable, however, that many of them, like the tombs of Ceylon, Thibet, and other Buddhist countries, were decorated similarly with the topes. The dagobas, or copies of them, occupied the sanctuaries of the cave temples." *

The same authority supplies us with the following description of buildings for warlike purposes in the province where the style of sacred architecture just referred to is most generally found:—"The fortresses of Gujerat, such at least as are situated in the plains, are square, or nearly square, in form, with large gateways in the centre of each side, and outworks or barbicans in front, and second gateways in the sides of the outwork. At each corner is a bastion of the 'broken square' form, and four rectangular bastions intervened between each corner tower and the central gateway. The walls are of solid mason work, ornamented at intervals with sculptured bands, and completed by semicircular *kangras*, or battlements, screening the platformed way in the interior, along which the warders passed. The gateway resembles the nave of a southern choultry: there are six engaged pillars on either side, from which springs large brackets, or rather systems of three rows of bracketing, and upon these is laid a flat stone roof.† A colonnade follows the line of the walls on the inside, forming a lengthened covered portico, with a broad platform above. Each fortress contains reservoirs of water of two kinds: the first tank, the *surowur* or *tulow*; the second is the well, the *wav* or *bowlee*. Besides the sacred edifices and fortresses of the Hindoos, there are various other architectural remains.

The tanks may be considered not only as great and useful public works, but as affording in many cases opportunities for architectural skill and taste. These works were stupendous, covering frequently an area of several miles. Temples were built round their edges, and shrines were placed on the steps leading to them. This, however, was not so generally the case when they were constructed for irrigation, as when intended for religious lavations. At Veerungaum there is a tank, which is crowned with three hundred shrines. At Unhilpore Puttem there is a tank, the shrines and other archi-

* *Bombay Quarterly Review*.

† For a view of one of these gateways, see *Ras Mâlâ*, vol. i. pl. i. For plans and elevation of corner towers, see figs. 1 and 2, vol. i. pp. 251, 252, of the same work.

tectural designs connected with which have long ago disappeared, which bears a name, meaning, "The reservoir of the thousand temples of Siva." The Mohammedans paid much attention to the preservation of these tanks, and frequently erected in the centre a mound, connected with the edge of the reservoir by a viaduct. These mounds were sites of tombs or garden palaces. It is likely that the Mohammedans derived this custom from the Buddhists, for in purely Buddhist countries, where large tanks are used, the habit of erecting small garden palaces on islands in the centre still exists.

The wells are broad and deep. Galleries pass round the walls, and flights of stone steps, admirably constructed, descend to the water.

The bridges were once numerous, but have fallen into decay; the remains of some are interesting in an architectural point of view. They are generally composed of stone posts, held together by beams of masonry, some of which are surmounted by small gothic arches.

The houses of the wealthy Hindoos are often mean and clumsy, but generally they are well adapted to the requisites of a private or palatial residence, as the case may be. In some places, as at Bombay and Serampore, considerable taste and much opulence is displayed by the more powerful natives. There is, however, a disposition to imitate the style of the English, whose dwellings are not erected in much better taste in India than at home.

The tombs are magnificent, especially those founded by Mohammedan princes. Several of them have been described in the chapters set apart to the subjects of provinces and chief cities. The mausoleum of Sheik Selim, at Futtehpore Sikree, is one of the finest, of which no description is given in previous pages. The celebrated Akbar, led by superstitious feelings, took up his residence at Sikree, and erected numerous edifices for religious and civil purposes. Captain Stocqueler gives the following account of them:—"The quadrangle, which contains a mosque on the west side, and the tomb of the old hermit in the centre, is perhaps one of the finest in the world. It is five hundred and seventy-five feet square, and surrounded by a high wall, with a magnificent cloister all around within. On the outside is a magnificent gateway, at the top of a noble flight of steps, twenty-four feet high. The whole gateway is one hundred and twenty feet in height, and the same in breadth, and presents beyond the wall five sides of an octagon, of which the front face is eighty feet wide. The arch in the centre of this space is sixty feet high by forty wide. The gateway is ex-

tremely grand and beautiful, composed of red sandstone, with inlaid decorations of marble; but the beholder is struck with the disproportion between the thing wanted and the thing provided. There seems to be something quite preposterous in forming so enormous an entrance for a poor diminutive man to walk through; and walk he must unless he is carried through on men's shoulders; for neither elephant, horse, nor bullock, could ascend the flight of steps. 'In all these places the staircases, on the contrary, are as disproportionately small. They look as if they were made for rats to crawl through, while the gateways seem as if they were made for ships to sail under.' The tomb of Sheik Selim, the hermit, is a very beautiful little building, in the centre of the quadrangle. It once boasted a great deal of mosaic ornament." The same author describes certain erections attributed to the Jats in the following terms:—"At Deeg is a noble quadrangular garden, constructed by the Jats during their ascendancy. It is four hundred and seventy-five feet long by three hundred and fifty feet wide; and in the centre is an octagonal pond, with openings on four sides, leading up to four buildings, which stand in the centre of each face of the garden. These buildings are justly accounted the most beautiful Hindoo edifices for accommodation ever erected. They are formed of a very fine ground sandstone, brought from the quarries of Roopbas, which are eight or ten miles south-west of Futtehpore Sikree. These stones are brought in in flags, some sixteen feet long, from two to three feet wide, and one thick, all sides as flat as glass, the flags being of the natural thickness of the strata. The openings spoken of above have, from the centre of the pond to the foot of the flight of steps leading from them, an avenue of *jets d'eau*."

The architectural remains of the Mohammedans are necessarily more modern than those of the Hindoos, but only a few of their religious buildings are of remarkable pretension. Palaces, tombs, and halls of justice, of great beauty, built by the followers of the prophet, are found in Upper India. In the pages which described these provinces, notices have been given of several of them. Captain Stocqueler, whose admiration of these buildings is excessive, says:—"India abounds with monumental remains, and when all that England has accomplished in the architectural way shall have crumbled into dust, those majestic remains will remain to attest the superiority, in this respect, of Hindoos and Mussulmen."

Mr. Fergusson, who looked upon the ar-

PUTTYPORK SICILY, NEAR AGRA.



chitectural works of India with the eye of an accomplished artist, gives a more sober and judicious estimate, and yet one highly creditable to the Hindoo race:—"It would be as reasonable to compare the Indian epics and dramas with those of Homer and Sophocles, as to compare the Indian style of architecture with the refined elegance and intellectual superiority of the Parthenon and other great works of Greece. Probably a nearer comparison might be instituted with the Gothic styles of the middle ages; yet, while possessing the same rich irregularity and defiance of all rule, it wants that bold manliness of style, and loftiness of aspiration, which distinguishes even the rudest attempts of those enthusiastic religionists. Though deficient in these respects, the Indian styles are unrivalled for patient elaboration of the details, which are always designed with elegance, and always executed with care. The very extent of ornamentation produces feelings of astonishment, and the smaller examples are always pleasing, from the elegance of the parts, and the appropriateness of the whole. In no styles is the last characteristic more marked than in those of India; for whether the architects had to uphold a mountain of rock, or the airiest domes, or merely an ornamental screenwork, in all instances the pillars are exactly proportioned to the work they have to do, and the ornaments are equally suited to the apparent strength or lightness of effect which the position of the mass seems to require. No affectation, and no imitation of other styles, ever interfere to prevent the purpose-like expression of every part, and the effect consequently is always satisfactory and pleasing; and when the extent is sufficient, produces many of the best and highest modes of expression of which the art of architecture is anywhere capable."

To the architecture of Western Europe Mr. Fergusson assigns a place inferior to that which the art in India is entitled to occupy in the general estimation of the educated. He bases this estimate upon a principle: he affirms that the architecture of Europe generally, for some hundreds of years, has been a servile copying of ancient styles, and under circumstances where utility and appropriateness to the purpose of the building have been excluded from consideration; and he opines that by this means improvement has been rendered next to impossible, and the creation of a style suitable to modern genius and European ideas, entirely so. In the first period of the progress of the architectural art, he avers that development arose by the constant maintenance of the principle, that the character of the structure should be in keep-

ing with its intended use. His words are:—"In the first period the art of architecture consisted in designing a building so as to be most suitable and convenient for the purposes it was wanted for, in arranging the parts so as to produce the most stately and ornamental effect consistent with its uses, and applying to it such ornament as should express and harmonise with the construction, and be appropriate to the purposes of the building; while at the same time the architects took care that the ornament should be the most elegant in itself which it was in their power to design. Following this system, not only the Egyptian, the Greek, and the Gothic architects, but even the indolent and half civilized inhabitants of India, the stolid Tartars of Thibet and China, and the savage Mexicans, succeeded in producing great and beautiful buildings. No race, however rude or remote, has failed, when working on this system, to produce buildings which are admired by all who behold them, and are well worthy of the most attentive consideration." It is from the want of the principle here insisted upon, and the prevalence of an absurd and servile imitation, that in Mr. Fergusson's opinions the architecture of Europe suffers in comparison with India, notwithstanding the faults by which the latter is characterised. Mr. Mill, in his History, instances the success of the Mexicans and other nations, reported rude in works of architecture, as proofs that nothing favourable to the early civilization of India can be inferred from the admirable public edifices which adorn that land, or tell of its architectural glory in ages remote. The philosophy of the facts that people of an inferior civilization in many respects are capable of great things in this, is fairly stated by Mr. Fergusson. He regrets that India has not advanced to perfection, but still more deplores that Europe has retrograded, and, on the whole, puts forward a high claim for the renown of the former.

In the nations contiguous to India proper, such as the Punjaub, Cashmere, Afghanistan, and which, although generally, are not specifically, included in the term India, very early progress was made in architecture. Traces of Greek style have been found in the remains extant, which some have attributed to the influence of the invasion of Alexander, but which others affirm have an anterior origin. Important and skilful investigations have been made as to the architectural remains of Cashmere. It is alleged that these evidence the influence of Grecian art, and the style has received the designation "*Arian*," from the Greek term in architecture—*Arastyle*, which is applied to the intercolumniation of four

diameters, a feature of the architecture of Cashmere. The Cashmerian is distinguished by graceful outline, massiveness, suitable ornament, "lofty roofs, trefoiled doors surmounted by pyramidal pediments, and wide intercolumniations." The Cashmere temples are of three kinds—oblong, square, and octagonal; which are again subdivided into the closed and the open, the latter having doors on four sides; the former but one entrance. In their proportions the architects appear to have generally made the height of the temple equal to twice its breadth. These basements are divided into two kinds, the massive and the light, according to the character of their mouldings. The walls of the Cashmerian temples are made of huge blocks of grey limestone, secured together by iron clamps; their dimensions vary considerably, the older ones being shorter than those of more modern origin. The roofs of these Cashmerian temples are of pyramidal shape, sometimes broken into two equal portions, divided by a broad moulding, and occasionally into three or four such divisions. The height of the portico varies in different localities; sometimes it reaches only to one-third of the height of the roof; in others it extends to the top of the roof. The pillars in the Cashmerian temples are of two kinds, round and square; and, unlike the many varieties of Hindoo pillars, are always divided into the three distinct parts of base, shaft, and capital. The square pillars are only employed in corner positions; whilst the round pillars are used throughout the colonnades, and in porches. These are always fluted with from sixteen to twenty-four flutes; the numbers decreasing with the diameter of the column. The shafts were usually three or four diameters in height. The capital seems to have been nearly always equal in its height to the upper diameter of the column. The heights and breadths of the bases do not appear to have been formed by any fixed rule. The distances between the columns were nearly always equal to two-thirds of the total height of the pillars.*

In the Punjab, especially on certain portions of the frontiers of Affghanistan and Cashmere, there are very ancient and interesting remains. The province of Peshawur, although its more perfect buildings, especially around the city of Peshawur, are Mohammedan, contains various ruins of a remote antiquity. A British officer† published in 1852, in the *Transactions of the Bombay Geographical Society*, an account of this province very general in its character, but more particularly as to its geographical and topogra-

phical peculiarities, and the traces of ancient peoples and their works. He travelled in the Eusufzai country. In describing the neighbourhood of Kathamar, he relates that a stone or slab was regarded with reverence by the people, and called by them *Lang-i-Newishtah*, or "the inscribed stone." The characters inscribed were unknown to the people, but from their description he supposed it to be Greek. The lieutenant had been refused, by his superior officer, leave of absence for the purpose of visiting it, on the ground of the danger he would incur. He says: "I tried to get a copy of the character of the stone, but without success. There is no doubt but that there are numerous remains of antiquity in this part of the country; and it is here we must search for the rock of Aornos, and the cities of Ora and Bezira, mentioned by the Greek historians." Writing of the hill of Chechar, he observes:—"Its summit consists of a space of ground four hundred yards long by a hundred yards in breadth, and is covered with the remains of buildings built on platforms. One in particular, the largest, consisted of a raised platform of about eighteen feet in height, and sixty square. On this stands what appears to be the remains of a temple, and the whole place was strewn with the carvings of men and elephants in different positions. The buildings are constructed of a bright yellow-coloured soft stone, whilst the carvings are all in slate. Since I saw the place several figures, as large as life, and extremely well executed, have been dug up. They are of a white composition, something similar in appearance to plaster of Paris. One of these figures has, I believe, been forwarded to the governor-general. The ruins are evidently Buddhist. The plain at the base of this hill is covered with a forest of wild tea and other trees." On the Koh-i-Rama Mountains, near the summit, the lieutenant saw a cave called the *Ismus-i-Kashnir*, which is said to lead into Kashmir (Cashmere). Within the cave were numerous images; but Mr. Raverty found entrance difficult, in consequence of the extraordinary number of flying foxes.

West of Suyedabad there is a range of hills, the summits of which are "covered with ruins of various sorts and dimensions; but they are so fresh and sharp in appearance, that one would suppose they had not been erected for a year. The southern part, which is the highest, is covered with an extensive ruin, called by the country people *the throne of Behee* (one of the sons of a celebrated rajah). About the centre of the hills to the west there are the ruins of a temple, or something of the kind, on a very large scale; and

* *Journal of the Asiatic Society of Bengal.*

† Lieutenant H. G. Raverty.

the remains of a great number of pillars, of a curious shape, and hollow inside, the stone of which all the ruins are composed, is of a bright yellow colour, soft, smooth to the touch, and breaks into flakes. The blocks of stone are merely squared on the inside and outside, the interstices being filled up with fragments of the same kind of stone, but so exquisitely, that it would almost lead one to suppose that the stone had been used in a melted state, and had turned into stone exact in appearance with the other blocks. From what I have said of the stone being only squared inside and out, it must not be imagined that the work was clumsily executed, for the workmanship is beautiful; and the whole seems to have been the work of a people as well versed in the science of architecture as we are, if not better. The hills round Pallai were covered with similar ruins. The architecture bears no similarity to the Greek style; and the inhabitants say they are the ruins of Caffre cities, with which the whole of the surrounding country is covered, more particularly Suwat. I have no doubt that important discoveries might be made here at very little trouble and expense."

The painting of the Hindoos may be described very much as in the chapter on China that of the Chinese was represented—accurate in imitation, the colours skilfully manipulated, but deficient in taste, originality, and perspective. Mr. Capper says:—"The Hindoo paintings are generally accurate, but they seldom evince much attention to light and shade. Some of their walls are ornamented by mythological representations, others by battles, figures of human beings, and animals, sometimes accompanied by an awkward attempt at a landscape. They have also pictures and illustrated manuscripts, but with the figures of these they were not very happy. The portraits executed by the Mussulmen are far superior to those of the Hindoos."

During the spring of 1858 a very interesting collection of paintings, which had been brought from India by Mr. G. P. White, C.E., was exhibited in the Strand, London, at the shop of Mr. Bone, silversmith. It consisted of miniatures done on ivory by the native artist of the King of Delhi, likenesses of that personage, and of members of his family. There were also views taken in and around Delhi, executed with delicacy, and highly finished. In the museum of the India-house there are specimens of pictures executed by native artists.

Although in sculpture the people of India made some progress, and their talent for carving figures in hard wood and pith is admirable, the statuary of the Hindoos is far inferior to that of the nations in Europe least

famed for that department of the fine arts. None of the figures executed by the Hindoos, whether of men or deities, objects of common life or mythological subjects, bear a comparison with the works of the Greek and Roman, or modern Italian, British, and French artists. Some of the facts here recited appear somewhat contradictory to the statements of a very recent and credible writer.

In Yule's *Ava* an estimate of Indian pictorial art, as compared with that of the Indo-Chinese, is worthy of remark, as bearing on this subject. Captain Yule acted as secretary to the mission of Major Phayre to Ava in 1855, and was well qualified to pronounce an opinion on this subject. "The Birmese took much interest in the pictures which Captain Tripe, Mr. Grant, and the sketching members of the mission, produced; and even the photographs, though all remaining in the negative stage, appeared to be understood, and in some degree appreciated by them; while they were gratified, and perhaps somewhat surprised, at the interest and admiration expressed by us for many of the buildings which formed the subjects of pictorial representation, especially the highly-carved monasteries. It was very striking to see this capacity for the appreciation of views and sketches on the part of the Birmans, for the organ of such appreciation is absolutely wanting in all the people of India with whom we are accustomed to deal. The fact is singular; but I believe all who have lived in India will bear testimony to it, that to natives of India, of whatever class or caste, Mussulman, Hindoo, or Parsee, 'Arryan or Tamulian,' unless they have had a special training, our European paintings, prints, drawings, and photographs, plain or coloured, if they are landscapes, are absolutely unintelligible. If portraits, they may know them to represent humanity; but the most striking *likeness* they scarcely ever recognize. Maps rarely can be made intelligible to them. I have been asked in good English by a Parsee, who looked over my shoulder at a print of Kensington Palace, whether it did not represent a steamboat! A learned pundit has been known to inquire, on being shown a print of the winner of the Derby, 'Is that *London Khas*?' (Royal London). The memory of every Anglo-Indian will suggest such anecdotes. As to rough pencil sketches, they convey to the natives of India as little intelligible meaning as the graven edicts of Asoka did to the world before James Prinsep. This defect is the more strange, because found so universally among those Indian races whose features and language seem to class them as kindred with our German ancestry, while among the Indo-Chinese nations, so far as my

experience goes, including the people of Birmah and Arracan, and ruder tribes of our Eastern frontier, the faculty of appreciating the meaning and accuracy of drawings and resemblances in portraiture, even when of a very sketchy character, is never altogether absent. Of the objects and meaning of a map also they have generally a very fair idea. I present this to the ethnographers as an interesting distinctive feature, which I do not remember to have seen noticed before." *

The rage for panegyrising ancient Indian art so prevalent among the Philo-Indians has been unscrupulous, certainly much of the praise bestowed is not founded in the merits of the works themselves. The arguments employed by these panegyrists, to prove the derivation of Western art from India and Egypt, are refuted by modern investigation. The mental peculiarities and taste which accompanied the Arryan invasion of India were not superior to the qualities by which other families of men were distinguished among the ancient wanderers, who, departing from the Armenian tableland, sought permanent settlements in every direction. This might be proved by a great variety of facts and illustrations. Choosing one not likely to be thought of by the majority of readers,—the ancient civilization of Ireland,—demonstration is afforded. At a period quite as remote as any fixed upon by Anglo-Indians for the development of taste in works of art in India, the Irish had attained great proficiency. There are no specimens of Indian art extant which can compare with the remains of ancient art in Ireland. The execution in metals, especially in the precious metals, attained among the Irish to a very high point of perfection. The caligraphy of ancient Irish manuscripts far surpasses anything that has ever been seen in India. The illuminated Irish manuscripts now in Trinity College, Dublin, in the British Museum, London, in Paris, and other cities of the continent, are superior to any ever known either in the Eastern or Western world. The engravings on stone yet remaining on the Irish crosses are exquisitely artistic—so much so, that persons unwilling to concede an early civilization to Ireland have represented them as the work of Italian artists, and sent from Italy to that country, or at all events the work of Italian artists there. The answer is that the style in which these gravings are executed was unknown to Italy; the materials are not Italian, but Irish; and the inscriptions are

invariably in that language, and in a style identified with the period to which the works executed are attributed. In another chapter—that on the religions of India—the origin of various Christian superstitious customs was shown to be Eastern, traceable to Babylon. There is reason to believe that while Ireland did not receive her art thence, she did receive certain superstitions, which have left their impress upon her Christian remains. The form of the ancient crosses, upon which elaborate carvings are found, is not Christian, but pagan, and evince a style of art older than Christianity, and which had existed from a period near to that when the Deluge subsided, and the progeny of Adam went forth again to people the earth. It would not be pertinent to the subject of art in India to follow this theme farther than to quote a few authorities, showing that Europe is indebted to Ireland, not to remote Asia, for her early knowledge of various departments of art, and for much of her civilization. Geraldus Cambrensis, who accompanied Henry II. of England as chaplain, thus refers to what is commonly known to antiquarians as the *Book of St. Bridget*:—"This book contains the four gospels, and is adorned with almost as many illuminated figures as it has pages [after a minute description of the figures, he proceeds], which, if carefully surveyed, seem rather blots than intertwined ornaments (*ligaturæ*), and appeared to be simple where there was in truth nothing but intricacy. But, on close examination, the secrets of the art were evident; and so delicate and subtle, so laboured and minute, so intertwined and knotted, so intricately and brilliantly coloured, did you perceive them, that you were ready to say they were the work of an angel, and not of a man." Of the *Book of Kells*, another illuminated work of ancient Ireland, Mr. J. O. Westwood writes:—"Ireland may justly be proud of the *Book of Kells*. This copy of the gospels, traditionally said to have belonged to St. Columba, is unquestionably the most elaborately executed manuscript of early art now in existence." The same writer says:—"At a period when the fine arts may be said to have been almost extinct in Italy and other parts of the continent—namely, from the end of the fifth to the eighth century—the art of ornamenting manuscripts had attained a perfection almost miraculous in Ireland. Another circumstance equally deserving of notice is the extreme delicacy and wonderful precision, united with an extraordinary minuteness of detail, with which many of these ancient manuscripts are ornamented. I have examined with a magnifying glass the pages of the *Gospels of Lin-*

* *A Narrative of the Mission sent by the Governor-general of India to the Court of Ava in 1855, with notices of the Country, Government, and People.* By Captain Henry Yule.

disfarne and the *Book of Kells*, without detecting a false line or irregular interlacement; and when it is considered that many of these details consist of spiral lines, and are so minute as to have been impossible to have been executed by a pair of compasses, it really seems a problem not only with what eyes, but also with what instruments, they could have been executed. The invention and skill displayed, the neatness, precision, and delicacy, far surpass all that is to be found in ancient manuscripts executed by continental artists." Sir William Bentham, in his *Irish Antiquarian Researches*, says, speaking of various ancient illustrated books, "They are monuments which Irishmen may exultingly produce as evidences of the civilization and literary acquirements of their country, produced at an age when other nations of Europe, if not in utter ignorance and barbarism, were in their primers, their very horn-books." Henry Noel Humphreys, in his work entitled *Illuminated Works of the Middle Ages*, observes:—"It was in the West that the extraordinary variety and fertility of invention that distinguished the art of the illuminator arose." The style appears to have arisen among our British and Irish rather than among our Saxon ancestors, although such manuscripts are generally termed Anglo-Saxon. M. Digby Wyatt, a name well known to British art, avers:—"In the practice of art the Irish were in advance of all Europe. The zeal of the Irish missionaries, and their peculiar creed and art, were not confined to the British Isles. In the seventh century the Monastery of Babbio, in Northern Italy, was established by Columbanus, and that of St. Gall, in Switzerland, by Gallus, both Irish missionaries. Of the same period and country was St. Kilian, the apostle and martyr of Franconia, St. Fridolm, founder of the Monastery at Seckingen, and St. Fenden, of that of Rheinan. Pelagius, the propounder of the celebrated Pelagian heresy (*circa*, A.D. 400), had set an example of Irish vigour of thought and activity of body which appears to have been lost on the later missionaries. Abuin, the friend and instructor of Charlemagne, calls them *gloria gentis*; whilst another writer observes that travelling appears to be their prevailing passion. In the seventh century especially, Ireland was celebrated for its illuminated books, its authors, its music, and its academies. That its influence extended much farther than is generally supposed would appear to be certain; and not only did Scotland, Wales, Cornwall, the north of England, and Scandinavia, adopt its peculiar system of ornament, but some of the most celebrated illuminated works in the various

libraries of Europe are now discovered to have emanated from that school."

Among the beautiful remains of Irish art, her sculptured crosses must stand as the most remarkable. The reader who has leisure to peruse the work of Henry O'Neil, on the *Ancient Crosses of Ireland*, will find abundant proof of this assertion.

The same author in another of his works * shows that Irish workmanship in metals arrived at distinguished perfection in a far remote age.

If these statements be correct, then it follows that from an age anterior to any of which we have clear proof of the existence of art in India, to a period when the early art of India had long sunk into decay, Ireland had maintained a high, and in some respects the highest, place, although she never attained to the perfection of Greece in executing representative figures. The extravagant assertions of the highest and most ancient place in art for the race which now chiefly peoples Hindostan, is confuted by the facts which research in Irish antiquarian lore has brought to light. It is probable that many other ancient races have also surpassed the Hindoos in this respect, as has been repeatedly asserted by those who, unconnected with India, have no fascination or prejudice for what relates to it.

According to the *Asiatic Researches*, the Hindoo music consists of eighty-four modes, each of which possesses a different expression; they are capable of exciting emotions of as many different kinds. These modes receive their name from the seasons of the year, and the hours of the day, with which it is believed they have some mystical or occult connexion. The melodies are often plaintive, and a resemblance to old Celtic music has been recognised, although distinguished by a wild cadence altogether peculiar. Some distinctive peculiarity will be found in all national music, the soul of a people is breathed in their native melodies; the joy and sorrow of their history, and the aspirations of their hopes, are all made vocal in their song. It is to be expected that this would be the case with so original a race as the Hindoos; and it is therefore, as well as on other grounds, to be regretted that so little attention has been paid by the musical doctors of Europe to this department of Indian art. The musical instruments employed are rude: the vecca, or Indian lyre, the fiddle, drum, tom-tom, and some others coarse and most dissonant, are sources of delight to the people. It is said that there are many among the educated

* *A Descriptive Catalogue of Illustrations of the Fine Arts of Ancient Ireland*. Collected by Henry O'Neil.

natives who appreciate good music; the masses of the people, and a large majority of the higher classes, certainly do not. On occasions of their festivals, the thumping of drums with their hands, the strange commingling of other instrumental sounds, with a hubbub of screaming voices, constitute an uproar of the most unendurable discord to the European, but a means of entertainment to the native that greatly conduces to his enjoyment. The finest military bands fail to awaken similar sensations. The singing by a native woman of one of their planxties would attract the roughest marauder, and detain the most time-bound traveller among the natives. The sepoys became accustomed to British tunes, and during the mutiny caused the captured European drummers and fifers to play *Cheer, boys, cheer*, and other tunes which served as marches. In the chapter on Ceylon it was shown how formidable to Europeans the beating of tom-toms, and screeching of dissonant pipes, constantly maintained day and night during the seasons of Buddhist religious ceremonies; along the coast of Coromandel and Malabar a similar din is kept up during certain seasons devoted to Brahminical or Mohammedan devotion.

The medical science of the natives of India, like most other of their attainments, has been a subject of discussion in Europe. Some have contended that the medical knowledge of the ancient Hindoos was derived from the Greeks; others have strenuously maintained that the Greeks derived all their knowledge of medicine and the healing art from oriental sources. The most ancient book on medical subjects extant in India is the *Ayur Veda*, this work is attributed by the Brahmins to Brahma himself; from the notices which oriental scholars afford of it, the ancient state of medical science in India was extremely rude. Certain other works, those of Susruta and Charaka, contribute some little additional knowledge of early Hindoo medical knowledge. From all the records we possess, it appears that anatomy formed the basis of the medical and surgical arts. The laws of caste do not appear to have interfered materially with the study of anatomy, the end, in the eyes of the Brahmins, sanctified the deed. From their anatomical researches they obviously understood the danger of wounds inflicted upon various parts of the person inducing tetanus; their ideas of the nervous system were confused and contradictory, but the existence of such a system was known. According to Wise's *Hindoo System of Medicine*, life consists of the soul, mind, physical senses, and the moral qualities of meekness, passion, and

goodness. The vital principle is supposed to reside in the centre of the man, which, according to "the system," is in his chest, and is believed to be a mingling of all the human qualities.

Death is the separation of the soul from the body. It occurs naturally from old age, but it happens also in a hundred other ways, chiefly caused by sin either in the present or a former state of existence. Disease has its origin from sin, from derangement of the humours of the body, or from both those causes together. From the first and third of these sources, mortal diseases originate; those derived from the second medium are curable by skilful treatment.

The number of diseases attributable to these media are exceedingly numerous. Measles and small-pox were well known to the Hindoos in remote antiquity, and there are proofs that the latter was propagated from Asia to Europe, and some writers say from India. Inoculation was resorted to at an early stage of Hindoo civilization, but it seems rather to have spread the disease, although in a less virulent form. The beri-beri, a dropsical disease, prevalent in both Western and Eastern India,—although not common on the highlands of the Deccan, nor in Hindostan proper,—is an ancient disease. Rheumatisms prevail after the monsoons, and among those who work in the paddy-fields,—and this appears to have been the case as far back as can be traced. Leprosy prevailed in ancient India as in other Asiatic nations; and epilepsy, so common to northern and western Asia, has been also common in India from remote ages. "We find, in their medical treatises, mention made of sixty-five diseases of the mouth, twenty diseases of the ear, thirty-one of the nose, eleven qualities of headache, besides an infinity of disorders of the throat. Mention is likewise made of consumption, as though it were not only of frequent occurrence, but oftentimes fatal in its result. The study of poisons and their antidotes formed by no means an insignificant portion of medical study among the Hindoo practitioners of all ages; a fact which, considering the oriental fashion of getting rid of an enemy by this means, is not to be wondered at. There was also the study of animal poisons; the dissertations upon the bites of snakes, poisonous insects, &c., are numerous, and at the same time in accordance with the practice of experienced surgeons of the present day. Hydrophobia was also known, and prescribed for in a variety of forms." It appears that the Hindoos possessed some herbal agency specific in that disease.

The general mode of treatment was influenced by superstition,—forms and ceremonies, as various as they were useless, were prescribed for the physician as well as the patient; and when the disease was incurable, the object seems to have been to hasten death by abstinence, mental excitement, or even suicide.

There is a striking resemblance in the treatment by the physicians in India to that relied upon by those of Ceylon and China. The medical system became at once more complicated and at the same time more superstitious after the introduction of Buddhism, although, according to the Institutions of Menu, very absurd obligations were laid upon the patient in cases of hopeless malady; thus, one article of that famous code ordains, "If a disease be incurable, let the patient advance in a straight path towards the invisible north-eastern point, feeding on air and water until his mortal frame totally decay, and his soul become linked with the supreme being."

The *Materia Medica* of the Hindoos embraces not only a vast number of drugs and vegetable simples abounding in their country, but a variety of chemical compounds, as well as acids and some of the oxides, with the uses of which they appear to have been conversant from an early period. Their pharmacy, although embracing many matters of value, and in some parts much in accordance with European practice, is nevertheless so overcrowded with innumerable substances as to bewilder and perplex the student. They employed in their pharmacy preparations of mercury, gold, zinc, iron, and arsenic to a degree that could scarcely have been expected from people who blended so much of the fabulous and the absurd in their practice. In their measures of time they commenced with fifteen winks of the eye; and their apothecaries might begin with four of the particles of dust which are seen floating in the sun's rays as they enter a dark room. The rules laid down for the administering of medicinal doses are minute to tediousness; and among other things it is expressly stated that the patient must not make faces when taking medicine, as by doing so he would be like Brahma and Siva, and therefore commit a great sin.

However deficient we find the present race of Hindoo practitioners in the science of surgery, there is no doubt but that their ancestors possessed a skill in the performance of delicate and dangerous operations scarcely to have been expected in those days. The treatises still extant on these subjects are good proof of the state of their surgery, which, however, was evidently, as in other

branches of the art, mixed up with much puerility and childish superstition. Certain times were to be selected for the performance of operations; devils were to be driven away from the wound by burning certain sweet-scented flowers; the patient and operator must be placed in certain relative positions, and other observances equally frivolous and absurd.*

The philosophy of the Hindoos was speculative rather than practical. Their speculations were *de natura deorum*, or concerning the ultimate destiny of man, and the best means of promoting in this world a desirable condition in a future state of existence. Their philosophy and their theology are identical, and both, as has been shown in the chapter on the religions of India, are derived from the most ancient forms of the Chaldean and Persian, and are corruptions of both. In the system of Zoroaster, and that of the Brahmins, we find the same lofty expressions concerning the invisible powers of nature; the same absurdity in the notions respecting the creation; the same infinite and absurd ritual; the same justness in many ideas respecting the common affairs of life and morality; the same gross misunderstanding in others; but a striking resemblance between the two systems, both in their absurdities and perfections. The same turn of imagination seems to have belonged to the authors of both; and the same aspect of nature to have continually presented itself; the deformities, however, of the Hindoo system being always the greatest.†

That the Hindoos at a very early period cultivated metaphysics, Doctor H. Hayman Wilson,‡ and M. Cousin,§ have conclusively showed; but that their attainments were entitled to the praise bestowed by those eminent persons may well be denied.

The love of metaphysical and ethical speculation, so characteristic of the ancient Hindoos, has descended to the modern inhabitants of India, whether Brahmin or Mohammedan. Gibbon says that "metaphysical questions on the attributes of God, and the liberty of man, have been agitated in the schools of Mohammedans as well as those of the Christians;" and that this remark will apply to India. Mr. E. Elphinstone confirms, for he says that, "if the rude Affghan is ever stimulated to any degree of literary activity, it is when pursuing the subtleties of metaphysical speculation."

The philosophical theory of materialism in

* John Capper, F.R.A.S.

† Mill's *British India*.

‡ *Notes on Mill's British India*.

§ *Cours de l'Histoire de la Philosophie*. Par M. V. Cousin.

its grossest forms existed among the early Hindoos, and was revived by the Buddhists. The doctrine of immaterialism, as it may be called, which the unbelieving Hume and the amiable and orthodox Bishop Berkeley laboured to revive in our country, had also a place in the philosophy of the Hindoos. The materialism of the Hindoos, as a religious doctrine, has been described to the reader in the chapter which treated of their theology; the opposite theory was embraced more as a philosophical than a theological doctrine, although it also, with certain sects of both Brahmins and Buddhists, became a religious tenet.

Dr. Dugald Stewart, to whose labours modern metaphysics—especially in Scotland—owes so much, records an expression of this theory, related to him by Sir James Mackintosh, from the conversation of a Brahmin. "He told me, that besides the myriads of gods whom their creed admits, there was one whom they know by the name of Brim, or the great one, without form or limits, whom no created intellect could make any approach towards conceiving; that, in reality, there were no trees, no houses, no land, no sea, but all without was Maia, or allusion, the act of Brim; that whatever we saw or felt was only a dream; or, as he expressed it in his imperfect English, thinking in one's sleep; and that the re-union of the soul to Brim, from whom it originally sprung, was the awakening from the long sleep of finite existence." The comment of Sir James himself upon this passage was as follows:—"All this you have heard and read before as Hindoo speculation. What struck me was, that speculations so refined and abstruse should, in a long course of ages, have fallen through so great a space as that which separates the genius of their original inventor from the mind of this weak and unlettered man. The names of these inventors have perished; but their ingenious and beautiful theories, blended with the most monstrous superstitions, have descended to men very little exalted above the most ignorant populace, and are adopted by them as a sort of articles of faith, without a suspicion of their philosophical origin, and without the possibility of comprehending any part of the premises from which they were deduced."

Sir William Jones takes a much more favourable view of this philosophy than Dugald Stewart or Sir James Mackintosh. He defends it in the warm, earnest, and eloquent language in which his apologies for the Hindoos are so often expressed. In defending this school (commonly called the *Vedanti* by Indian scholars) he thus writes:—"The fundamental tenet of the Vedanti school con-

sisted, not in denying the existence of matter, that is, of solidity, impenetrability, and extended figure (to deny which would be lunacy), but in correcting the popular notion of it, and in contending that it has no essence independent of mental perception, that existence and perceptibility are convertible terms, that external appearance and sensations are illusory, and would vanish into nothing if the divine energy, which alone sustains them, were suspended but for a moment; an opinion which Epicharmus and Plato seem to have adopted, and which has been maintained in the present century with great elegance, but with little public applause; partly because it has been misunderstood, and partly because it has been misapplied by the false reasoning of some unpopular writers, who are said to have disbelieved in the moral attributes of God, whose omnipresence, wisdom, and goodness, are the basis of the Indian philosophy. I have not sufficient evidence on the subject to profess a belief in the doctrine of the Vedanta, which human reason alone could, perhaps, neither, fully demonstrate, nor fully disprove; but it is manifest, that nothing can be further removed from impiety than a system wholly built on the purest devotion."

Upon this passage, Dugald Stewart makes the just critique, that the philosophy of Berkeley and Hume, to which Sir William refers, was misunderstood by the great orientalist, and Mr. Mill exposes with just severity the hyperbolic eulogies which Sir William bestowed upon this philosophical school. Professor Wilson, whose vast oriental scholarship enabled him to detect the errors of fact into which Mr. Mill so frequently fell when treating of Hindoo antiquities, pursues him with his usual unsparing severity in this case, and describes him as reasoning unfairly concerning the Vedanti philosophy, the professor referring to the various authorities from which, since Mr. Mill's day, a correct knowledge of the matter may be obtained.* A fair investigation of these authorities will generally bear out Mr. Mill's opinions, and deliver him from the caustic censure of his learned but too stern critic. There can be no doubt that the ideal or immaterial theory of Berkeley was held by a philosophical sect of ancient Hindostan, but so modified by the polytheistic doctrines recognised by its disciples, as to present it in a very different aspect.

As far as one can judge from the scraps

* Colebrooke; Dr. Taylor; Ram Mohun Roy; Sir Graves Haughton; Colonel Van Kennedy. *Transactions of the Royal Asiatic Society*; *Translation of the Prabodha Chandrodāsa*; *Translations from the Vedas*; *Asiatic Journal*, &c.

and opinions afforded to us by ancient Sanscrit scholars, there was a school of ancient philosophers who rejected the immaterial theory, reasoning from the starting-point of Descartes, *Cogito ergo sum*. From all that can be gathered, the early Hindoos appear to have cultivated general and abstract speculations, and to have imported into their theology their metaphysical theories, more and more corrupting the earliest system of religion which prevailed among them. Their metaphysical studies, instead of aiding religion, obscured it; instead of unfolding the constitution and operations of the human mind, made man more a mystery to himself; instead of laying the foundation for a pure theory of ethics, "darkened counsel by words without knowledge," set up false standards of practical guidance, and influenced unfavourably and lastingly the intellectual and social life of India.

The science of politics has been always at the lowest point throughout India. The people are highly gifted with diplomatic talent. The mental constitution of the Hindoo is subtle, and in a certain sense refined; but as a people they are deficient in directness of mind, always preferring the arts and devices of political intrigue to the manly honesty of avowing and maintaining broad and determinate principles. The condition of India throughout its whole history has fostered this spirit of underhand expertness. Divided into a great number of small states, perpetually making territorial encroachments upon one another, artifice was as important as arms. A perpetual struggle for land engaged all classes. Village communities, feudal chiefs, and princes, contested with one another, and each class strove within its own circle for aggrandizement of land—those took who had the power, those kept who could. Never, in any part of the world, were treaties made with less intention of keeping them, or more faithlessly and scandalously broken. The military art was cultivated purely for aggressive purposes, and never was brought to any high degree of attainment. The incidents of the Greek invasion proved how superior, not only the genius of Alexander, but the knowledge of arms on the part of his followers. The Mohammedan warriors also showed more acquaintance with the management of armies. The wars of native princes with Europeans revealed an inferiority in strategy and tactics, which cannot be disputed. Gibbon's description of the military weakness of Asiatic nations generally, and of the Persians more particularly, describes as graphically as if meant especially for it, the state of the martial art in India, until the

example of the British, and the instruction derived from them, modified the system of the native chiefs. But notwithstanding the improvement made under English influence, the language of Gibbon in the main applies to the armies of the rajahs, and the mode of warfare adopted among them:—"The science of war, that constituted the more rational force of Greece and Rome, as it now does of Europe, never made any considerable progress in the East. Those disciplined evolutions which harmonise and animate a confused multitude, were unknown to the Persians. They were equally unskilled in the arts of constructing, besieging, or defending regular fortifications. They trusted more to their numbers than to their courage: more to their courage than to their discipline. The infantry was a half-armed, spiritless crowd of peasants, levied in haste by the allurements of plunder, and as easily dispersed by a victory as by a defeat. The monarch and his nobles transported into the camp the pride and luxury of the seraglio. Their military operations were impeded by a useless train of women, eunuchs, horses, and camels; and in the midst of a successful campaign, the Persian host was often separated or destroyed by an unexpected famine."

The general mind of the better classes in India is more favourable to the study of modern science, although there are still difficulties in the way. The Brahmins are extremely jealous of instruction conveyed to the people from a European source; the Mussulman teachers are still more so, as any views of science different from those contained in the Koran is contrary to religion. The Mohammedan clergy know well that modern science is at variance with the scientific doctrines of the Koran; and while on the one hand they make efforts to reconcile the discrepancies, on the other their exertions are incessant to prevent "the faithful" from obtaining "infidel knowledge."

But even where religious prejudices do not bar out the instructions of English literature and science, there exists an extreme hindrance in the inability of Europeans to converse in the languages of India on subjects of politics, history, philosophy, or science. It is well known that there are native gentlemen desirous to glean information on such subjects from the English with whom they meet, and that the want of facility on the part of the latter in speaking the languages of the country impedes the gratification of a desire so much to be encouraged and commended.

Lieutenant-colonel Sleeman, an officer who has spent a long life in India, and is considered an oriental scholar, writes:—"The

best of us Europeans feel our deficiencies in conversation with Mohammedans of high rank and education, when we are called upon to talk upon subjects beyond the every-day occurrences of life. A Mohammedan gentleman of education is tolerably well acquainted with astronomy as it was taught by Ptolemy; with the logic and ethics of Aristotle and Plato, with the works of Hippocrates and Galen, through those of Avicenna, or as they call him, Boocales Shena; and he is very capable of talking upon all subjects of philosophy, literature, science, and the arts, and very much inclined to do so, and of understanding the nature of the improvements that have been made in them in modern times. But, however capable we may feel of discussing these subjects, or explaining these improvements in our own language, we all feel ourselves very much at a loss when we attempt to do it in theirs. Perhaps few Europeans have mixed and conversed more freely with all classes than I have, and yet I feel myself sadly deficient when I enter, as I often do, into discussions with Mohammedan gentlemen of education upon the subject of the character of the governments and institutions of different countries—their effects upon the character and condition of the people; the arts and sciences; the faculties and operations of the human mind, and the thousand other things which are subjects of every-day conversation among educated and thinking men in our own country. I feel that they could understand me quite well if I could find words for my own ideas. But these I cannot find, though their languages abound in them; nor have I ever met the European gentleman who could. East Indians can, but they commonly want the ideas as much as we want the language. The chief cause of this deficiency is the want of sufficient intercourse with men in whose presence we should be ashamed to appear ignorant; this is the great secret, and all should know and acknowledge it. We are not ashamed to convey our orders to our native servants in a barbarous language. Military officers seldom speak to their sepoy and native officers about anything but arms, accoutrements, and drill, or to other natives about anything but the sports of the field; and as long as they are understood they care not one straw in what language they express themselves. The conversation of the civil servants with their native officers takes sometimes a wider range; but they have the same philosophical indifference as to the language in which they attempt to convey their ideas; and I have heard some of our highest diplomatic characters talking without the slightest feeling of shame or embarrass-

ment to native princes on the most ordinary subjects of every day's interest in a language which no human being but themselves could understand. We shall remain the same till some change of system inspires us with stronger motives to please and conciliate the educated classes of the native community. They may be reconciled, but they can never be charmed out of their prejudices or the errors of their preconceived opinions by such language as the European gentlemen are now in the habit of speaking to them. We must learn their language better, or we must teach them our own, before we can venture to introduce among them those free institutions which would oblige us to meet them on equal terms at the bar, at the bench, and in the senate. Perhaps two of the best secular works that were ever written upon the faculties and operations of the human mind, and the duties of men in their relations with each other, are those of Imamod Deen, Ghuzzalee, and Nuseerod Deen, of Thons. Their idol was Plato, but their works are of a more practical character than his, and less dry than those of Aristotle."

Indophilus, so well known by his recent popular contributions to the diurnal press on subjects connected with India, observes as follows upon the efforts of the government to promote in that country the literature and science of Europe by public educational establishments, and the willingness to learn of certain portions of the natives, both Brahminical and Mohammedan:—"The first step taken by our government in native education was the foundation of the Mohammedan College at Calcutta, by Warren Hastings, in 1781, and of the Sanscrit College at Benares, by Lord Cornwallis, in 1792. The object was to make a favourable impression upon the natives by encouraging their literature, and to train moulvies and pundits to assist the European judges; but, as the literature and the law of the Mohammedans and Hindoos cannot be separated from their religion and morality, the entire *corpus* of these systems was taught in the new colleges. The next step had its origin in a voluntary movement of the Hindoo gentlemen and pundits of Calcutta to form an establishment 'for the education of their children, in a liberal manner, as practised by Europeans of condition.' Christianity was carefully excluded; but 'general duty to God' and the 'English system of morals' were comprehended in the plan. The government of the college was vested in a body of native managers, by whom the teachers were appointed and removed. The line taken by the Calcutta government, and the effect of it, will be seen from the following extract

from a letter from Sir E. H. East, the chief-justice, dated May 21, 1816 :—

“When they were told that the government was advised to suspend any declaration in favour of their undertaking, from tender regard to their peculiar opinions, which a classical education after the English manner might trench upon, they answered very shrewdly, by stating their surprise that any English gentleman should imagine that they had any objection to a liberal education; that if they found anything in the course of it which they could not reconcile to their religious opinions, they were not bound to receive it; but still they should wish to be informed of everything that the English gentlemen learnt, and they would take that which they found good and liked best. Nothing can show more strongly the genuine feeling of the Hindoo mind than this clinging to their purpose under the failure of direct public encouragement in the first instance. Better information as to their real wishes, and accumulating proofs of the beneficial effects of an improved system of education among them, will, I trust, remove all prejudices on this subject from among ourselves, with some of whom they actually exist in a much stronger degree than among the Hindoos themselves.”

The importance of inculcating the truths of science upon the natives of India, is not confined to the advantages derivable to their own minds, and to their temporal condition; their whole character, moral and religious, is influenced, because of the essential connection between religion and science in their creeds. No people professing any form of Christianity could be influenced to a similar extent by education, literary or scientific.

It is sometimes made a matter of reproach to the government of India, the company in Leadenhall Street, and all who have had any power in India, that earlier efforts, more commensurate with the need of the people, and with the importance of the object, were not made to let the light of true science beam upon the mind of the higher classes. This reproach is unthinkingly made: the government had not the power to do as they pleased. Any step taken to teach science at variance with Hindoo and Mohammedan theories, would have been regarded by their professors as an underhand and treacherous attack upon their religious rights. The government, therefore, proceeded slowly and carefully, but erring on the whole by proceeding faster than the mind of India was able to bear, as is manifest by the outcry raised by a large party, notwithstanding the conviction felt by all Hindoo gentlemen, that some knowledge

of European science and literature is an indispensable requisite for government employment. A popular but anonymous writer put this subject in its true light when he said :— “We may feel some indulgence even for those who hesitated to give the sanction of the government to the experiment of the Hindoo college, when we recollect that the reaction of the less advanced portion of the native community has severely tried our strength after an interval of forty years, and that it would probably have nipped improvement in the bud if it had taken place in those early days when the state of the native mind and of our own power was much less mature. Is it a small thing that we strangers from the other side of the world, differing from the people of India in colour, manners, language, and religion, have obtained their confidence; that we are recognized by them as teachers of all truth, human and divine; and that they flock by thousands to our schools and colleges to receive such instruction as we are willing to offer? When Warren Hastings founded the Mohammedan college at Calcutta, the question was, whether the natives would allow us to have anything to do with the education of their children. After this starting-point had been secured, a natural craving arose in the native mind for education of a better sort than could be furnished by their own systems. If we had taken the initiative at this critical stage, a spirit of suspicion would have been arrayed against us; and when the pundits, who co-operated in the formation of the Hindoo college, afterwards discovered to their dismay that they had evoked a power beyond their control, and that they had barred out Christianity in vain, because the truths of physical science taught in their new seminary were subversive of the untruths woven into the substance of Hindooism, we should certainly have been charged with bad faith, and the storm which the native managers had to bear, as they best might, would have burst upon us, and upon the new system advocated by us. The spontaneous character of native improvement is the natural fruit and just reward of our consistent caution. The natives, left to the natural working of their own ingenious and speculative minds, became impatient at being left behind, and took the matter into their own hands. This is the sure guarantee of further progress. If Hastings, the elder Thomason, or Bentinck, had transgressed the limits prescribed by the circumstances of their respective periods, we should not now be in so advanced a position. The day of small things is to the day of great things as cause is to effect, and those who despise weak and timid beginnings only display their own

want of foresight. The influence of the existing government system of education upon the moral character and religious belief of the natives has been much discussed. The first result is the destruction of the Hindoo system in the minds of the pupils. It did not occur to the ancient Indian legislators, when they placed fetters on the human intellect, by binding up their false theories of physical science with their false religion, that the whole fabric might one day be brought to the ground by the removal of the imported material. There is no subject of conversion so hopeless as a Hindoo who has been taught according to the perfect manner of the law of his fathers. There is no morality so bad as the sanctification of every evil propensity of our nature, and its being recommended by supposed divine example; all which the Hindoo religion involves. The youth of India are not only rescued from this state by the government system of education, but they are advanced one stage further: they are taught to think, and their thoughts are inclined towards Christianity by a literature which has grown up under its influence, which always assumes its truth, and is deeply imbued with its spirit. A new standard of morality is presented to them. 'The law is a schoolmaster to lead us to Christ;' and the study of the writings of Bacon, Milton, Addison, Johnson, and Locke, establishes this 'law' in their minds. It does not give the effectual motive which a firm belief in Christianity would impart; but it creates a conscience which will continually act upon them. According to the old unmitigated native system, the Mohammedans regard us as infidel usurpers of some of the finest realms of Islam, and the Hindoos as impure outcasts, with whom no communion ought to be held; and the sole idea of improvement of both classes is to sweep us off the face of the earth. The effect of a training in European learning is to give an entirely new turn to the native mind. The young men educated in this manner cease to strive after independence according to the original native model, and aim at improving their institutions according to English ideas."

Viewed as this writer presents the subject, the importance of diffusing a knowledge of western science in India may be regarded as important to ourselves, and bearing upon the religious future of that country in a manner the most salutary; but the author of the quotation just made, places too much reliance upon the *immediate* benefits of correct scientific attainments, upon the loyalty of the Hindoo gentry, and also upon the prospect of evangelising the country. Many of those

most indebted to the Anglo-Indian colleges have proved themselves no less treasonable than the most inveterate devotees of Siva, or the most virulent followers of Mohammed. The success of true science in shaking the minds of such men loose from the influence of Brahminism and Islamism, is indisputable, but the prejudices of their former creed long linger about their hearts, as a disagreeable odour hanging upon the vessel that has been cleansed from the matter which produced it. In giving up the theories of the Hindoo Pantheon, they obeyed the command of science, plainly and authoritatively spoken, but the teacher, although a true one, instructs only within a limited province, and while it sweeps away boldly the theogonies of the heathen, its instructions as to the true God are rather to be inferentially deduced. As every phase and form of truth has its own determinate influence, and its measure of affinity to the whole region of the true, our duty is to preserve in teaching, as we best may, truth in all its phenomena, giving to the precise and beautiful, in art and science, their own useful and ennobling place. This done with fidelity, sooner or later the beneficial results to India and to the empire will be seen, and rich fruit will be gathered where good seed has been sown.

Even in the arts European instruction cannot fail to impress the mind of the Indian people with ideas of our power, and of our moral power. Whatever be the delicacy of manipulation for which the Indian workman is famed, and however in his slow processes he arrives at a degree of perfection in the departments of manufacture for which he has obtained celebrity, the appliances used by Europeans, and the results produced, cannot but shape the mind of the native from his old usages, and his old trains of thought, and consequently, to some extent from his old beliefs. The wonderful power of the steam engine in manufactures, in navigation, and in locomotion, has already produced such effects, and laid the foundation for far more decisive influences of the same kind. The electric telegraph had scarcely been introduced in India, when it suggested to the natives the certain ultimate victory of a people thus possessed of such marvellous resources of scientific, or, as the more ignorant regarded it, magic power. One of the results of these indications of superior wisdom, and a scientific knowledge beyond that contained in the sacred books of both Brahmins and Mohammedans, was to inflame the fanaticism of the Brahmins, priests, fakeers, and other interested religionists. They foresaw that those who wielded such extraordinary agencies, and proved the exist-



ence of laws and resources of nature unknown to the gods and to Mohammed, must revolutionize the religion of both, and eventually cause them to vanish before superior intelligence and power. Hence the maddened reaction of recent years in favour of blind and relentless religious bigotry among all concerned in supporting the old order of things. The teaching of the arts was thus expressed by Lord William Bentinck:—"Every indigo

and coffee plantation, the Gloucester mills, the works of every description that are moved by steam, the iron foundries, the coal mines, worked after European fashion, and the other great establishments that we see around us in Calcutta, are so many great schools of instruction, the founders of which are the real improvers of the country; it is from the same sources that we must expect other schoolmasters of new and improved industry."

CHAPTER XXV.

THE SOCIAL CONDITION OF INDIA.

THE social condition of India, both ancient and modern, is a subject deeply interesting and important. The ancient social state of that country is full of philosophic interest to the antiquarian and the scholar, and its present state proposes to the statesman and the Christian the most difficult problems, and opens up to them the most serious and eventful prospects. Although employed by one of the heartiest friends of India, the following language can hardly be regarded as exaggerated:—"India is wedged into the heart of Asia, with the Mohammedan regions on one side, the Buddhist on another, and the ocean open to us on the third. She is rich in actual wealth, and still richer in undeveloped resources. The existing revenue of British India alone is £30,000,000, two-thirds of which are derived from the unimproved rent of land; and, with good laws well administered, with an extensive settlement of Europeans to show what use may be made of the wonderful powers of the soil and climate, and with the help of railways, irrigation, and other productive works, the £30,000,000 will soon become £60,000,000. The people of this great continent are intelligent, thoughtful, imaginative, fond of discussion, and from the most ancient times learning and learned men have been held in esteem among them. They had epic and dramatic poems of considerable merit, and systems of philosophy of extraordinary ingenuity and subtlety, at a time when our ancestors were clothed with the skins of wild beasts, and were entirely destitute of literature. We received from India, through the Arabs, our beautiful system of decimal notation. The fables known to the Western world as those of Æsop or Pilpay were discovered, when Sanscrit began to be studied, to have had their origin in the *Hitopadesa*. Unlike the Chinese, who are remarkable for their indifference to a future

state, the Indians are strongly impressed with the religious principle. Long before the Christian era the old stem of Hindooism threw off a puritan-quietist shoot, which, originating in the district of Bahar, overspread Asia from Kamschatka to Sweden,* and from the Frozen Ocean to the great Southern Archipelago, until it included a larger portion of the human race than any other religion. Throughout this vast region the ancient vernacular language of Bahar, under the name of Pali, is either fully established as the sacred language, or has left traces which are easily recognised in local religious phraseology. If the resources of this great central Asiatic country are properly developed, so that she may acquire the strength which properly belongs to her; and if education, and free discussion, and Christianity, are firmly established there, a change will be wrought throughout the continent and islands of Asia, the blessings of which cannot be described by any human pen."

Of the early social life of India little is known, except as scattered fragments of the classics unfold it, beyond what the *Vedas* and the Institutions of Menu afford. Whatever the early civilization of the Hindoos, they did not possess the genius of history. Mr. Mill makes this a ground for underrating their civilization, and Dr. Horace Hayman Wilson reproves too harshly the historian for making this deficiency a test. It is beyond doubt proof of an imperfect civilization, nor is it the less so that all Asiatic nations are characterized by the same defect. This Gibbon has correctly and eloquently shown. Sir John Malcolm complains of the imperfection and inaccuracy of Persian annals; and some of the earliest historical writers among the Greeks make a similar complaint in their day, although it is obvious they were much in-

* The Swedish Lapps are more than half Buddhists.

debted to Persian records and the living testimony of persons in the service of Persia for what they knew of India. From what can be gathered of ancient life in India from the Sanscrit records made available to us either by translation or the accounts given from them by Sanscrit scholars, and from the notices of India in the classics, it may be inferred that the India of to-day is identical with the India of remote antiquity, except so far as modern European influence has effected changes. But notwithstanding that so much has been altered in the condition of India and its government by successive invasions, Mohammedan and European, the multitudinous population can faithfully refuse to adopt the trite admission of other peoples—

“O tempora mutantur, et mutamur cum illos!”

Dr. Hayman Wilson, who is probably better acquainted with India of the olden time than any other man, says that such is the permanent character of oriental, and more especially Hindoo customs, that the India of to-day reveals to us what it was in the remotest period of which we have any record.

The aboriginal inhabitants were probably of the same race with the ancient Ethiopians, for both are frequently referred to as one people in ancient writings. The race which we call *Hindoo*s called themselves in the remotest periods *Arryans*; and the earliest Arryan writings refer to the aborigines in terms which show a strong natural distaste, pride of race, and some religious difference, but this last is not so prominent as the social and tribal antipathy. There are indications also of great difference in the complexion of the invaders and the invaded: the latter being dark, as the natives of India now generally are, especially in the south, the higher classes of the former fair, and the other classes of various degrees of colour. It is obvious that the race has received a much deeper tint after so many ages of exposure to the burning climate of India. So much is this the case, that the Brahmins, who, according to the glimpses given of them in early writings, were fair, are now in Southern India blacker than the Egyptians.

The first settlers were driven by the Hindoo incursions to the south, and their descendants in the Deccan, in the hill country, and on the coasts of Coromandel and Malabar, are black. Early references to the complexions of the Arryans represent the Brahmins as fair, the warrior class brown, the trading class yellow, and the servile class black. This description has been generally considered figurative, as indicative of the relative social dignity and qualities of the

respective classes; but even if it be so, the estimate in which colour was held is sufficiently indicated. It is probable, however, that the description was intended literally. The ecclesiastical caste, less exposed to climate, and having come from a northern latitude, would be naturally fair; the military class would be bronzed by the exposure to the elements attendant upon their profession; the trading classes would, partly from exposure in cities, and partly from their peculiar occupations when indoors, receive a tint less russet than the warriors, but sallow; and unlike the complexion of those of higher-class habits, having superior and cooler dwellings, and more frequently having recourse to ablutions; the servile class would probably be composed of another race, coming in with the invaders, and acting under their orders, and mingled with the aborigines, who were despised for their colour, as well as for other peculiarities deemed attributes of inferiority.

The races of the invaded and the invaders are still somewhat defined by the languages. Southern India, which, by the pure Hindoo, is not considered holy ground, is inhabited by people speaking languages not of the Arryan stock; and although many in Southern India to whom these tongues are vernacular are of Arryan origin, yet the fact of those dialects of an ancient language being the vulgar tongues of these regions shows the predominating influence of a race or races not Arryan; whereas the prevalence north of the line, to the south of which these dialects are spoken, of languages of Sanscrit origin proves the prevalence of the descendants of the Arryan invaders and conquerors. Even now the contempt of the Hindoo or Arryan people for the tribes which are believed to have another origin, and where these tribes have not mingled with the dominant race, is intense. Thus, in the early social life of ancient India the bitterness of alien races existed as intensely as has been exhibited between Jew and Gentile, Greek and Barbarian, Goth and Slave, Saxon and Celt.

The Gonds, Bheels, Coolies, hill-men of Boglipoore, and Kookies of Chittagong, are, with some minor tribes, considered aboriginal; and if their present condition be any evidence of what it was when the Arryans entered India, they must have been barbarous even in the eyes of their invaders.

The religious element must always be important in the social condition of a people. With the exception of the Jews, there probably never existed any who introduced their religious peculiarities so prominently in the everyday affairs of life as the people of Hindostan whether Brahmins, Buddhists, or Mo-

hammedans. The Jews, indeed, although rigidly maintaining their religious observances, did not intrude them upon occasions naturally and conventionally unsuitable; but the Brahminical creed fills everything, and is felt everywhere, unpleasantly affecting strangers, like a tainted atmosphere. This was the case in the earliest ages of which we have note. In war or peace, in the drama or the tale, in politics and in private life, the gods, in all their absurdities of character and alleged operations, are introduced. An element of perverted devotion runs through all the social as well as individual being of India. The most impure and silly creatures of the imagination were adored, and a social existence attributed to the gods, which, in proportion as man admired, he must become intellectually and morally degraded. Not only are these gods everywhere, and all objects of nature themselves partaking of the divine, but one cannot walk in a solitary path by the river, or wander in the trackless woods, without the feeling that he may chance to put his foot upon, or stumble against, a deity. A little red paint smeared over a rock, or stone, a lump of clay, or a stump of a tree, makes a god of it, if the pigment be only applied in an orthodox manner. Before this the warrior and the noble bow, and the poor fall prostrate in adoration. Yet, with all this sameness of character in making the religious element appear everywhere, there is a wide diversity of creed and objects of adoration. "Any monster, any figure partly brutal, any multiplicity of heads and hands in the object adored, indicate a Brahminical place of worship. The presence of umbrella-covered pyramids, or semi-globes, and of plain human figures sitting cross-legged, or standing in a meditative posture, point out the temple or excavation of a Buddhist; the twenty-four saintly figures without the pyramid announce a temple of the Jain." Ever since the foundation of the Buddhist and Jain religions this variety has existed, and yet the sameness of social character connected with it has been maintained. The Brahmins have changed much in the objects and in the ceremonies of divine worship, new gods and idols having been adopted with a political time-serving which speaks much against the sincerity of the devotees, yet the genius of Brahminism has been *semper eadem*. The rise and progress of Buddhism compelled the Brahmins to adapt themselves to the ecclesiastical exigencies of the times; the suppression of the rites of the Buddhists and Jains by violence, strangely wrought similar phenomena of change. It was necessary for the Brahmins to conciliate races and

parties who were attached to gods of their own, invented by themselves, or by some one for them, who was inventive in the line of god manufacturing. The worship of Rama and Krishnu, of Siva and Bhavani, was in this way intercalated among the devotions of more ancient deities. Brahminism from that date deteriorated; it gradually became less and less pure speculatively, and the unfavourable social influences of the system proceeded, *pari passu*, with the speculative decline. "Their religious rites have, in fact, degenerated to mere incantations, all directed to the same end, through the efficacy of a spell, and the requisite ceremonies have become so numerous and intricate, that no votary could accomplish them, were he to devote day and night to their performance."*

The existence of various tribes who all claim to be of Arryan stock would indicate that the original invaders were a federation of distinct tribes, or else that different portions of them mingled more or less with the aborigines, forming for their descendants distinctive personal and social characteristics. The placid but not unwarlike native of the south differs much from the timid Bengalee; and how unlike to either are the turbulent, sanguinary, and predatory Mahrattas. Between the Nerbuddah and the Indus almost all assume to be descendants of nobles or military chiefs, and are consequently called *Rajpoots* or *Rajwars*. These, governed by petty chiefs, waged, from time immemorial, savage warfare upon one another; their affinity of race seemed to inflame their mutual aggressive propensities. Mr. Walter Hamilton affirmed nearly forty years ago "that any general similitude of manners existed before the Mohammedan invasion is very doubtful, but certainly there are in modern times strong shades of difference in the character of the Hindoos dispersed over the several provinces." That there is some difference of character is obvious; but had Mr. Hamilton said creed, custom, race, and physical power, instead of character, he would have better expressed himself, for, notwithstanding the diversities in these respects, there is a strange identity of essential character among all the natives of British India. This moral monotone may be recognised throughout all the varieties of men and manners presented, although in "travelling through Hindostan, from Cape Comorin, up the Carnatic, the Deccan, and through Bengal, to Cashmere, an extent of about twenty-five degrees of latitude, under many general points of resemblance, a very great variety of habits, languages, and religious observances is perceptible—nearly as great as a native of

Hindustan and Adjacent Countries.

India would find were he journeying from Gibraltar to St. Petersburg.* This seems to have been the state of things which Alexander the Great found existing within the limits of India whither he carried his arms; and the knowledge subsequently obtained by the Greeks, during the occupation of portions of North-western India by that people, confirmed the accounts afforded by the *savans* and *literati* who accompanied the imperial conqueror. Thus India, past and present, is connected by the unchanged character of the people. New religions have sprung up, and declined; new dialects have grown into existence; new conquerors have invaded the fair land; rivers have changed their courses; earthquakes have swallowed up or cast down once renowned cities; the sea washes where once the rice-field bloomed; and the salt marsh or the strand are seen where erst

“Old Ocean made his melancholy moan :”

but the people are like the people of the past; there is a psychological identity between the early Arryan disciples of the *Vedas*, and the modern worshippers of new gods and practisers of magical incantations. Far less enlightened, and less moral than the pupils of Menu, yet, amidst their grovelling superstitions, multiplied castes, and contact with Western civilization, they are the same in disposition, sympathy, tastes, capacities, and in the genius of their customs and social life.

In looking back to the India of the Arryan invaders, the most striking differences between the condition of the people then and the people now are those of different religious opinions and principles operating upon social institutions. Buddhism, Jainism, and Mohammedanism, were of course then unknown, and Christianity had not yet shed its radiance upon the gloom of human grief; the Day-star had not visited the overshadowed world. As shown in the chapter on the religions of India, monotheism, gradually undermined by a philosophic yet simple polytheism, prevailed, but men were not subject to the horrid rites which the gods, afterwards invented or received by the people, are believed to enjoin. The early life of Arryan India was simpler, purer, and more hopeful of the future, although the germs of religious corruption existed, which afterwards produced the deadly upas of Brahminical idolatry and superstition.

The two earliest evils that present themselves to the investigator of Arryan social life, are invidiousness of race and the institution of caste. With regard to the former, the language which betrays its existence is often suggestive of some exciting cause—such

* India. By Walter Hamilton.

as the like feeling on the part of the aborigines, their resistance to the powerful settlement of the immigrants, or the practice of treacherous and cruel modes of warfare. There is in the devotional expression of the Arryans an aggrieved tone; they supplicate the Almighty as those who required the interposition of his justice, and felt that their cause was righteous. This of course would not prove that the aborigines gave just cause for the complaints made to Heaven against them, for we are familiar in the West with the prayers and *Te Deum*, where those who offer the petition or chant the triumph know that their cause is selfish and unjust. Still a very peculiar feeling breathes through the Arryan prayers against the native enemy, which shows either that conciliation had been tried in vain, that the settlement of the new race was designed to be a legitimate occupation of lands uncultivated and unsettled, without injury to those who had settled other portions, or else that the Arryan race were arrogant, grasping, and unjust, unable to comprehend the difference between *meum* and *tuum* beyond the limits of their own consanguinity, and withal malignant, even at the foot of the throne of Him whom they believed to be clement and benevolent.

The literature of a people will always reveal their social condition. In an early chapter the literature of India, ancient and modern, has been noticed. That which has come down to us is chiefly religious; and except so far as the *Vedas* disclose the existence of purer opinions, however far back we trace the social history of the country, the moral character of the compositions proves a low moral and social condition.

The drama in every country bespeaks the character of the people. All races may be tested by their amusements. The phrase *in vino veritas* may obtain a larger signification than that in which it is employed: the exhilaration of any pleasure, as well as of the cup, reveals our true nature. The Hindoo drama is intensely national. Its productions range over a long period of time; but those of later periods are altogether inferior to those of earlier times, deterioration attending most things worth cultivating in India. Whether this arises from the peculiar characteristics of the Indian mind, or is the result of the deadening and repressive influence of the Hindoo religion, is a problem yet to be solved. The following description of the drama by Mrs. Spiers gives one a glimpse into the social tone of the people which is very instructive:—“The greater part of each play is written in Sanscrit, although Sanscrit has ceased to be a living language; and thus, like the Latin

plays annually represented at Westminster in the present day, they were imperfectly understood by the audience, and were wanting in dramatic effect. All the droll parts were, however, given in the language of common life, and the puns and jokes will have been universally appreciated. The general rule is to make only the great people talk Sanscrit, and to allow buffoons and women (*sic*) to discourse in the vernacular.*

One of the most interesting Hindoo plays is *Sakountala*, which has been translated by Mr. Monier Williams. Some of the passages are not only beautiful in a literary, but in a moral sense. A king who had reached the goal of his ambition, finds that elevated station does not exempt him from trouble, and often creates the necessity for taking new paths through the valley of tribulation. He thus moralises upon his experience:—

"'Tis a fond thought that to attain the end
And object of ambition is to rest.
Success doth only mitigate the fever
Of anxious expectation; soon the fear
Of losing what we have, the constant care
Of guarding it, doth weary. Ceaseless toil
Must be the lot of him who with his hands
Supports the canopy that shields his subjects."

In the same piece occurs a passage which shows that the higher ranks in ancient India had "an ear for sweetest harmonies." There is a lovely pathos in the breathing of these stanzas, which receives even a charm from the superstition with which it blends.

"Not seldom in our hours of ease,
When thought is still, the sight of some fair form,
Or mournful fall of music, breathing low,
Will stir strange fancies, thrilling all the soul
With a mysterious sadness, and a sense
Of vague yet earnest longing. Can it be
That the dim memory of events long past,
Or friendships formed in other states of being,
Flits like a passing shadow o'er the spirit?"

Another of these plays is called the *Toy Cart*, and Mrs. Spiers has justly observed of it, that "it gives pictures of daily life in India probably before the Christian era." The subject of it does not speak well for life in India in those days. The hero of the plot loves a courtesan, whose character seems no bar to her holding a high place in society, living in sumptuous splendour. To her is attributed various virtues which are thought to be compatible with her obscene profession, reminding one of an ejaculation elsewhere addressed to Indrya, "Thine inebriety is most intense, nevertheless, thy acts are most beneficent!" The parts of other personages make manifest that dissipation in its more revolting forms was not only common in Hindoo life,

* *Life in Ancient India.*

but complacently tolerated. This play also gives validity to the claims made for the Arryan natives of Hindostan, as to literary taste; the imagery, however, is ornate and ambitious for the most part. In the fifth act, there is a description in which, mingled with language of that character, are some beautiful pictures of an Indian storm:—

"The purple cloud
Rolls stately on, girt by the golden lightning;
From the dark womb in rapid fall descend
The silvery drops, and glittering in the gleam
Shot from the lightning, bright and fitful, sparkle
Like a rich fringe rent from the robe of heaven.
The firmament is filled with scattered clouds;
And as they fly before the wind, their forms,
As in a picture, image various shapes,—
The semblances of storks and soaring swans,
Of dolphins, and the monster of the deep,
Of dragons vast, and pinnacles, and towers."

The *Mudra Rakshasa* is considered by critics in Indian literature as a good specimen of the humour which occasionally pervades Indian compositions, but which is certainly not a prominent feature of Indian character. The following passage from this play affords an instructive glance at the social condition of a by-gone age, which would apply to the native states of the peninsula in the present day.

SCENE:—*Before RAKSHASA'S house.*

Enter VIRADHA, an agent of RAKSHASA'S, disguised as a snake-catcher.

Viradha. Those who are skilled in charms and potent signs may handle fearlessly the fiercest snakes.

Passenger. Hola! what and who are you?

Viradha. A snake-catcher, your honour; my name is Jirnavisha. What say you, you would touch my snakes? what may your profession be, pray? oh, I see, a servant of the prince,—you had better not meddle with snakes. A snake-catcher unskilled in charms and antidotes, a man mounted on a furious elephant without a goad, and a servant of the king appointed to a high station, and proud of his success; these three are on the eve of destruction. Oh! he is off.

Second Passenger. What have you got in your basket, fellow?

Viradha. Tame snakes, your honour; by which I get my living. Would you wish to see them? I will exhibit them here, in the court of this house, as this is not a convenient spot.

Second Passenger. This, you blockhead, is the house of Rakshasa, the prince's minister; there is no admittance for us here.

Viradha. Then go your way, sir; by the authority of my occupation I shall make bold to enter. So,—I have got rid of him.*

The glimpses afforded to us in the classics of the ancient social condition of India are on the whole numerous, although of course incomplete; they are, however, sufficient to confirm the general opinion, that notwithstanding the great diversity of creed and

* *Life in Ancient India. By Mrs. Spiers.*

climate, and some diversity of race, he who sees the natives of India in the present generation, contemplates the India of ages long past, so far as the natural temperament of the people, and the genius of their social life, are concerned. Dr. Schwanbeck* in his *Megasthenis Indica*, has done much to recall attention to those portions of Greek literature in which India is referred to, and which have been so much neglected by the learned. The introduction to the doctor's treatise very ably discusses the knowledge which the Greeks possessed of India, previous to the time of Megasthenes, and comments upon the notices contained in the works of writers after him, down to the time of Albertus Magnus. The *Index rerum Memorabilium*, which concludes Dr. Schwanbeck's book, is extremely valuable to the student of India as known to the ancients; the space available to the author of this History forbids his minutely discussing this interesting topic. It is to the classics that we are indebted for any key we possess to the broken labyrinth of Indian history.

Sir W. Jones was not only a superior Sanscrit, but also a good classical scholar. In the year 1780, he encountered in his Sanscrit studies the names or name Chandragupta, Chadragupta, Chandra Gupta; he found also in the Greek and Latin writers references to an Indian king under various names, suggestive of this Sanscrit appellation, and concluding that the same person was referred to, he was enabled to fix the period of his reign, and thus open up a chronological clue to the history of India. By comparing the Sanscrit records with Arrian, Diodorus Siculus, Quintus Curtius, Plutarch, and Athenæus, no doubt was left in his mind as to the identity of the distinguished ruler to whom each referred, and it became possible, and in some instances easy, to fix the date of his rule. In another chapter devoted to the historical portion of this work, the age of Chandragupta will be noticed; it is here only necessary to point out that by this identification of the same person in Sanscrit and Greek writings, a clue is given not only to the chronology of Indian history, but to a recognition of the manners, custom, and social life of the people, at particular intervals in remote ages.

The first allusion to India in the classics is in Homer,† in the introduction of the *Odyssey*, where, under the term Ethiopians, the Indians are undoubtedly referred to. Under this name the aboriginal inhabitants of India are

designated by various early writers, such as Scylax, Hecataeus, Herodotus, and Ctesias, and it is probable that the aborigines of India, and the Ethiopians proper, were the same race. In Virgil allusions are made to the Indians in terms which afford little or no light as to their habits. Virgil, in the *Georgics*, sings of the Gangarides as having been vanquished by Augustus, which was not historically true.* The same poet refers to the great rivers† of India, and to some of the characteristic productions of the country.‡ Horace affords but little brighter glimpses than Virgil of the habits of the Indians. He, however, like Virgil, refers to the characteristic productions of the country.§ He classes them with the tribes and people remote from the Romans, such as Medes and Scythians, and describes them as marvelling at the grandeur and greatness of Augustus.|| In describing the day of glory about to shine upon the world, he describes the Indians as *superbi nuper*.¶ The Roman emperor is described as leading in triumphal pomp the Seres and the Indi, *subjectos Orientis orae*.**

Thus very little aid is given to the research of the scholar by the classics, as to the actual early Indian life, unless so far as the writers whose knowledge was based upon the experience gathered by the armies of Alexander, and the garrisons that remained after the conqueror himself retired from the scene.

There are legends extant which furnish some, but only few, means of conjecture as to the hearts and homes of the people previous to the invasion of Darius. There are four of these which connect ancient India with the west. The most ancient is the legend of Semiramis, who is represented as having invaded the East 1978 years before Christ. The legend of Rameses Sesostris, according to Langlet, dates B.C. 1618, and according to Dr. Hales, B.C. 1308. The legend of Dionysius, 1457 B.C.; the legend of Heracles, 1300 B.C. The most interesting of these legends is that of Dionysius or Bacchus, in which, under the name of *Parashri*, he is identified with India, which country, according to the legend, he conquered. The mythological story of Dionysius is sufficiently known from other sources not to require relation here. According to the myth, he not only vanquished the Indians, who are described as fierce tribes, but he taught them civilization, and is especially identified with their knowledge of the use of the grape. The represen-

* *Megasthenis Indica: fragmenta collegit, commentationem et indices addidit*. E. Schwanbeck, Ph. D. Bonnæ, MDCCCXVI.

† *Odyssey*, book i., 23d and 24th lines.

* *Georgics* III. 27.

† *Ibid.* II. 138; *Æneid*, ix. 31.

‡ *Georgics* I. 57; II. 116—122.

§ *Carm. Seculare*, I. 31. || *Ibid.* IV. 14—42.

¶ *Ibid.* 56.

** *Ibid.* I. 12—56.

tations made of the travels and conquests of the god are varied. According to Arrian, he founded the city of Nysa on the Cophen, near Cabul, which opened its gates so freely to Alexander the Great, and where his troops are represented as having abandoned themselves to riotous enjoyments, as will be shown in a future chapter on the history of the Macedonian's conquests in India. According to the Alexandrine writers, Nysa was the confines of the god's Indian invasion: Euripides limits his travels to the bounds of the Bactrian empire:—

"Leaving the Lydian's gold-abounding fields,
The Phrygian's, and the Persian's sun-struck plains,
The Bactrian walls, and Media's rugged land,
I came to Araby the Blessed, and all
The coast of Asia, where it stretches out
Along the briny sea, where many Greeks,
Mixed with barbarians, dwell in fair-towered towns.
At length, arrived in Greece, I here am come,
That by my dances and my solemn rites
I may assert my high divinity."

The general tradition was that all India fell before the divine invader:—

"Where art thou, Conqueror, before whom fell
The jewelled kings of Ind, when the strong swell
Of thy great multitudes came on them, and
Thou hadst thy thyrsus in thy red right hand,
Shaking it over them, till every soul
Grew faint as with wild lightning?"

These lines give expression to the classic idea of Bacchus in connexion with India. Dr. Croly has conveyed it in a few lines, written on an antique head of Bacchus, the stanzas are entitled *The Education of Bacchus*:—

"I had a vision!—'Twas an Indian vale,
Whose sides were all with rosy thickets crowned,
That never felt the biting winter gale.
And soon was heard a most delicious sound;
And to its music danced a nymph embrowned,
Leading a lion in a silken twine,
That with his yellow mane would sweep the ground,
Then on his rider fawn—a being divine;
While on his foaming lips a nymph shower'd purple wine."

If these legends have any real basis, then it would follow that, however obscured by myth the stories may be, ancient India had a knowledge of the civilization, such as it was, of more Western Asia, of Egypt, and of Eastern Europe; and that whatever the peculiarities of the aborigines of India, and their Arryan conquerors, the social life of that country, and of the more western nations, was not then so greatly diverse. Probably this is so, and the changes which have occurred in the more western regions have placed the present social life of the East and West so widely apart. The language of a writer in the *Calcutta Review*, will in such circumstances bear peculiar significance:—"The genius of

the Indian people is against the production of such records as books and manuscripts. Thoroughly unpractical, if the natural soul of the south Arryan race will force itself out in thought and feeling, the result will not be that of history and truthful annals, but of such epics as the *Rama Yana*, and the *Maha Bharat*, as vast in their extent as they are gigantic in their fancies and imaginings. Hence it is that the India of the past must be gathered from the India of the present; and that taking our stand on the immutability of Indian civilization, we must rest satisfied that what we now see existed in unaltered uniformity thousands of years ago.

"Keeping in view this fact, the present aspect of Indian civilization may be considered philosophically with more ease, however difficult it may be to trace the original causes by which that type of civilization was produced. Even with regard to ourselves, we are perhaps taking back to the banks of the Ganges a system of civilization, the first germs of which were originally borrowed from them."

Possibly the higher classes in British India are more like their prototypes in ancient India, than the poorer ranks resemble the lower orders of twenty centuries ago. There are many circumstances to justify such a supposition. The chiefs and higher orders in the native states seem, in all respects, to resemble those of whom we read in remote Indian antiquity. It is impossible but that some influence, the result of the Mohammedan invasion, modern education, the press, and the new ideas of science, which even India has not been able to shut out, has modified the customs of those who reside under British dominion, and also those of the Mohammedan chiefs. Yet when it is considered how little even the educated natives hold of intimate intercourse with Europeans, it will not be deemed surprising that so little light has fallen upon even this region of the native mind. There are a great many Europeans resident in India who do not understand any of the vernacular languages, and there are few who could travel amongst the natives from the apex of the peninsula to the Himalayas without requiring interpreters in most of the lingual divisions of the country. Some years previous to the mutiny of 1857, there appeared a great desire on the part of the respectable natives to promote an English education in colleges and schools, established partly by government, and partly by native support; but the imprudent zeal of many Europeans to make the teaching of Christianity in such schools a *sine quâ non*, roused the jealousy and alarm of the Brahmins, so