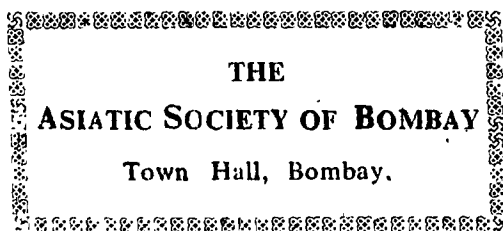




00108542



**THE  
ASIATIC SOCIETY OF BOMBAY**

**Town Hall, Bombay.**





III



ANNALS

OF 108542

INDIAN ADMINISTRATION.

EDITED BY

MEREDITH TOWNSEND.

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SERAMPORE :

PRINTED BY J. C. MURRAY.

1858.



## ADVERTISEMENT.

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The object of the Compiler is to remove this defect, to do for the official information of India what Mr. Leone Levi is doing for Blue Books of England. The Annals will comprise every fact and almost every opinion of importance in the records of the Quarter. A copious Index will enable the reader instantly to refer to the subject of which he is in search, and any peculiarity of opinion and even of style is carefully retained.

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THE  
ANNALS  
OF  
INDIAN ADMINISTRATION.

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THE MUTINIES.

*Parliamentary Blue Books.*

ON 8th August the Governor General in Council continues the narrative :—

*Agra.*—On June 24th, the Europeans in Agra were organized into a militia, and on 5th July, 500 of the 3rd Bengal Fusiliers marched out to attack the Neemuch mutineers. Two tumbrils blew up, and they were compelled to retire from want of ammunition. The troops and the Europeans were all concentrated in the fort.

*Allahabad.*—Country tranquil and supplies in course of collection. An extensive entrenchment is being made.

*Azimghur.*—On 18th July, the garrison attacked the enemy. The sowars refused to charge and the 65th Native Infantry fired in the air. The loss of the town was prevented by Mr. Venables, who served a gun himself. At a Council of War held in the afternoon, Mr. Venables, Mr. Simpson, and Lieutenant Havelock voted that the place was tenable. Their counsel prevailed, and on 19th, the city was cleared. On 29th July, hearing of the approach of 200 sowars of Holmes' Regiment (12th Irregular Cavalry) the officials retired on Ghazeepore. The sowars of that Regiment in Ghazeepore deserted, 500 Goorkhas were ordered thither.

*Barrackpore.*—There was considerable panic in Calcutta during the Bukker Eed, but it passed off quietly. The arms of the body-guard were placed in the arsenal. Two Regiments of Madras Native Infantry had reached Calcutta. The Sikhs had been collected from all the Regiments below Ranecunge and formed into a corps.

*Benares.*—A fort is to be erected at Raj Ghat with guns sent

down from Allahabad and Chunar. The Irregular Cavalry of the 13th were disarmed on 6th instant.

*Berhampore.*—The 63d Native Infantry, and 400 men of 11th Irregular Cavalry were disarmed on 2nd August. The horses of the Irregulars were taken away. The Nuwab's troops and towns people were also disarmed.

*Bhaugulpore.*—Orders were sent to disarm 5th Irregular Cavalry, but the Commissioner represented that the order would risk the lives of all Europeans in the interior of the district.

*Cawnpore* was re-occupied on the 17th July. Bithoor was occupied on 19th July without resistance. Nana Saheb's followers fled. His palace was burnt and 13 guns taken. By July 23rd, two-thirds of General Havelock's force had crossed the river into Oude. On 25th July, Sir Patrick Grant recorded his opinion that General Havelock should pass into Oude, and not as had been proposed, reinforce the army before Delhi. Agra so well supplied could not fall, and reinforcements were on their way to Delhi, while to abandon Oude would be to enable the mutineers to seize all the country between Goruckpore and Purneah. On 24th, General Neill arrived and stopped plundering, created a Police and Intelligence Department, and began collecting troop horses. General Havelock's force marched off on 29th July, dispersed a strong post of the enemy, and took 3 guns. An hour after the enemy advanced in force, but were routed with the loss of fifteen guns. The enemy numbered 13,000 men.

On 31st July, General Havelock arrived at Mungulwar with a force reduced by sickness, and repeated combats to 1364 rank and file, and 10 guns. He had therefore fallen back two marches.

*Chunar.*—Fifty European Infantry and 20 Invalid Artillery had been ordered there. The place on their arrival would be safe.

*Delhi.*—The force there amounting to about 6,000 men of all kinds was attacked every two or three days. The enemy were invariably repulsed. There were 28 field guns and 12 siege guns with the forces, but not sufficient ammunition for a siege artillery.

*Dinapore.*—The three native regiments mutinied on 25th July; they went off with their arms. They crossed the Soane, and commenced plundering Arrah where they were joined by Raja Koer Singh of Jugdeespore. A detachment of H. M's. 37th with Enfield rifles were sent up the Soane in a steamer, but she grounded. On 27th, another attempt was made to send the *James Hume* but she also grounded. Two companies of H. M's. 10th, two of H. M's. 37th and 50 Sikhs were then sent in the *Bombay*. They reached the point of debarka-

tion on 29th July, and marched straight on Arrah. Captain Dunbar listening to false reports marched on in the dark, and fell into an ambuscade. 7 officers and 184 men were killed, 3 officers and 63 men were wounded. Captain Dunbar was killed, and the Europeans made a hurried retreat to their boats. Major General Lloyd was removed from his command for culpable neglect. Major Eyre of the Artillery had proceeded from Buxar with 3 guns and 151 of the 5th Fusiliers. He reached Arrah on the 3rd August. This mutiny has made the Arrah road unsafe.

*Futtehghur.*—The 10th Native Infantry mutinied on the arrival of the mutinous regiments from Seetapore. Four companies went off with the treasure. One company guarded the Europeans some of whom had been killed, and “the latest information which has been received represents that there are about 35 men, and 50 women and children, shut up in the fort with provisions but for few days, and threatened with attack by the mutineers encamped in their vicinity. The Nawab Raees is said to have been set up by the mutineers.” It is understood that the majority of Europeans escaped down the river, and were murdered by Nana Sahib.

*Ghazeepore.*—All well.

*Goruckpore.*—500 Goorkhas had arrived. The two companies of 17th Native Infantry and detachment 12th Irregular Cavalry were disarmed on 1st instant.

*Gwalior.*—Nothing certain.

*Hazareebagh.*—The detachment of the 8th Native Infantry mutinied on 30th July. The ladies and children had been sent off on 28th July, and an express sent for a portion of the Ramghur Light Infantry Battalion. Captain Drew in command finding that native letters had arrived announcing the revolt at Patna, ordered the native officers to his quarters to explain of the facts. They came, but it was evident their men could not be relied on. The sepoy immediately rose but the Europeans rode through the jungle to Bagoda, and thence to Ranee-gunge. Lucknow was still holding out. The Acting Chief Commissioner Major Banks had been killed.

*Mhow.*—British authority was re-established.

*Mooltan.*—1st Bombay Fusiliers and 1st Belooch Battalion have arrived.

*Moradabad.*—Mr. C. B. Saunders supplies details of the revolt at this place. (No date to the letter.) The troops, part of the 29th Native Infantry, and some Irregular Cavalry at first seemed obedient, and assisted to put down anarchy, but on the 2nd June news of the Bareilly massacre arrived, and the sepoy seized all the treasure 75,000 rupees, the opium and the plate chests

deposited. The officers of Irregular Cavalry escorted the Europeans to Meerut, and were promoted. The officers of the 29th were not however with the party. On 30th June, the Lieutenant Governor warmly praised the conduct of the civil officers concerned.

*Neemuch.*—Further details of the mutiny in this place are supplied by the Superintendent under date June 16. On the morning of 2nd June, the native officers all took an oath on the Koran and the Ganges water to be faithful to each other and their salt. On the 3rd November, the Artillery broke out the Cavalry joined them and then the 72nd. “To provide for this emergency, I had furnished Captain Macdonald with a written promise on the part of Government of rewards to the following amount in case of a successful defence of the fort and treasury, but to be used only in case of an outbreak :—

	Rupees.
To each sepoy, .. .. .	100
To each naick, ... .. .	300
To each havildar, .. .. .	500”

The 7th Gwalior Regiment held firm for a time, but an officer Heera Singh ordered the gates to be opened. Captain Macdonald who remained with his officers to the last thereupon left. The Superintendent hovered about the burning station till daylight in hope of assisting any fugitives and then rode off by the Oodeypore Road.

*Oude.*—All lost except Lucknow.

*Patna.*—In a state of excitement.

*Rewah.*—Kullinger has been recovered by the Maharajah of Punnah. The Maharajah has offered his troops.

*Saugor.*—31st Native Infantry, still loyal. The European Artillery are still in the fort. Dumoh is held by some men of the 42nd Native Infantry, the remainder having marched for Delhi.

On 23rd August the Governor General in Council continues the narrative :—

*Agra.*—The Lieutenant Governor on July 28th, applied to the officer commanding at Cawnpore for a force to move up the Doab. The battery in the station could not horse more than two guns. Some supplies and ammunition could be sent to meet the column on the road. There were only means to horse two guns in the fort.

*Allahabad.*—“All quiet at the station itself. The communication between Allahabad and Cawnpore had been interrupted by the rebels. A party was sent out which dispersed the rebels, and reopened the communication. The number of effective men at Allahabad on the 17th was 492 European Infantry, 54 Euro-

pean Artillery, 30 European invalids, and 152 Seik Infantry. Indications of rebels from Oude crossing over, and again cutting off the communication existing, the steam gun-boat *Junna* was sent up the Ganges one-third of the way to Calpee, with orders to destroy all boats; and the steamer at Cawnpore had, in like manner, been sent down to destroy the boats on the river, and to prevent the threatened crossing of the rebels at Futtehpore. The Tehsildars from the Oude districts were interfering with the villages near the road between Allahabad and Benares. No native troops were available to protect these villagers."

*Allyghur*.—An Agent of the King of Delhi has arrived to collect revenue.

*Arrah*.—The Dinapore mutineers reached Arrah on 27th. The post was defended by the Civil residents of the station in the house of Mr. Boyle, Railway Engineer. Major Eyre with 150 of H. M.'s 5th and 3 guns advanced from Buxar, and met the enemy near Beebeegunge. They numbered 2500 besides Koer Singh's irregular forces. The sepoys made determined rushes on the guns, but were driven back by showers of grape. They were then dispersed by a general charge, and fled precipitately. Major Eyre, reinforced by 200 of the 10th Foot and 100 Sikhs left Arrah on 11th August. On 13th August, he reached Jugdispore, the residence of Koer Singh. The sepoys were driven out of the jungle in front of the house, and Koer Singh fled, precipitately. The house was found full of grain ammunition and other of warlike stores. The palace, the town and a new Hindoo temple belonging to Koer Singh were destroyed. Three hundred of the enemy were killed in defence of Jugdispore.

*Barcilly*.—The district is understood to be deserted, the mutineers having gone to Delhi.

*Benares*.—The Commissioner of the Patna Division has ordered in all Civil authorities.

*Bhaugulpore*.—The 6th Irregular Cavalry deserted on 14th August taking the direction of Rohnee. The 32nd there stationed fired on them. The number who fled was 220. Nineteen men remained faithful. On the 18th August, they left for Gya.

*Cawnpore*.—On 27th July, Brigadier General Neill transmits certain proclamations found at Cawnpore, and signed by Nana Sahab. The first orders Boondoo Singh, Subadar of the 17th Native Infantry to murder all the English permitted to retire from Cawnpore as soon as they reach the other side of the river. The second was as follows:—"A traveller who came to Cawnpore from Calcutta, had heard that first the Council met for the

purpose of distributing cartridges to take away the religion of the Hindustanis. The intention of the Council was this, that when the religious business comes on 7,000 or 8,000 Europeans will kill about 50,000 Hindustanis; then all will become Christians. The sense of this proposal was sent to Queen Victoria, and she having approved of it several Councils were held, which were joined by the European merchants. This determination was come to, that so many Hindustanis should be asked for, that no matter how many Hindustanis there were in the day of battle, they should be defeated. When this request was known in England, 35,000 soldiers set out in ships for Hindostan; and when the news of their departure reached Calcutta, orders were then issued to serve out the cartridges, with the fixed purpose of making the army Christians; and then the christianizing of the ryots would be quickly accomplished. The cartridges were smeared with the fat of pigs and bullocks, the news of which was received from the Bengalees employed in making them. For saying this one of these men was put to death, and all the others put in prison. While they were doing this the Vakeel of the Sultan sent him news from London that 35,000 soldiers had set out for Hindostan to christianize the people there. The Sultan ordered the King of Egypt thus: 'This is no time for peace; do you deceive Queen Victoria, because my Vakeel has written that 35,000 men, for the purpose of christianizing the army and people of Hindostan, have set out for that country. Now the remedy for this is difficult for me; but if I neglect this how shall I show my face before God? and some day the like will happen to myself, for if the English christianize India they will do the same to my country also.' On receipt of this order the King of Egypt, before the assembly and arrangement of the European force, sent his own army to Alexandria, which is on the road to India. Immediately on the arrival of the European army, that of the King of Egypt began to fire on them from all sides with guns, and having destroyed the ships, sunk them, and not one European escaped. The English in Calcutta, after having issued the order for biting the cartridges, and exciting this rebellion, were awaiting reinforcements from London, for the great God, from his complete omnipotence, is first, and his decrees are accomplished. When the news of the destruction of the London army arrived, the Governor-General was much afflicted and grieved, and he lamented. 'In the night, murder and robbery; in the morning, neither head upon the body nor crown upon the head. The blue sky makes one revolution; neither Nadir nor a trace of him remains.' The third organizes the mutinous army on the Irregular plan one Colonel Commandant, one Major and one Adjutant. Each Subadar is to

have a company. In the Adjutant's office one Meer Moonshee and two Mohurrirs are allowed. The fifth proclamation fixes the rates of pay. "In the Artillery, Infantry, and Cavalry, there shall be four commanding officers. The pay of a Colonel shall be 500 rupees, and his allowance 250 rupees; the Major's pay shall be 500 rupees; and the Adjutant's allowance, in addition to his pay as a Subadar, shall be 150 rupees. The Quartermaster also shall have 150 rupees, in addition to his pay as a Subadar, both of whose duties he is to do." The fourth grants pensions for wounds and old age, but the amount is not fixed. On July 29th, Brigadier General Havelock describes the victory of Oonao. He moved from Mungulwar on 20th July, and found the enemy encamped with a town on his left, a swamp on his right, and a loopholed village and garden enclosure in front. The bastioned enclosure was carried, the village was set on fire, and the infantry and horse were dispersed. General Havelock then advanced, and captured the fortified town of Buserutgunge. Nineteen guns were taken from the enemy. 12 were killed and 76 wounded on the British side. On 4th August, the General was joined by the half of Major Olphert's battery, the gun lascars of which were immediately disarmed, and sent to Cawnpore to work in the trenches under penalty of death. On 5th August, General Havelock stationed at Mungulwar heard that the enemy had re-occupied Buserutgunge. He accordingly drove them out of it, capturing two guns, and killing 300 men. He feared (Despatch of August 6th) that he would be unable to relieve Lucknow. On 11th August, the General fought his eighth combat since 12th July. The enemy 4,000 strong with some guns had again occupied Buserutgunge. The enemy were beaten out of a strong position with the loss of 200 men. The British loss was only 35. On 13th August, the whole force recrossed the Ganges. On the 15th August, General Havelock reports that of 1,415 troops, 335 are sick and wounded.

On 16th August, he again defeated the enemy at Bithoor killing 100 men.

On 19th August, the total of non-effectives amounted to 17 officers, and 466 men. On the same day, General Havelock reported that the Oude men were moving down the left bank to attack Cawnpore, and that the Gwalior Contingent with a siege train was at Culpee intending an attack. On 20th August, he again demands reinforcements. On 21st, he states that unless reinforced he must fall back on Allahabad. On 23rd, news of promised re-inforcements reached Cawnpore.

*Delhi.*—Various details of engagements are supplied. On the 14th, the mutineers moved out of the city and attacked the

batteries at Hindoo Rao's House. The force amounted to 20 Regiments of Infantry, a large body of Cavalry, and some field pieces. The troops maintained their position for about seven hours and finally drove the enemy out of the suburbs. The force at this time consisted of 7092 rank and file. "On the last three occasions the loss of the enemy is said, by their own account, to have amounted to 3,000. Our loss was trifling, about 200 only. The mutineers were very dispirited by the failure of their attacks, and were applying for leave to go to their homes. Accounts from Delhi of the 8th mention that the powder manufactory in Begum Sumroo's house, Delhi, had been blown up by our shells: 500 are said to have been killed, and a very large quantity of sulphur and saltpetre completely destroyed. No serious fighting had taken place between the 2nd and 8th. The Hindoos had killed five butchers for having slaughtered cows: no retaliation had been attempted by the Mussulmans. The Kumaon Battalion (Goorkah) with a large convoy of treasure, arms, and stores, had joined on the 1st. The Punjaub moveable column, consisting of Her Majesty's 52nd, a wing of the 61st, and some Punjaub troops, was expected on the 15th. Major-General Wilson intends firmly to hold his ground. Our position is very strong."

*Dinapore.*—On the 16th some men of the 10th Foot attacked some of the sepöys of the 40th who had remained faithful, and five sepöys were killed.

*Futtehghur.*—It is certain that this place has fallen and that the fugitives were murdered on 13th July by Nana Sahab.

*Fyzabad.*—On 15th July, Col. Lennox submits a narrative of the mutiny at that station and his own escape:—"On the evening of the 8th June, intimation having been received that the 17th Regiment Native Infantry were to march into Fyzabad on the following morning every officer was at his post, myself at the quarter-guard, the troops by their arms. Two companies were told off for the support of the 13th Light Field Battery. Every precaution taken for defensive operations. At 10 p. m. an alarm was sounded in the 6th Oude Irregular Infantry lines, and taken up by the 22nd Regiment Native Infantry. The battery prepared for action, and the two companies in support of the guns immediately closed in and crossed bayonets over the vents, preventing the officers of Artillery from approaching the battery. This was reported to me by Major Mill, commanding the Artillery. I then went to the guns, and explained to my men that the bugle sound was a false alarm, and ordered them to return to their respective posts, and leave only one sentry over each gun. I then returned to the lines of the 22nd Regiment, with a view of dismissing the regiment. I found the light company had



surrounded the regimental magazine, with a view, as they said of protecting it. It appears this was a concerted scheme, for the troop of 15th Irregular Cavalry sallied out and instantly planted patrols all round the lines. I again visited the guns, and was refused admittance; the Subadar, (the prime leader of the mutiny) Dulleep Singh telling me it was necessary to guard the guns, and requesting me to go to the quarter-guard and take my rest, and that nothing should happen to myself and officers so long as we remained with the regiment. A guard with fixed bayonets surrounded me, and escorted me to my charpoy in the quarter-guard; the officers also of the regiment were not allowed to move twelve paces without a guard following them." On 9th July, the officers descended the river in boats, Colonel Lennox and his family alone being detained. At 2 p. m. he also started, but near Adjoodhea he quitted the boat and tried to march to Goruckpore. He was seized by an armed horseman, but protected by some followers of a neighbouring zemindar, Meer Mahommed Kibossein Khan, who guarded him for some days and then sent him to Goruckpore. Farrier Sergeant Busher, on 29th June, relates the fate of part of the officers who escaped. The first two boats were compelled about twenty-one miles from Adjoodhea to land, to escape a body of armed men watching for them. Seven of the 8 in the boat then ran across country. Six however were one after another killed by the villagers. Sergeant Busher himself was at last caught, and exhibited from village to village, but his captor was warned by a brother to beware of retribution, and subsequently he treated the Sergeant kindly, and gave him up to a party sent from Captain Gunge. Thence he arrived in safety at Ghazeepore.

*Ghazeepore.*—The 65th Native Infantry were disarmed on 10th August.

*Goruckpore.*—It was abandoned on the 13th except by Mr. Bird.

*Hansi and Hissar.*—This district is being settled by General Van Cortlandt.

*Hazareebaugh.*—The 2 companies of the Ramghur battalion sent to Hazareebaugh mutinied, and on 1st August, took the road to Ranchee expressing hostility to all Europeans. All officers at Ranchee went into Hazareebaugh. The troopers remained firm and marched on to Hazareebaugh. The Ramghur Rajah lent fifty men to help to restore order. The detachments of the Ramghur battalion at Purulia and Chyebassa also mutinied.

*Gya* was abandoned under orders of the Commissioner. Mr. Money, the Collector and Mr. Hollings however returned and with a party of H. M.'s 64th saved the treasure, and after beating off some Nujeebs on the Grand Trunk Road sent it

safely to Calcütta. The Gya officials reoccupied the station with some Sikhs.

*Lahore.*—The disarmed 26th Native Infantry mutinied and killed Major Spencer. They were attacked and 30 killed, but the remainder moved off.

*Lucknow.*—The garrison was holding out on 16th.

*Mhow.*—On 9th July, Major C. Cooper of the 23rd Native Infantry reports in detail the mutiny of that Regiment. On 1st July, Colonel Platt received information that Colonel Durand had been compelled to fly by revolted sepoys in the service of Holkar. The mutiny broke out at 10 p. m. the sepoys firing on the officers. The latter retreated to the fort whence Colonel Platt and his Adjutant rode down to the lines. They were killed while Colonel Platt was haranguing the men. Two guns under Captain Hungerford soon drove the men out of the lines, and they went off to Indore. Two sepoys saved Lieutenant Simpson, but though promised promotion they joined their comrades.

*Saugor.*—The 31st Native Infantry have been employed against the Boondelas. They behave remarkably well. "The communication between Raneegunge and Benares was stopped from the 2nd of August to the 16th, in consequence of the officials having been obliged to quit their posts at Bagoda and Shergotty, and from the mutineers from Dinapore having come on the Trunk Road at Sasseram and destroyed the electric telegraph, post office, and removed the dak horses."

*Agra.*—There was great want of money in the fort up to 27th August, some was raised by supplying bills.

*Allahabad.*—A plot was discovered here to surprise the fort and release the State Prisoners Hyrt Khan, Man Singh, Lall Singh, and Prema. It was accidentally discovered and the ring-leaders hanged. The Government was of opinion that the prisoners were not concerned in the mutiny.

*Barrackpore.*—The 70th Native Infantry have volunteered for China.

*Cawnpore.*—On 1st July the following proclamation was issued by Nana Saheb:—"As by the bounty of the glorious almighty God, and the enemy destroying fortune of the Emperor the yellow faced and narrow minded people have been sent to Hell, and Cawnpore has been conquered, it is necessary that all the subjects and landholders should be as obedient to the present Government as they have been to the former one; that all Government servants should promptly and cheerfully engage their whole mind in executing the orders of Government; that it is the incumbent duty of all the ryots and landed proprietors of every district and pergunnah, to rejoice in the thought that Christians have been sent to Hell, and both the Hindoo and Mahomedan religions

have been confirmed; and that they should, as usual, be obedient to the authorities of the pergunnahs, and never to suffer any complaint against themselves to reach the ears of higher authorities." Reinforcements of 1268 men, the 90th, 5th Fusiliers, and 66 Artillerymen were ordered to join General Havelock. All disposable force in Allahabad was also ordered up. On August 29, Mr. Shepherd of the Commissariat Department furnishes some details of the original outbreak. The Cawnpore residents were under the idea that the regiments would march at once for Delhi. An entrenched camp was prepared and supplies placed in it. The Nana of Bithoor undertook to protect the treasury. The Christian residents removed into the neighbourhood of the entrenchment on 1st June. On 5th June, the 2nd Cavalry rode off followed by the 1st Native Infantry. The latter saved their officers, sending them into the entrenchment. In the evening the 2 remaining Regiments, the 53rd and 56th also went off. The native commissioned officers did not join the sepoys but went away to their homes. At Nuwabgunge the mutineers were received by the Nana Saheb. They were joined late in the evening by the Golundaze of the 3rd Oude Horse battery who strongly urged an attack on the entrenchment. Nana Saheb consented, and six guns having been got ready commenced firing on the entrenchment. The fire was returned. There were in the entrenchment :—

1st company, 6th battalion Artillery,	...	...	61
Her Majesty's 32nd Regiment,	...	...	84
1st European Fusiliers,	..	...	15
Her Majesty's 84th Foot,	...	..	50
			— 210
Officers of the three Native Infantry, Cavalry, and others, with the staff,	...	..	100
Merchants, writers, and others, about,	..	...	100
Drummers, about	..	...	40
			— 140
Women and children of soldiers, about	...	..	160
Ditto of writers, merchants, and drummers,	..	..	120
Ladies and children of officers,	..	...	50
			— 330
Servants, cooks, and others, after a great number had absconded, on hearing the enemy's guns firing,	...	...	100
Sick sepoys and native officers who remained with us,			20
			— 120
Total,	..	...	900

For three days the enemy's fire was incessant, but after that they

used to stop for two hours at about candle light. The mutineers never, however, dared attack. The enemy commenced firing live shells, and on 13th June, the barrack in the centre of the entrenchment took fire, and in spite of every exertion the helpless wounded and sick were burnt to death. The enemy several times attempted an assault, but were always beaten, and latterly directed their fire on the guns. Two only out of the eight remained sound. A very heavy attack was made on 21st June, defeated chiefly by the gallantry of Captain Moore. The writer was taken prisoner while endeavouring to obtain information in the city, but observes that it was possible by a bold charge to have seized the guns. The garrison however were not aware that they were left almost unwatched. On 24th June, Mrs. Greenway, a very old lady captured by the Nana but spared on promise of a lakh of rupees, was sent to open communications. The mutineers offered to let the English depart safe if all the guns and treasure were surrendered. This was accepted, and at 8 o'clock A. M. the force embarked in boats provided by the Nana. The men were then fired on and shot down, and the women and children carried to a brick building in the Nana's camp. There they remained in terrible misery. The force of the Nana amounted to 20,000 men, and the city was given up to plunder. After the battle of Futtehpore some rebels reported that letters had been received from the camp, and it was resolved to put all who knew English to death. "The native spies were first put to the sword, and after them the gentlemen, who were brought out from the outbuildings in which confined, and shot with bullets; thereafter the poor females were ordered to come out, but neither threats nor persuasions could induce them to do so. They laid hold of each other by dozens, and clung so close that it was impossible to separate or drag them out of the building. The troopers therefore brought muskets, and after firing a great many shots from the doors, windows, &c. rushed in with swords and bayonets. Some of the helpless creatures in their agony fell down at the feet of their murderers, clasped their legs, and begged in the most pitiful manner to spare their lives, but to no purpose. The fearful deed was done most deliberately and completely in the midst of the most dreadful shrieks and cries of the victims. There were between 140 and 150 souls, including children; and from a little before sunset till candle-light was occupied in completing the dreadful deed. The doors of the buildings were then locked for the night; and the murderers went to their homes. Next morning it was found, on opening the doors, that some 10 or 15 females, with a few of the children, had managed to escape from death by falling and hiding under the murdered bodies of their fellow prisoners. Fresh order was

therefore sent to murder these also ; but the survivors not being able to bear the idea of being cut down, rushed out into the compound, and seeing a well there threw themselves into it without hesitation, thus put a period to lives which it was impossible for them to save. The dead bodies of those murdered on the preceding evening were then ordered to be thrown into the same well, and julluds were employed to drag them away like dogs." Thus was on the 16th July. On 17th July the English troops entered Cawnpore.

*Delhi.*—Brigadier Nicholson arrived on 14th August with H. M.'s 52nd, a wing of H. M.'s 61st and 200 horsemen. On July 30th, Brigadier General Wilson wrote to Mr. Colvin:—"It is my firm determination to hold my present position and to resist any attack to the last. The enemy are very numerous, and may possibly break through our entrenchments and overwhelm us, but the force will die at their post. Luckily the enemy have no head and no method, and we hear dissensions are breaking out among them. Reinforcements are coming up under Nicholson. If we can hold on till they arrive, we shall be secure. I am making every possible arrangement to secure the safe defence of our position." On 26th August, Brigadier Nicholson defeated the enemy who had attacked the British rear, and took 12 field pieces. On 31st August, the force before Delhi is estimated at "seven companies of Her Majesty's 8th Foot and the 52nd, 60th and 61st Regiments; also the 1st and 2nd Bengal Fusiliers, the 9th Lancers and a squadron of Her Majesty's 6th Carabiniers. The native Regiments are the Sirmoor and Kumaon Battalion, the 1st and 2nd Punjaub Infantry, the 4th Sikh Regiment, the Guide Corps and wing of the 1st and 2nd Punjab Cavalry. There are six troops of Horse Artillery, three reserve companies of Europeans and Sikhs, a third class siege train in camp, and a second class siege train on the road.

"The rebels have twenty-four regiments Regular Infantry, three Regular Cavalry, three regiments of Irregulars, 400 miscellaneous Horse from various regiments and contingents, and an armed rabble of fanatics. They have also thirty Horse Artillery guns, with the Delhi fortress and magazines." An attempt at negotiation had been made.

*Ferozepore.*—A wing of the 1st Bombay Fusiliers had arrived from Mooltan and Kurrachee.

*Goruckpore* is occupied by an Oude Chuckladar named Mahomed Hoossein, he is organizing regular establishments.

*Jhansee and Nowgong.*—The men at Nowgong and at Jhansee had abandoned the question of the cartridge and were ashamed to hear about it. On 4th June, however the 7th company of the wing of the 12th Native Infantry stationed at Jhansee mutini-

ed. The remainder said they would stand by their officers but on the following day killed Captain Dunlop and Ensign Taylor as they were returning from the quarter guard. The remaining officers Civil and Military got into the city fort. There they were attacked on 7th July, and shot down a great number. They had however no provisions and they were obliged to yield; the mutineers solemnly pledging themselves to spare their lives. All men, women and children were massacred, except Quartermaster Serjeant John Newton of the 12th Native Infantry, a very dark half caste. Meanwhile news of this mutiny had been received at Nowgong. At sunset of the 10th, the Sikhs shot down an unpopular Havildar Major, and seized the guns. The officers threatened by the men took the Gurowlee road, fired into with grape as they passed. They escaped however and till 21st June continued their flight to Banda. There the Raja received them kindly and sent them to Nagode. They were however assailed by all the villagers in British territory, and Lieut. Townsend, Major Kirke, the Sergeant Major Lascar, Mrs. Smalley, Dr. Mawe, Lieut. J. H. Barber were murdered or died of sun-stroke and fatigue. The treasure lost amounted to Rs. 1,21,494. There were also "in the magazines at Nowgong and Jhansi, 1,255 pounds of gunpowder for musketry, besides some barrels of coarse powder for cannon, that was in the Jhansi magazine (the quantity is unknown to me); 3,60,000 percussion caps; 1,30,000 ball cartridges; 20,000 blank cartridges; about 10,000 carbine ball cartridges the 6th Light Cavalry left, though muskets were in store beyond the compliment of the corps."

*Lahore.*—The 26th Native Infantry which mutinied after it had been disarmed, and murdered Major Spencer has been almost destroyed.

*Lucknow.*—On the 16th August, Colonel Inglis in answer to a suggestion that he should cut his way out reported that the enemy had brought up their 18-pounders within 150 yards of the British position. He had only 350 effective Europeans, natives 300, sick and wounded 120, women and children 450. The garrison could hold out till 10th September. They had got some provisions, and spiked some great guns in a sortie. Many of the enemy by 2nd September were leaving for their homes.

*Nusseerabad.*—The officers of the 15th and 30th Native Infantry escorted by fifty men are marching to Agra.

*Patna.*—The opium godown has been fortified. Detachments of Sikhs and H. M.'s. 5th are placed in it.

*Saugor.*—The 31st continue to behave well.

*Sihore.*—The Bhopal Contingent mutinied on 6th August and raised the Mussulman flag.

On 24th September, the Governor General in Council continues the narrative:—

*Agra.*—On the 9th September, Mr. Colvin, the Lieutenant Governor died of bowel complaint, and Colonel Hugh Fraser, c. b., was appointed Chief Commissioner of Agra and the neighbouring divisions. The post was threatened by the Gwalior mutineers, but they were unable to cross the Chumbul which had risen.

*Allahabad.*—A party had crossed into the Dooab between Allahabad and Cawnpore. They numbered 400 men with four guns. They were attacked by a party despatched, from General Outram's columns, and were dispersed. They threw their guns into the river. On 11th September, there were 150 Europeans, 30 Artillery Invalids, 120 Sikhs.

*Barrackpore.*—H. M's. 23rd Fusiliers has gone into Fort William. H. M's. 53rd have been sent to the Upper Provinces.

*Cawnpore.*—Sir James Outram with H. M's. 5th and 70th and Eyre's battery arrived on 16th September. The troops crossed on the 19th September. On 17th September Sir James Outram telegraphed to ask whether when Lucknow was taken, he should hold or abandon it. He was in favour of holding it. In reply he was instructed to do whatever was most conducive to the safety of the garrison. He was not however to rely on speedy reinforcements.

*Delhi.*—The siege train had arrived with a large supply of ammunition. Some details of actions previous are enclosed. On 16th July the rank and file numbered 7169. 536 were sick, and 419 wounded. It was expected that 10 heavy guns would open on 8th, and 36 more on following day. "Disorder in city increasing. Fresh overtures from the Palace—had not been received. King in consternation, and bankrupt. The bankers complaining of the excesses of the soldiery; the latter taunting the King with his inability to pay them. Urgent orders had gone from the King to the Indore and Gwalior mutineers to proceed to Delhi. The health of the troops before Delhi not so good; fever prevalent; Artillery healthiest. Two thousand from the Rhotuck district had sent in petition for pardon: in reference to this, the late Lieutenant Governor, Mr. Colvin had written to Mr. Greathed, that if they had not been guilty of heinous crimes, especially towards Christians, and their secession would be an important step gained towards the pacification of the district a strong recommendation in their favour to the Governor General might be promised them on their laying down their arms."

*Ferozepore.*—The men of the 10th Light Cavalry attempted to seize the guns on the 19th August, while the men were at

dinner. The artillerymen with the wing of the Bombay Fusiliers drove them off. Some were killed.

*Futteghur.*—An authentic account of the mutiny at Futteghur is contained among the enclosures. On 3rd June, information was received of the Bareilly and Shahjehanpore mutinies. On the 4th June therefore as the 10th were known to be mutinous the ladies and children and many of the residents left in boats. Hurdeo Buksh offered protection to Mr. Probyn and any of his friends and about 40 went there. The rest proceeded onwards to Cawnpore. At Dhurrumpore it was reported that the 10th had returned to their duty, and some of Hurdeo Buksh's party returned. On 18th June, the officers were roused by information that the 10th was in open mutiny and had broken open the jail. The arrival of the 41st from Seetapore had caused the outbreak. The colours were laid at the feet of the Nuwab who refused them, but asked for the treasure. The sepoy however shared that among themselves. The Poorbeas immediately started for their homes, where they were plundered by the villagers. The remainder were killed by the 41st "because they were not allowed a share in the public money." It was resolved to hold the fort though out of 100 Europeans only 33 were able bodied men. Seven guns were mounted in the fort. For four days the enemy kept up an ineffectual fire making now and then abortive efforts at an escalade. On the 5th day, the enemy took up positions on the neighbouring roof tops which greatly annoyed the garrison, and killed two officers. The besieged tried advancing under a covered way, and then a mine but both failed. Another mine however was run and it was determined to try to escape. The garrison were divided into three parties, the ladies and children placed in three boats and on 4th July, the voyage commenced, one boat proved unmanageable and was abandoned. The remainder one was caught by the mutineers, and the crew unable to escape flung themselves into the water. One or two reached the first boat, but the majority were murdered. The first boat was destroyed when it reached Cawnpore, but one or two of the second escaped hiding themselves in the villages.

*Goruckpore* still occupied by Mahomed Hoossein.

*Hazareebagh.*—"A force is marching, via Hazareebagh to reoccupy Dorunda, in Chota Nagpore. The Ramghur mutineers and guns reported to be on the south side of the Soane on 23rd September. The column under Colonel Fisher had arrived at Baroon on that date, and an attempt would be made to capture them."

*Mhow.*—All quiet but Malwa quite disorganized.

*Neemuch.*—The Joudpore Legion mutinied at Erinpoora on



22nd August. The party of the same Legion at Mount Aboo mutinied 21st August, but were driven down the hill by some of H. M.'s 81st Foot. The Bheel companies of the Legion remained faithful.

*Oude.*—Lucknow was becoming weaker and the native troops losing heart. Man Singh was holding aloof. He was promised by the Government of India "that if he gave effective proof of his good will his position should be, at least, as good as it was before the British assumed the Administration in Oude, and that any promises made by Sir H. Lawrence should be redeemed." The provisions would hold out till 1st October. Man Singh said to have declared for the garrison.

*Rewah.*—The Rajah had left his capital, Koer Singh's men descended the Ghauts moving westward. Lieutenant Osborne was restoring order.

On 8th October, the Governor General in Council continues the narrative :—

*Agra.*—All quiet.

*Allahabad.*—"A portion of the Naval Brigade under Captain Peel arrived on the 2nd September. Insurgents from the left bank of the Ganges had crossed over on the line of road, and had occupied a village at Papamow, only five miles from the fort. A moveable column was being organized to punish these people, but the urgent necessity of pushing on every available man to Cawnpore, had delayed the formation of the column. By the last accounts the successes of our troops at Lucknow, had appeared to render the insurgents less confident. The rail is now used for forty miles to Lohunga, to which the one locomotive ready runs daily."

*Azimghur.*—The Goorkhas under British officers re-established British authority.

*Barrackpore.*—The 23rd Fusiliers and 93rd Highlanders, 3 companies 82nd Foot, 2 companies Royal Artillery and 1 company Sappers had arrived from China. 500 13th Light Artillery had also come in from the Cape and a company Royal Artillery with 58 horses.

*Bareilly.*—"Nothing from this place itself : but it is reported that the officer commanding in Kumaon, hearing that a move was intended on Nynee Tal by a force of 3,000 Pathans, desired the ladies and children to retire to Almorah, proceeding himself with all the disposable men of the 66th Goorkhas to Nynee Tal. On the insurgents arriving within thirty miles of the foot of the hill, finding a warm reception prepared for them, they retired to Bareilly, and were not likely to make a second attempt : 500 of the 66th Goorkhas and 6 guns had been left at Nynee Tal for the present."

*Bolundshukur* recovered by Colonel Greathed's column of pursuit.

*Delhi.*—“ After six days of open trenches, two excellent and most practicable breaches were formed in the walls of the place, one in the curtain to the right of the Cashmere Bastion, the other to the left of the Water Bastion ; the defences of those Bastions, and the parapets giving musketry cover to the enemy commanding the breaches, having also been destroyed by the Artillery.

“ The assault was delivered on four points. The first column, J. Nicholson, consisting of Her Majesty's 75th Regiment (300 men), the 1st European Bengal Fusiliers (200 men), and the 2nd Punjaub Infantry (450 men), assaulted the main breach, their advance being admirably covered by the 1st Battalion Her Majesty's 60th Rifles, under Colonel J. Jones. The operation was crowned with brilliant success, the enemy after severe resistance being driven from the Cashmere Bastion, the Main Guard, and its vicinity, in complete rout.

“ The second column, under Brigadier Jones, of Her Majesty's 61st Regiment, consisting of Her Majesty's 8th Regiment (250 men), the 2nd European Bengal Fusiliers (250 men), and the 4th Regiment of Sikhs (350 men), similarly covered by the 60th Rifles, advanced on the Water Bastion, carried the breach, and drove the enemy from his guns and position with a determination and spirit which gave me the highest satisfaction.

“ The third column, under Colonel Campbell, of Her Majesty's 52nd Light Infantry consisting of 200 of his own regiment, the Kumaon Battalion (250 men), and the 1st Punjaub Infantry (500 men), was directed against the Cashmere gateway. This column was preceded by an explosion party, under Lieutenants Home and Salkeld, of the Engineers, covered by the 60th Rifles. The demolition of the gate having been accomplished, the column forced an entrance, overcoming a strenuous opposition from the enemy's Infantry and heavy Artillery, which had been brought to bear on the position. I cannot express too warmly my admiration of the gallantry of all concerned in this difficult operation.

“ The Reserve, under Brigadier Longfield, Her Majesty's 8th Regiment, composed of Her Majesty's 61st Regiment (250 men), the 4th Regiment Rifles (450 men), the Belooch Battalion (300 men), the Jheend Rajah's auxiliaries (300 men) and 200 of Her Majesty's 60th Rifles, who joined after the assault had been made, awaited the result of the attack, and, on the column entering the place, took possession of the posts I had previously assigned to it. This duty was ultimately performed to my entire satisfaction.

“The firm establishment of the Reserve rendering the assaulting columns free to act in advance, Brigadier General Nicholson, supported by Brigadier Jones, swept the ramparts of the place from the Cashmere to the ‘Cabul Gates, occupying the bastions and defences; capturing the guns, and driving the enemy before him.

“During the advance, Brigadier General Nicholson was, to the grief of myself and the whole army, dangerously wounded.

“Colonel Campbell, with the column under his command advanced successfully from the Cashmere Gate by one of the main streets beyond the ‘Chandnee Chouk,’ the central and principal street of the city towards the Jumma Musjid, with the intention of occupying that important post. The opposition, however, which he met from the great concentration of the enemy, at the Jumma Musjid and the houses in the neighbourhood, he himself, I regret to state, being wounded, satisfied him that his most prudent course was not to maintain so advanced a position with the comparatively limited force at his disposal, and he accordingly withdrew the head of his column and placed himself in communication with the Reserve, the present position, therefore embraces the Magazine on one side, and the Cabul Gate on the other, with the Moree, Cashmere and Water Bastions, and strong intermediate posts, with secure communication, along the front and to the rear.” From this base the city would be gradually carried.

The following table of forces up to 14th August in Delhi is authentic :—

STATEMENT showing the Number of Troops, and the Places from which they revolted, and arrived at Delhi ;  
prepared by Rujjub Allie Khan, Meer Moonshee to the Commander-in-Chief, August 14, 1857.

No.	Cantonment from which the Troops revolted.	Date of arrival at Delhi.	Cavalry.	Foot.	Guns and Baggage.
1	Meerut, ... ..	1857. May	11 8 Troops, 3rd Regiment Cavalry.	2 Regiments Infantry, the 11th and 20th N. I.	None.
2	Delhi, ... ..	" "	11 None.	3 Regiments Infantry, the 38th, 54th, and 74th N. I.	6 Guns. Horse Light Field-Battery.
3	Hansi, ... ..	June	14 400 Sowars, 4th Irregular Cavalry.	1 Regiment Infantry, Hurriah Battalion.	None.
4	Muttra, ... ..	" "	5 200 Sowars, ditto.	1 Company, 44th N. I. ; 1 Company 67th N. I.	None.
5	Lucknow, ... ..	" "	20 At one time 100, and at another 400, Sowars.	At one time 450, and at another 100, Infantry.	None.
6	Nusseerabad, ... ..	" "	19 500 Sowars, Malwa and Gwalior Contingent.	2 Regiments Infantry, the 15th and 30th N. I.	6 Guns, Horse Artillery.
7	Juldundur, ... ..	" "	22 280, 6th Light Cavalry.	3 Regiments Infantry, the 3rd, 36th, and 61st N. I.	1 Gun, Horse Artillery, taken from the Rajah of Nabba.
8	Ferozepore, ... ..	" "	24 None.	300 Foot, without arms, 45th and 57th N. I.	None.
9	Bareilly, ... ..	July	1 8 Regiments Irregular Cavalry.	4 Regiments Infantry, the 78th, 28th, 29th, and 68th.	6 Guns, Horse Light Field-Battery, and 1 Station Gun.
10	Jhansi, ... ..	" "	6 and 25 14th Irregular Cavalry, arrived on 26th July.	1 Regiment Infantry, the 12th N. I., arrived on 6th July.	3 Guns, Bullock Light Field-Battery.
11	Gwalior, ... ..	June	2 400 Sowars, Gwalior Contingent.	None.	None.
12	Neemuch, ... ..	July	31 1 Regiment of Bengal Cavalry.	4 Regts. I., the 72nd N. I., the 5th and 7th Gwalior Contingent, and Kotah Contingent.	9 Guns, Horse Artillery, Kotah and Gwalior Artillery.

STATEMENT showing the Number of Troops, &c.—(Continued.)

Centonment from which the Troops revolted.	Date of arrival at Delhi.	Cavalry.	Foot.	Guns and Baggage.
13 Benares, ...	1857. August	6 200 Sowars, 13th Irregulars.	300 Foot, Sikh Regiment of Loo-dianah.	None.
14 Allypurr, ...	June	12 None.	1 Regiment Infantry, the 9th N. I.	None.
15 Agrva, ...	"	12 None.	2 Regiments Infantry, without arms, the 44th and 67th.	None.
16 Rhotuck, ...	"	14 None.	1 Regiment Infantry, the 60th N. I.	None.
17 Jhuggur, ...	May	8 300 Sowars.	None.	None.
18 New Troops raised by the King,	June	13 400 Sowars.	1,600 Foot.	None.
19 Ghazees, or Mahomedan fanatics, from Tonk, &c.	August	6 80 Sowars.	1,470 Foot.	None.
20 Omrao Bahadoor Grandson of Dondrey Khan of Ka-moona.	"	7 40 Sowars.	1,000 Foot.	None.
21 Allahabad, ...	June	27 100 Sowars, 13th Irregulars.	None.	None.
		<i>Local Cavalry.</i>		<i>Total Guns.</i>
Regular Cavalry, ...	1 Regiment and	520 men	Native Infantry, 24 Regiments and	1,350 men
Irregulars, ...	2 "	2,800 "	Miscellaneous,	Horse Light Field Battery, ... 27 guns
Miscellaneous, ...	"	770 "	Total,	Bullock, " " " " " " "
Total,	3 Regiments and	3,590 men	24 Regiments and	Total, ... 30 guns

That is 4,000 Cavalry and 12,000 Infantry with about 3,000 raw levies. On 2nd September, before Delhi there were 8,791 men of all arms, and 5,100 more on their way. Of these 3,241 were Europeans, seven regiments mustering less than 500 men a piece. The following is the General Order on the fall of the city :—

“ The Governor General in Council has received, by a telegraphic message, the gratifying announcement that Delhi is entirely in the hands of Major General Wilson’s army.

“ Delhi, the focus of the treason and revolt which for four months harassed Hindostan, and the stronghold in which the mutinous army of Bengal has sought to concentrate its power, has been wrested from the rebels. The King is a prisoner in the palace. The head quarters of Major General Wilson are established in the Dewan Khas. A strong column is in pursuit of the fugitives.

“ Whatever may be the motives and passions by which the mutinous soldiery, and those who are leagued with them, have been instigated to faithlessness, rebellion, and crimes at which the heart sickens, it is certain that they have found encouragement in the delusive belief that India was weakly guarded by England, and that, before the Government could gather its strength against them, their ends would be gained.

“ They are now undeceived.

“ Before a single soldier of the many thousands who are hastening from England to uphold the supremacy of the British power has set foot on these shores, the rebel force, where it was strongest and most united, and where it had the command of unbounded military appliances, has been destroyed or scattered by an army collected within the limits of the North-Western Provinces and the Punjaub alone.

“ The work has been done before the support of those battalions which have been collected in Bengal from the forces of the Queen in China and in Her Majesty’s Eastern Colonies could reach Major General Wilson’s army ; and it is by the courage and endurance of that gallant army alone ; by the skill, sound judgment, and steady resolution of its brave commander ; and by the aid of some native chiefs true to their allegiance that, under the blessing of God, the head of rebellion has been crushed, and the cause of loyalty, humanity, and rightful authority vindicated.

“ The Governor General in Council hopes that the receipt of despatches from Major General Wilson will soon place it in his power to make known the details of the operations against Delhi, and to record, fully and publicly, the thanks and commendation which are due to the officers and men by whose

guidance, courage and exertions those operations have been brought to a successful issue.

“But the Governor General in Council will not postpone, till then, his grateful acknowledgment of the services which have been rendered to the Empire, at this juncture, by the Chief Commissioner of the Punjaub.

“To Sir John Lawrence, K. C. B., it is owing that the army before Delhi, long ago cut off from all direct support from the Lower Provinces, has been constantly recruited and strengthened so effectually as to enable its commander not only to hold his position unshaken, but to achieve complete success.

“To Sir John Lawrence’s unceasing vigilance, and to his energetic and judicious employment of the trustworthy forces at his own disposal, it is due that Major General Wilson’s army has not been harassed or threatened on the side of the Punjaub, and that the authority of the Government in the Punjaub itself has been sustained and generally respected.

“The Governor General in Council seizes, with pleasure, the earliest opportunity of testifying his high appreciation of these great and timely services.”

*Gwalior*.—Scindiah is said to have raised from 6 to 10,000 men, and so quieted his Contingent.

*Hazareebaugh*.—Major Inglis defeated the Ramghur mutineers at Chuttra. They were 700 strong with 4 guns. He had 150 of H. M.’s 53rd and 150 Sikh Police. He defeated the enemy and took the guns. H. M.’s 53rd lost thirty-five killed and wounded.

*Jubbulpore*.—The 52nd Native Infantry mutinied on 18th September. They murdered Lieutenant Macgregor, but did not touch the treasury or the Europeans. Many were subsequently destroyed by the Kamptee Column.

*Lahore*.—The circumstances which led to the destruction of the 26th Native Infantry are explained. The sepoy of this Regiment and of the 16th and 49th Native Infantry and 8th Light Cavalry all at Meean Meer had remained quiet. On the 30th July, however they were prepared for flight. Somebody warned the commanding officer Major Spencer, who rode into the lines, where with the Quarter Master Sergeant, Havildar Major, and Subadar he was murdered. Lieutenant White who was riding past the lines gave information, and the troops turned out but the mutineers had disappeared. This was between 10 and 11 A. M. At 2 P. M. the Judicial Commissioner and Commissioner of Lahore and soon after the Chief Commissioner hastened in, and finding no pursuit in progress rode sent out three strong bodies of police in different directions. On 1st August, it was found that the mutineers had approached Shahpore. The coun-

try rose, the police killed a number, and the Deputy Commissioner of Umritsur, Mr. F. Cooper seized the remainder. They were executed at once. Of the 600 men who escaped 500 were killed.

*Lucknow.*—On 19th September, General Havelock crossed the Ganges.

The following is the General Order on the relief :—

“The Governor General in Council rejoices to announce that information has been this day received from Major General Sir James Outram, G. C. B., showing that the Residency at Lucknow was in the possession of Brigadier General Havelock’s force on the 25th ultimo, and that the garrison is saved.

‘Rarely has a Commander been so fortunate as to relieve, by his success, so many aching hearts, or to reap so rich a reward of gratitude as will deservedly be offered to Brigadier General Havelock and his gallant band, wherever their triumph shall become known.

“The Governor General in Council tenders to Sir James Outram, and to Brigadier General Havelock, his earnest thanks and congratulations upon the joyful result of which a merciful Providence has made them the chief instruments.

“The Governor General in Council forbears to observe further upon information which is necessarily imperfect; but he cannot refrain from expressing the deep regret with which he hears of the death of Brigadier General Neill, of the 1st Madras European Fusiliers, of which it is to be feared that no doubt exists.

“Brigadier General Neill, during his short but active career in Bengal, had won the respect and confidence of the Government of India; he had made himself conspicuous as an intelligent, prompt, self-reliant soldier, ready of resource, and stout of heart; and the Governor General in Council offers to the Government and to the Army of Madras, his sincere condolence upon the loss of one who was an honour to the service of their Presidency.”

*Mirzapore.*—“A wing of the 17th Madras Native Infantry and two guns have been sent to Mirzapore; and 200 men of the 10th Foot and two guns are also on their way from Dinapore. About 250 men of the 50th Native Infantry, who after the mutiny of that corps, had escorted their officers, had reached Mirzapore.”

*Nagode.*—The 50th Native Infantry mutinied on 16th September. They released the prisoners and burnt the station. The officers were protected by 150 of the men at Myhere.

On 2nd October, Major General Sir J. Outram reported that it was impossible to quit the city. The sick and wounded



women and children amounting to 1,000. He would therefore strengthen the garrison and retire.

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## THE MUTINIES.

*Parliamentary Blue Books, No. 5.*

ON 22nd August, 1857, the Government of India transmit a narrative of the events transpiring in Bengal from the middle of May to 11th July. On 23rd May, the Commissioners were directed to send in special reports on the state of feeling in their districts. During the early part of June considerable excitement existed in Behar consequent on a popular belief that Government intended to interfere with their religion. The Magistrates reported that everything depended on the troops at Dinapore, and that the Mahommedan population was thoroughly discontented. Precautionary measures were therefore adopted. The frontiers of the disaffected districts were guarded, the treasure at Arrah and Chuprah was removed to Patna, and six companies of the Sikh Police battalion were stationed there. A portion of H. M.'s 64th was sent to Gya, and confidence at first shaken was gradually restored.

"On 13th June, a Nujeeb of the Behar Station Guards at Patna was detected in an attempt to tamper with the Sikhs of the police corps, and to excite them to mutiny.

"In consequence of these said Sikhs not being soldiers, in the legal acceptance of the term, the Nujeeb was not amenable to Act XIV. of 1857. The Commissioner and Magistrate of Patna, were, therefore, appointed Special Commissioners for the district of Patna, to try and punish all offences and offenders cited in the Act referred to.

"By them he was tried, convicted, and sentenced to death, and the sentence was executed at once."

On the same day, the Behar station guards gave up a letter from the sepoy at Dinapore urging them to revolt. They received Rs. 200 each. The Commissioner arrested four Wahabee gentlemen of Patna, but did not inform the Government, and subsequently stated that he considered the sect dangerous from its numbers, influence and organization, and therefore restrained its leaders. He was directed to write more fully and frequently.

On 29th of June, the Commissioner Mr. Tayler reported that he had information of treasonable designs on the part of a Jemadar of Police in Tirhoot and Moulavie Kurreem Ali. The

Jemadar was arrested and the Moulavic fled. His property was attacked and Rs. 2,000 offered for his apprehension. On 3rd July, at 8 p. m. evening 200 men broke into the Catholic Mission. Dr. Lyell with nine Sikhs hearing the disturbance entered the compound, and was shot. His body was recovered and the rebels dispersed as the troops arrived. "Thirty of the men concerned in the disturbance were arrested, and tried by the Commissioner and Mr. Lewis. Fourteen of them, including Peer Ali, a Mussulman bookseller, said to be the man who shot Dr. Lyell, were condemned to death, and executed on the same day; the remaining sixteen were sentenced to ten years' imprisonment." Intimation of the outbreak had been sent to the Magistrate but no notice was taken. The Magistrate was therefore removed. Peer Ali the principal in the riot refused to confess anything, but "his correspondence proved him to have been in communication with Mussee-aool-Zuman, of Cawnpore, ever since the annexation of Oude, and showed that a secret conspiracy had existed for some time in Patna, carried on under instructions from the North-West, for some great ulterior purpose." The city remained tranquil up to 11th June, the period embraced in this narrative. The narrative details the conduct of some native chiefs, censures the inattention of the Commissioner of Patna to orders, and proceeds to notice Bhaugulpore. This division remained quiet, as did Rajshahye and Burdwan. In the Nuddea division and especially the Presidency, there had been panics, but these were known to the Government of India. In Dacca and Chittagong all was quiet, and also in Assam, and at Darjeeling, though the Sappers and Miners there stationed were suspected. The Sonthal Pergunnahs were also quiet, but "at Rohnee three troopers of the 5th Irregular Cavalry made a sudden and savage attack upon their officers, while the latter were sitting unarmed before their mess bungalow. The Adjutant, Sir Norman Leslie, was killed, and the Commanding Officer and Surgeon, who beat off the assailants with chairs, were severely wounded." The murderers were discovered, and the Sikh volunteers offered to march anywhere. In Chota Nagpore the soldiers were supposed to be influenced by the troops at Dinapore, but there was no appearance of insubordination. On 19th June, ladies and children were prohibited from proceeding Northwards, and measures were adopted to keep the Grand Trunk Road open.

On 1st September, the Government of India forward another narrative from the Government of Bengal embracing the period between July 12th and August 8th. One of the Patna rebels "stated that a plot had been in existence for some months, and

that men were regularly paid and money distributed to excite the people to fight for religion and the Padishah of Delhi.

“The letters found in Peer Ali’s house disclosed an organised Mussulman conspiracy to re-establish Mahomedan supremacy, and to overthrow the British Government. Copies of these letters have already been forwarded to the Government of India.” Of the 16 men hanged, some exhibited the feelings of martyrs, others died silently. The Wahabee leaders continued under surveillance, and the city of Patna remained tranquil. Reports were current about Koer Singh, a great ruined zemindar of Behar. He was ordered to Patna, but refused to obey. In Bhagulpore and Rajshahy there were some few arrests, but general tranquillity. In Dacca there was complete tranquillity, though there was some uneasiness as to the Mussulman population of Baraset. Burdwan remained tranquil, and all the Non-Regulation Districts. “On the 17th of July the provisional sanction of the Government of India was communicated, authorizing the improvement of the Civil Police in the Districts of Behar, by changing the designation of Mohurir to that of Naib Darogah; by raising their salaries to rupees 40, 35, and 30 monthly; by raising the salaries of the jemadars to rupees 20, 15, and 10, in the same proportions; and by raising the pay of the burkundazes to rupees 6 and 5 a month in the proportion of one-fourth of the former to three-fourths of the latter.

“The Lieutenant Governor was likewise empowered to reward for particularly distinguished services Police Darogahs not eligible for promotion to Deputy Magistrates by special salaries of rupees 200 and 150 a month, the number so promoted not to exceed three of each class.

“The appointment of twenty additional members of the subordinate Executive Establishment to be employed as Deputy Magistrates or Deputy Collectors, or in both capacities, in the province of Behar and on the Grand Trunk Road was granted, together with the general re-construction of the service on the footing.” Honorary Magistrates were also appointed for Behar.

An inclosure carries the narrative up to 22nd August. On 15th July, the Commissioner of Behar recommended that 200 horsemen should be enrolled at Rs. 20 a month, and some foot police raised from among low caste men. These proposals were sanctioned. Some further details were received of the proceedings in Patna, and especially a request from Mr Tayler for permission to prosecute Lootf Ali, a banker. The Lieutenant Governor doubtful of Mr. Tayler’s judgment refused to give any advice till he had received a record of the previous trial of Lootf Ali for harbouring a mutineer. He had on that occasion been

acquitted, the Judge remarking on the looseness of the evidence, and the effort made by Mr. Tayler to sway his (the Judge's) opinion by private letters.

A third inclosure carries on events to the 25th August.

In this week the 7th, 8th and 40th Native Infantry at Dinapore mutinied, and also the 12th Light Cavalry at Segowlee who murdered their officers. The Dinapore mutineers were joined by Koer Singh, a well known zemindar of Arrah. They plundered that station and the Treasury, and beleaguered the Europeans and 50 Sikhs in a house fortified by Mr. Boyle, of the East India Company. On the 25th July, the Commissioner of Patna received intimation of the mutiny, and on 1st August, he ordered the outstations to be abandoned, and the officers in charge of them to fall back on Patna. On 30th July, Martial Law was declared in the Patna Division, and the functions of the ordinary Criminal Courts were suspended in respect to heinous offences. On 28th July, the Officiating Magistrate of Behar reported that the only real danger was in an attack on Gya by the mutineers and "proposed meeting them with 45 English soldiers, 100 Seikhs, and 40 Nujeebs, either in the neighbourhood of Gya, or of defending the treasure in a pukka house with the above force, if the mutineers were in too great number to be opposed in the open field. The district was said to be disaffected throughout. Many of the sepoy's of the 8th Native Infantry belonged to it, and the Magistrate had no doubt that the mutineers would find plenty of sympathisers if disorder once began. He therefore strongly urged the detachment of more European soldiers to so important a place as Gya, if they could possibly be spared." In the remainder of Bengal all continued quiet, but in the Presidency enquiries were made as to the sale of arms, the stocks of arms were seized, and the apprehensions of the Mussulmans who expected attack during their festival were quieted.

The fourth inclosure continues the narrative to August 29th.

In Behar, Mr. Tayler was prohibited from holding trials under Act No. XVII. of 1857, he having disobeyed the order to leave all such cases to the Judge. "On 31st of July, Mr. Tayler submitted a copy of a Minute drawn up by him to show that as Europeans are scattered in small numbers over several districts, with no adequate protection, nothing but murder and disaster could be expected.

"In these circumstances, he considered concentration an imperative necessity, and the only means of recovering our position. He had therefore, 'authorized' all the officials of the districts to fall back on Patna.

"This Minute was received on the 4th of August, and on the 5th, it was intimated to Mr. Tayler that his proceedings were

wholly disapproved ; that the precipitate flight from two stations, Mozufferpore and Gya, was scandalous and disgraceful to the British name, inasmuch as they were not menaced with immediate attack ; and one of them had a large number of available English settlers near the station, while the other possessed a garrison and other means of defence.

“ The statement of the Commissioner, that he had authorized the officials of the district to come to Patna, was questioned ; because authorization implies the existence of a discretionary power, while the copy of the orders issued to the Magistrate and Collector of Gya, which had reached the Lieutenant Governor, proved that the abandonment of that station was commanded, and left no option to the authorities, as the expression used by Mr. Tayler was intended to convey.” Mr. Tayler was directed to cause the return of the officers. In Gya there were 45 Europeans and 100 Sikhs, but still it was proposed to abandon the station under Mr. Tayler’s orders. This proceeding was characterized as disgraceful, and Mr. Tayler was removed from his Commissionership and Mr. Samuells appointed. “ At the same time a Minute from the Lieutenant Governor was submitted to the Government of India, showing that Mr. Tayler had long been a source of much anxiety to his Honor as Commissioner of Revenue. The Board complained of his unsatisfactory method of conducting his duties, and intimated that unless his conduct towards them changed they could not continue to work with him. In the matter of raising funds for an Industrial Institution at Patna, Mr. Tayler had excited much dissatisfaction and scandal in his division, which was still under inquiry when the present trouble began. At such a time the Lieutenant Governor was naturally anxious to avoid any change in the head executive office of the district, and endeavoured, by constant watchfulness and the aid of the electric telegraph, so to shape the course of the Commissioner as to turn his undoubted intelligence, activity, energy, and local knowledge to good account. But the concealment of his acts and intentions, for the avowed purpose of carrying out such of his views as he thought the Lieutenant Governor would disapprove ; his constant, indelicate, and illegal interference with the course of justice ; his wilful disobedience of an order involving life and death ; and his mixing himself up with the operations of the Police Magistrate and Public Prosecutor against persons whom he subsequently tried as a Judge in the last resort, created such scandal and public discontent as to render it necessary to prohibit his again rying any such cases. By his whole line of conduct he had irritated men’s minds and engendered a feeling of insecurity among the respectable portion of the inhabitants to such extent, coupled

with his questionable proceedings in the matter of the Industrial School, as to render it impossible for the Lieutenant Governor to trust him to call upon the zemindars with the authority he ought to have possessed to assist in keeping the peace in their districts. All those culpable and reprehensible proceedings were crowned by a final act of deplorable want of judgment and discretion, no less than ordering the abandonment of all stations in his district under the influence of a panic, as discreditable as it has proved disastrous. This combination of grave causes of dissatisfaction rendered it absolutely necessary to remove Mr. Tayler from his appointment of Commissioner of Patna." A trustworthy and respectable native subordinate Moonshee Ameer Ali, a Vakeel of the Sudder Court was appointed Special Assistant to the Commissioner of Patna on 700 a month. "The appointment has been a good deal cavilled at in the newspapers, but the staple reasons assigned for objecting to it have always been, first, that Ameer Ally was a native, and secondly, that he was a Mahomedan. To persons of any sense and knowledge of affairs it cannot be needful to offer any refutation of objections so founded. They come from a class of persons who have made themselves ridiculous in the present day by supposing and suggesting that both in regard to Civil and Military operations we can, and ought to act in future by European agency alone, without reposing any trust or confidence on native aid, a thing impossible, even if it were desirable, and who are ignorant or forgetful that even in the midst of all the infamous treachery, cowardice, and cruelty, by which so many of our Indian fellow subjects have disgraced their name and nation there have been not a few signal instances of courage, fidelity, and humanity, on the part of both Mahomedans and Hindoos, and that on more than one occasion natives of both religions have remained to face danger in defending stations, and positions unoccupied or abandoned by Europeans, and have evinced a loyalty and constancy in the service of the British Government, which it would be as impolitic as ungrateful to overlook or to undervalue."

After the outbreak of the 12th Irregular Cavalry at Segowlee, the station being utterly defenceless, the civil officers left the station for a neighbouring Indigo factory on 24th July. "The mutineers were 200 in number, with 150 followers, two elephants, and palanquin carriages; and they stated that they were proceeding on duty to Sewa, by order of Major Holmes. They crossed the Gunduck at Gobindgunge on the 24th and 25th, and on the 26th, the Magistrate returned to the Sudder station." The conduct of the Magistrate was approved. On 1st August, the Magistrate of Behar under orders from the Commissioner quitted Gya, Shergotty and Nowadah, and every civil station, but two,

in the Division were abandoned. "After the civil officers of Gya had proceeded for three miles on the road to Patna, Mr. A. Money, and Mr. Hollings, the Sub-deputy Opium Agent, rode back, found all quiet, and took possession again of the station." On the 2nd, Mr. Money called in a detachment of H. M.'s 64th Foot, and on the 3rd, intimation having been received of the determination of Koer Singh to send a mutinous regiment to Gya. Messrs. Money and Hollings took the 7 lakhs of treasure, and after repulsing an attack, on the 6th reached Chumparun. Their conduct was warmly approved, and the officials informed that officers away from their stations would be placed on out of employ allowances. The officers who had quitted their stations were directed to return. Shah Kubeeroodeen, an influential landholder of Sasseram requested to know how he could serve the Government, and was directed to exert his influence to keep his countrymen well affected. In this week also "the detachment of the 8th Native Infantry at Hazareebaugh, the headquarters and artillery of the Ramghur Battalion at Dorundah, and a detachment of the same corps at Purulia, mutinied." They released the prisoners, plundered the treasuries, and destroyed all the property they could. "The troops at Hazareebaugh mutinied on the afternoon of the 30th of July. The officers present at the station fled to Bagoda, and thence came on to Raneegunge, with the exception of Captain W. H. Oakes, who was holding sessions at Hazareebaugh, and made his way to Ranchi." From the report of Captain Dalton on 5th August, at Dorundah "it appeared that a detachment of the Ramghur Regiment, with two guns, under the command of Lieutenant Graham, were marching to Hazareebaugh to attack the two companies of the 8th Native Infantry at that station. On the road they heard of the Hazareebaugh mutiny, and broke out in open revolt themselves, seizing the guns, ammunitions, and four elephants, the private property of Captain Dalton, and in spite of Lieutenant Graham's orders and the expostulations of their native officers, marched back to Ranchi with avowed hostile intentions towards the European residents there." The Europeans reluctantly abandoned Ranchi which the rebels burnt, and then joined the rest of the corps at Dorundah. Captain Dalton proceeded to Hazareebaugh where with the assistance of the Ramghur Rajah he restored order. The treasure lost in Dorundah was 1,25,000 rupees. On 5th August, 93 sepoy of the Ramghur battalion in Purulia mutinied, plundered the treasury containing upwards of a lakh of rupees, released the prisoners, and plundered the town. The European officers returned to Raneegunge. At Dacca, the Christian inhabitants were accepted as Volunteers. In Ber-

hampore, the 63rd Native Infantry and 11th Irregular Cavalry were disarmed, the Cavalry exhibiting a strong spirit of insubordination. The city was also disarmed by the aid of a portion of H. M.'s 90th. At the Presidency all was quiet.

"In the Bhaugulpore Division, the Commissioner appealed strongly against the order to deprive the squadron, 200 strong, of the 5th Irregular Cavalry at that station, of their arms, on the following ground: It would be impossible to disarm the scattered troops in the interior, and it might exasperate the 32nd Native Infantry at Bowsee, and the other detachments in the Sonthal Pergunnahs, as well as cause them to mutiny, and thus lead to the murder of all European officers in the district, to whom no succour could be sent. In any event it would be a partial and ineffective measure, seeing that any amount of arms might readily and quickly be obtained at Monghyr. The Commissioner, therefore, earnestly hoped that the order might be countermanded." The disarming was not carried into effect. The urgent necessity of protecting Raneegunge was pointed out, and the probability of a mutiny of the Shekawatee battalion at Midnapore urged on the Government. On 4th August, it was suggested that the Lieutenant Governor could raise one or two thousand men from the tribes on the North-East frontier. The proposal was sanctioned. Another for raising a regiment of Sonthals was referred to the Commissioner of the Sonthal Pergunnahs. "The Officiating Commissioner of Arracan, was requested to report upon the feasibility of raising a Mugh regiment in that province for general service." A proposal to raise a force among the tribes of the South-West frontier was submitted to the Commissioner of Burdwan for report. Orders were issued to collect carriage for the Madras troops to march up the Grand Trunk Road.

On 9th September, the Government of India forward a narrative from the Government of Bengal up to the 15th August. On 8th August, the Commissioner submitted a report from the Magistrate of Shahabad on the defence of Arrah, on 25th July, the Magistrate of Arrah had received an express from Dinapore warning him that disturbances were expected. On the 26th, a sowar reported that sepoys were passing the river. The police fled, and the Magistrate with all the Europeans, and Syud Azimooddeen Hoossein, Deputy Collector and 50 Sikhs went into a bungalow fortified by Mr. Boyle. Atta, grain and water were also laid in. The insurgents reached the station on 27th July, plundered the Treasury, and attacked the bungalow. Koer Singh soon appeared to direct operations; the Sikhs rejected all attempts to bribe them. "On the 28th, two small cannons opened fire on the bungalow, one of them



with 6 lb. shot. They were daily directed to what were considered the weakest points of the little fortress, and at length the largest of the guns was placed on the roof of Mr. Boyle's house.

"This completely commanded the bungalow, and nothing but the cowardice, want of unanimity, and ignorance of the enemy, prevented the entire destruction of the little fortress. The siege lasted a week, during which time every stratagem was employed in vain. The guns were at first fired as often as shot could be prepared, ammunition being at that time deficient, and incessant assaults were made against the bungalow. The Seikhs were not only perfectly cool and steady, but by untiring labour met and prevented every threatened disaster.

"When the supply of water ran short, they dug a well of four feet diameter, to a depth of eighteen feet, in less than twelve hours. Breaches in the works were at once repaired and rendered stronger than before; and as the siege was protracted, the defences became stronger. When the want of animal food was felt, a night sally was made, and four sheep were brought in. As soon as the enemy were discovered to be mining, a countermine was sunk." On the 30th, the rebels defeated a pursuing force, and on the 31st, they offered the Seikhs their liberty. On 1st August, all the Garrison were offered their lives on surrender of their arms. "The conspicuous gallantry and exertions of Messrs. Boyle and Colvin were prominently noticed by the Magistrate, and an earnest appeal was made for the signal reward of the brave and devoted band of Seikhs.

"The Commissioner warmly seconded the proposal, recommending that the thanks of the Government should be given to the garrison, and in particular to Messrs. Wake and Boyle, that the native officers of the Seikhs should be immediately promoted, and a gratuity of twelve months' pay be granted to the men." Patna, Chuprah and Mozufferpore were reported perfectly quiet. A reward of Rs. 10,000 was offered for Koer Singh, and a force of 150 Sikhs and 37 of H. M.'s 84th were sent to recover Gya. Details are added of the reoccupation of the abandoned stations, one of which, Mozufferpore, was defended by the Nujeebs against the sowars of the 12th Irregular Cavalry, and the narrative proceeds. Koer Singh's forces were marching leisurely up the Grand Trunk Road towards Mirzapore. Major Eyre with 500 of H. M.'s 5th and 200 Sikhs was marching to Jugdispore, the seat of Koer Singh. The place was abandoned and blown up. In Bhaugulpore, the Commissioner Mr. Yule detained 100 men of H. M.'s 5th Fusiliers at Berhampore, and sent 50 to Monghyr. He himself on 18th August with 80 troopers of the 5th Irregular Cavalry went to Purneah to remove

some treasure and returned on the 13th. On the 14th the 5th Irregular Cavalry went off with their arms. They marched towards Arrah. In the Rajshahye Division all remained quiet, but there were constant plots in the 73rd Native Infantry at Jelpigoree. The only other disturbed district was the South West frontier, Captain Dalton on 13th August had to fall back from Hazareebaugh. On 18th August, Martial Law was proclaimed, and Captain Dalton "was informed that the moment the Artillery, hourly expected from Madras, arrived, a force consisting of European Infantry, Madras Artillery, Cavalry, and Sepoys, would be sent up in two columns, to restore order on the South-West Frontier. The march of the force was necessarily delayed for want of Artillery, as without guns it was not deemed right to send any force to reduce the Dorundah mutineers. One column was to march by the Grand Trunk Road to Burhie and Hazareebaugh, the other to proceed by Purulia and Ranchi. Captain Moncrieff, who possesses an intimate knowledge of the roads in the district, volunteered to accompany the force. A hope was expressed that Captain Dalton would be able to hold his own, until this force was available."

On September 10, the Government of India forward continuation of the Bengal narratives up to 22nd August. In this week Chupra and Gya were reoccupied on the 10th. The sepoy had gone towards the North-West, and order in all the districts began to be restored. Bhaugulpore remained quiet, the 32nd at Bowsee firing on the 5th Irregular Cavalry as they passed. In Rajshahye, there was no disturbance, but some uneasiness felt at Jelpigoree. In all other divisions quiet prevailed. In Chota Nagpore, the mutineers at Dorundah remained passive, and did not divide the treasure or plunder the station. Those of them who were raised in the district were afraid for their families, who were within the estates of the Rajah of Ramghur. The narrative details the services of several native gentlemen

On 10th September, the Government of India forward a narrative from the Government of Bengal up to 29th August. The Behar Division remained quiet, but was endangered by the abandonment of Goruckpore. The opium godown was fortified and supported by six guns bearing on the town. "Koer Singh was at Akherpore, near Rhotas, on the 21st of August; Ummer Singh was living in the Hills flanking the Grand Trunk Road, near Sasseram, and creating uneasiness in consequence. When last heard of (29th August), Koer Singh, with 1,000 men, was at Biddeegurh, and Ummer Singh, with 5 men, at Kuchooher, in the Hills above Parnah, on the Soane; and Nisbun Singh,

Joohtin Singh, of Typore, and Takurdial Singh, were with Koer Singh."

"In Bhaugulpore, the mutineers of the 5th Irregular Cavalry, after destroying the bungalows at Rohnee, extorting 12,000 rupees from the rich inhabitants of that village, and being joined by the Doomka detachment, proceeded towards Bowsee and Deoghur, from both of which places they were kept off by the loyalty of the 32nd Native Infantry. They marched eighty miles in two days, and left their baggage and servants behind. They were last heard of at Chackye, in the Monghyr district, and were marching westwards." All else was quiet, and also in the Sonthal Pergunnahs. It was determined to raise a small force of military police from among the Sonthals. In the Nuddea Division all was quiet, the Mohurum having passed without disturbance. The following arms were found in the city of Moorshedabad:—"22 wall pieces; 3 brass field pieces—viz., 6, 3 and 2, 6-pounders; 12 iron field pieces, from 3 to 6-pounders; 5 siege guns, 3 nine-pounders and 2 six-pounders. The number of small arms taken was 2,000."

In Burdwan nothing of importance had occurred. The usual relief of the 73rd at Dacca was postponed; a force of Mughls and native Christians was proposed for Backergunge by the inhabitants. It was submitted to the Supreme Government as part of a general proposal for raising a small trained force of special castes for service in each division. They were to act in cases where the ordinary police was resisted. "The Subadar in command at Sumbulpore, Shaikh Panch Kourie Khan, received a letter from the Subadar in command at Ranchi, Jye Mungul Pandey, directing the former to march to Dorundah with the treasure, and if he experienced any difficulty about carriage, to release and make use of the convicts in the jail. He was warned by the Subadar at Ranchi to be expeditious in his movements, or a force of Madras troops would soon be down upon him from Cuttack. The Subadar showed the letter to Captain Leigh, and was using every exertion to keep his detachment steady and faithful." The Madras column started for Sumbulpore on 28th August.

In Chota Nagpore, Hazareebagh was re-occupied on 28th August by 150 Sikhs under Lieutenant Earle. A police corps was ordered to be raised in Chota Nagpore. Captain G. N. Oakes was directed to retake Purulia and Lieutenant Birch Chyebassa. The Principal Assistant Commissioner of Chyebassa left his station for fear his own soldiers should revolt, and was permitted to resign his appointment. "Colonel Jenkins, the Commissioner of Assam, was of opinion, that if the 73rd Native

Infantry mutinied at Julpigoree, many of them would betake themselves to the Bootan Doars, and that the Soubahs, taking advantage of the defenceless state of the frontier, with the aid of the mutineers, would lay waste the Rungpore District, and perhaps plunder Cooch Behar.

“The Doars appear always to have been frequented by adventurers from Oude, and it was not improbable, after the restoration of tranquillity, that numbers of the disbanded soldiery would take service with the Bootan Soubahs, both for a livelihood, and to revenge themselves on the subjects of the British Government.” It was suggested that a corps might be raised from the tribes in the Doars. It was also proposed “to organize on a sufficiently extended scale, and under special superintendence, a department of supply for carriage and food including the collection, at suitable depots, of all animals, gram, fodder and other necessaries for the use of troops on the march and for a complete Carriage Establishment of carts, draught and hack cattle, with elephants, camels, and drivers, so as to obviate the necessity for impressment at the time of need, with all the evil consequences to troops and people, therefrom ensuing.” In a Postscript it is added that the latest intelligence from Assam is of a very unfavourable character.

On 23rd September, the Government of India forwards a continuation of the Bengal narrative up to 12th September. This week Behar was exposed to the danger of invasion from Goruckpore. The Europeans at Dinapore could not be detached. Those marching along the Grand Trunk Road were required to clear that important line of communication. Major Eyre’s regiment was required to relieve Lucknow. “Koer Sing and his brother Ummer Sing were said to be still in the vicinity of Rhotas and Sasseram. The former, however, was believed to have proceeded towards Rewah, and to have opened communications with the Goruckpore rebels. He was also said to have quarrelled with his brother, accusing the latter of being the cause of the disastrous defeat at Jugdispore. The force of Koer Sing was conjectured to consist of the greater part of the mutineers of the 40th Native Infantry, who were natives of Shahabad, and of a rabble of retainers 2,000 or 3,000 in number.” All ladies and children were directed to be sent away from the disturbed districts. “The evidence against the Dewan of the Rajah of Bettiah being of an unsatisfactory nature, amounting to a mere suspicion, he was at once released by the Commissioner. Inquiry was ordered into the recommendation of Mr. Tayler to confer a title upon this native gentleman.

“There being no proof worthy of the name against the Waha-

bee gentlemen, they were all released with the exception of one, against whom there was said to be matter of an implicative nature found in a letter discovered in Peer Ali's house.

"The Magistrate's Nazir was also released from custody, there being no proof against him, the facts recorded by the late Commissioner on which the charges were based having been denied on oath by the late Magistrate." The estates of Koer Singh and his brother were attached, and a proposal made to the Government of India to fine heavily all villages taking part in the rebellion. Gya was threatened by the 12th Irregular Cavalry, but defended by Captain Rattray with some Sikhs. Rajshahye and Nuddea were tranquil and so was Bhagulpore and Burdwan, Dacca, Chittagong, and Cuttack. In Chota Nagpore authority had been restored at Hazareebaugh. Purulia was reoccupied by Captain G. N. Oakes on 3rd September.

In Cherra Poonjee orders were issued to raise two corps each of 1500 Munipoories. "There is much reason to fear the extension of the revolt to Assam, as another result of the unfortunate disaffection of the Dinapore Brigade.

"Many of the men of the 1st Assam Light Infantry are from the Arrah district, and closely related to the mutineers of the 40th Native Infantry. Some of them are from the estates of Koer Sing, and an uneasy spirit has lately been perceived to prevail among them. From information collected from independent quarters, the men of the regiment above mentioned appear to have been in communication with the Jorehat Rajah Saring Kunderpessawar Singh, and to have offered to retake the province and hold it for him pending the receipt of final instructions, it is believed, from Delhi." No reliance could be placed either on the 2nd Assam Light Infantry. The plan was to murder all Europeans during the approaching Doorgah Poojah vacations. A force of European seamen was therefore sent to Dibrooghur. Orders have been issued to send term convicts to Malacca and life prisoners to Penang.

An inclosure continues the narrative to September 19th. The mutineers of 5th Irregular Cavalry, after destroying the public buildings at Rohnee and levying contributions on the inhabitants marched towards Gya. On the 8th September, Captain Rattray had a skirmish with them, but his force was inadequate and he retired with 20 wounded out of 200. The mutineers reached Gya and made a demonstration against the fortified house there, but uselessly, and on the 9th after murdering the Moonsiff of Behar made off for the Soane. On 12th September, they reached Baroon. There were no troops except the few marching to the North West who could not be spared. Orders were issued to deal summarily with any villages stopping the coal boats sent

to supply the steam stations. Shah Kubeerooddeen of Sasseram was appointed Honorary Magistrate for his services and recommended for the special notice of the Government of India.

In Chota Nagpore the Ramghur mutineers were still at Dorundah afraid to move the zemindars being in arms against them. Purulia was reoccupied on the 10th September, but the proceedings of the Rajah of Pachete were suspicious, and the Purulia Rajah said his life was threatened.

In Cherra Poonjee the enlistment of Munipoorees progressed. All the men are engaged for general service.

Orders were received to form a temporary cantonment at Ra-neengunge. On 10th September, Mr. J. R. Ward was appointed Superintendent of Carriage and Supplies in the Bengal Division of the Grand Trunk Road. On the 14th September, Colonel Fischer with his brigade was ordered to march to Dorundah via Hazareebaugh.

On 8th October, the Government of India forward a narrative from the Government of Bengal bringing events down to the 26th September. Patna continued quiet and a Naval Brigade under Captain Sotheby of H. M.'s steamer *Pearl* was sent up to the district. Orders were issued to enquire into the conduct of the Rajah of Doomraon. The 5th Irregular Cavalry were ascertained after a career of rapine to have joined Ummer Singh. The narrative analyses a remonstrance by Mr. Tayler against his removal from the Commissionership. The order to retire is stated to have been unconditional having been reiterated to the Judge of Behar, and it was attended with most disastrous effects. "The publication by Mr. Tayler of the correspondence connected with his case, while it is still *sub judice*, is not only directly opposed to the Court of Directors in such matters, but is an act of gross and manifest impropriety. The promulgation of the private opinions of Mr. Tayler's friends upon an *ex parte* statement, and the judgment of the propriety of the orders of this Government by officers directly subordinate to it, are of such questionable taste, and of such mischievous tendency, as to deserve marked and emphatic disapproval." Bhaugulpore including the Sonthal Pergunnahs remained undisturbed. The Rajshahye Division was tranquil, as also were Chittagong, Nuddea and Burdwan. The Pachete Rajah however was said to be collecting armed men, and the Sonthals round Manbhoom were distrusted.

"In Cuttack, a report was received from the Agent in the hill tracts of Orissa, to the effect that a body of 300 men, consisting of sepoys, matchlock-men, and sowars, had crossed the Mahanudy from Sumbulpore, and had proceeded in the direction of Nagpore." Assam was more settled.

“ In Chota Nagpore, on the 11th of September, the Dorundah mutineers, after destroying the public and private buildings in the station, plundering the town, committing every species of atrocity on the towns-people, and beheading an old native doctor, attached to the jail, marched in the direction of Tikhoo Ghaut. They had four guns, with a large quantity of ammunition and plunder.” The sowars of the Regiment except four joined their officers at Hazareebagh. “ A portion of the column under the command of Major English of Her Majesty’s 53rd Foot reached Ramghur on the 19th, in progress to Ranchi.” His force consisted of a wing of 27th Madras Native Infantry, a detachment of 180 men of H. M.’s 53rd and two guns. It was hoped Major English would overtake the Ramghur mutineers. On 16th September, Lieutenant Birch reoccupied the Colehan. The detachment from Cuttack reached Sumbulpore safely on 13th September.

Several arrests were made in Calcutta, and “ the Act relating to the importation, manufacture and sale of arms, and for regulating the right to keep or use weapons of any kind, having become law and been promulgated, a series of rules to give effect to the law in the least objectionable manner, was submitted for the orders of the Government of India. The points of greatest interest in the proposed Regulations were, that the Lieutenant Governor should have the power of exempting from the provisions of the Act all Europeans, Eurasians, and Foreigners belonging to European nations, as well as all native gentlemen of known and approved loyalty, such as the Rajahs of Bettiah, Hutwah and Seraikela, and Shah Kubeerooddeen Ahmed of Sasseram, as the arms possessed by all such would invariably be employed in the cause of order and in the interests of the Government.

“ A copy of a Resolution of the Governor General in Council, to the effect, that His Lordship is not prepared to admit the claims of sufferers by the insurrection to be made good out of estates and property confiscated, was communicated to the Government of Bengal.”

On 3rd October, the Government of India forward the first narrative from the Lieutenant Governor of the Central Provinces. “ The Lieutenant Governor started from Calcutta on the 6th of August late in the evening. He received his first dispatches from these Provinces at Patna on the 19th of August. He arrived off Ghazeepore on the 24th of August, and landed on the 28th of August at Benares, where his Head Quarters now are.” In the Allahabad Division civil Government was confined to the Allahabad district. “ The portion south of the Jumna was in good order, owing chiefly to the

worthy conduct of the Rajah of Mandah. In the Doab portion of the district a large part of the population had not returned to their villages. In the portion north and east of the Ganges the line of the Grand Trunk Road and the country between it and the Ganges was maintained, but to the north of that line the country was suffering from incursions of the Oude zemindars." In Futtehpore, a few Police stations had been established along the Grand Trunk Road, but the portion of Allahabad north of the Ganges, and bordering upon Oude has been given up.

*Goruckpore* was abandoned on 13th August.

*Azimgurh*.—The Goorkha force reached the station on 27th August. The Civil officers who left on 29th July returned on 3rd September. A severe example made by the Goorkhas of a rebellious village had a good effect, and some arrears of revenue have been realized.

*Juanpore*.—A Goorkha force marched in on the 7th instant. The Civil officers have returned.

*Benares and Ghazee-pore* are tranquil.

*Mirzapore*.—Koer Singh marched through the Southern Pergunnahs burning and plundering. The country near Gopee-gunge is unsettled.

*Jhansee*.—These districts are absolutely out of our possession.

*Nagode, Mundlah and Seonee* generally quiet. "The Madras moveable column left Jubbulpore on the 19th of August, reaching Dumoh on the 30th of the month. No resistance was met with. Rumours of disaffection at Jubbulpore caused a part of the force to be sent back there on the 7th instant." The Saugor fort was well on 4th September.

A letter dated October 8th covers the continuation of this narrative to September 26th.

*Allahabad*.—The Railway is nearly ready to Tokunda 42 miles.

*Futtehpore*.—Military occupation has taken place, and the civil officers are directed to rejoin. A Police corps is to be levied only from classes specially excluded from the ranks of the Regular Native Army by Military Regulations. "No part of the Cawnpore district can be said to be under Civil Administration. The power of the British officers at Cawnpore extends but a short distance from the station. The Military Magistrate, Lieutenant Bruce, has organized a small Police Force, which holds the country round Cawnpore, and permits the supply of the ordinary bazars."

*Banda and Humeerpore* remain unoccupied.

*Ghazee-pore*.—Tranquil.

*Benares*.—Quiet.

*Mirzapore*.—A detachment of a Madras Regiment was sent from Benares on 21st September to this station.



*Gopeegunge.*—Mr. Mayne posted here has been directed to establish an intelligence department

*Juanpore.*—The Magistrate is beginning to restore quiet, and 30,000 Rs. have been collected. In the west of the district there are armed Zemindars who require to be suppressed. "The rebel Nazim of Sultanpore, Mehndee Hussun, appears to direct the movements of the insurgents on this frontier. He is understood to be on his way from Lucknow, his Deputy or Naib on the spot being one Bunda Hussun. Baneé Madhoo, the Rajah of Atrowlia in Azimgurh, has been appointed Nazim of Azimgurh and Jaunpore, under the rebel Government of Lucknow. This man and Iradut Jehan, Rajah of Mahoul, are the chiefs of the insurrection in these two districts. The son of the latter is said to have been engaged in the fight at Mundocree." The Goorkhas on 20th September defeated a body of rebels from Atrowlia at Mundooree. New instructions have been given to the officers in command of the Goorkhas, a force which has been very inactive.

*Goruckpore.*—No change.

*Saugor.*—"The reports of the whole of this Division are generally much in arrear.

"From Seonee all is reported quiet to the 7th September.

"From Mundlah, to the 31st August all quiet; but a more recent letter from the Commissioner mentions that some of the Talookdars in the jungly parts of the district had rebelled and are plundering their neighbours.

"From Nursingpore, till 8th September, all quiet.

"From Hoshungabad, till 8th September, all quiet.

"From Baitool, till the 8th September, all quiet.

"From Saugor no reports have been received, the daks being stopped.

"Of Nagode, the last detailed Report is dated the 3rd September." 250 of the mutinous 50th were marching to Mirzapore with their officers. The ladies had arrived in safety at that station.

On June 18th, the Government of India report to the Court of Directors their legislative proceedings. Martial Law was declared in the Allahabad and Benares Divisions on the 9th June.

On 12th June, Commissioners under Act XIV. of 1857 were authorised to inflict death on all marauders or men guilty of robbery with violence. This Act was extended over the Punjab, the North-West and Oude. "We desire to draw your attention specially to an Act (No. XV. of 1857) which was passed in the Legislative Council on the 13th of the present month, 'To regulate the establishment of Printing Presses,

and to restrain, in certain cases, the circulation of printed books and papers.' The circumstances which led to the passing of this law will be gathered from our Resolution of the 12th instant, and the extracts from certain native newspapers therein referred to. You will perceive that the Law Officers of the Government have been directed to take the necessary steps for bringing the printers and publishers of the *Doorbeen*, the *Sultan ul Akhbar*, and the *Sumachar Soordaburshun*, to trial before the Supreme Court, on a charge of publishing seditious libels."

On 4th July, 1857, the Governor General in Council reports to the Court of Directors on the measures adopted to restrict the liberty of the Press. Act XV. of 1857, passed without a dissentient voice, placed the Indian Press very much "in the position in which it was permanently before Sir Charles Metcalfe's Government in 1835 passed Act No. XI. of that year, whereby complete liberty was given to it." That Act was passed in opposition to the opinions of many Indian officers, among them Sir Thomas Munro. That Act was disapproved by the Home Government, and the Government of the day severely censured for passing it. Its reconsideration was ordered with a view to its repeal. It is not, however, in consequence of those views that the Act is supported, but on the principles laid down by those who passed the measure. Mr. Macaulay who prepared the law, recorded in his Minute an opinion that five gentlemen "who may be brought together in half an hour, whose deliberations are secret, who are not shackled by any of those forms which elsewhere delay legislative measures, can in a single sitting make a law for stopping every Press in India." Sir Charles Metcalfe said, "I do not apprehend danger to the State from a free Press, but if danger to the State should arise, the Legislative Council has the power to apply a remedy." Mr. Prinsep said, "I think the eye of the Government will require to be kept continually upon the Press, and especially upon the native Press, for it is capable of being made an engine for destroying the respect in which the Government is held, and so of undermining its power." Colonel Morison said, "I could wish, however, that the proposed draft should provide some means of applying a speedier remedy to the abuse of the Press, in any emergency when the Governor General might be absent from his Council, or when there might be an urgent necessity for the Government of any of the Presidencies, to act without the delay of a reference to the Governor General of India in Council." He was not free from apprehension as to the effect that might be produced on the mind of the native Army. Lord Auckland said, "the strong arm of authority might, before the passing of this Act, have

been put forward to check any excess ; and now, should the safety of the State ever demand such a course, in a single hour a law may be passed to stop or to control every Press in India ; nothing has been lost of useful power." Lord W. Bentinck said, "but I have always said and thought that, as well with the liberty of the Press as of the subject, it is indispensable for the safety of the empire that the Governor-General in Council should have the power of suspending the one, and of transporting the other, whenever the safety of the State should call for the exercise of such authority. We cannot doubt that you will see, in the present critical state of affairs, an emergency of the nature contemplated by the Governments of Sir Charles Metcalfe and Lord Auckland ; and one, it may be confidently assumed, very much graver than was thought in 1835 to be within the range of probability." We are well aware of the angry and unreasoning opposition such a measure will call forth, but the safety of the country is the one great object, and to this all other considerations must give way. The conditions are as mild as possible consistent with the object in view. No distinction was made between the European and Native Press in accordance with the view of Sir C. Metcalfe who wrote I think that in all our legislation we should be very careful not to make invidious distinctions between European and Native subjects. Though we do not fear treasonable matter will be designedly published in any English newspaper we have to guard in these times against errors, indiscretion, and temper as well as against sedition. "The interest which matter published in English newspapers excites even in foreign native courts, is, perhaps, not so fully known in England as it is in India. Our connection with the Burmese Court is not of long standing, and the King of Ava would seem to be as far out of the way of the Press as any potentate with whom we have any relations at all. Yet not many months ago a gentleman in our interest at Ava complained that he had been compromised by an article that had been published in a Calcutta newspaper ; and it then appeared that His Burmese Majesty had the Calcutta papers regularly examined, and matter of interest therein contained regularly explained to him. To show that the necessity of controlling the English as well as the Native Press is not merely imaginary, it will be enough to state, that the treasonable proclamation of the King and mutineers of Delhi, cunningly framed, so as to inflame the Mahomedan population as much as possible against the British Government, and ending with the assurance that the multiplication and circulation of that document would be an act equal in religious merit to drawing the sword against us, was published in a respectable English newspaper

of this town without comment. For doing the very same thing, with comments having the outward form of loyalty, the publishers of three native Mahomedan papers in Calcutta have been committed to the Supreme Court, to take their trial for a seditious libel."

The first case in which the law was violated was in the *Friend of India*. That journal published an article infringing every one of the conditions. The position of affairs was most anxious, and the paper was warned. The next Number contained a defiant repetition of the objectionable matter. The paper would have been suspended, "when we received from the friends of the proprietor an assurance, in which we placed reliance, that arrangements had been completed, under which, in future, the paper would be conducted in conformity with the prescribed conditions." The licence of a lithographic press in Calcutta has been withdrawn, its Persian newspaper *Gulshun-i-Nan Behar* containing grossly seditious articles.

On 26th August, the Court of Directors approve Acts XIV. and XVI. of 1857, and entertain no doubt of the necessity of some such measure as the Press Act. They notice with satisfaction the loyal addresses received.

On 1st July, the Governor General in Council reports to the Court of Directors that "an Act was passed in the Legislative Council, and received the assent of the Governor General on the 20th June (Act No. XVII. of 1857), empowering every Sessions Judge, and every officer exercising the powers of a Sessions Judge, to try officers and soldiers of the Native Army for mutiny or desertion, and to sentence them on conviction to death, transportation, or imprisonment. The Act also enables the Government to vest with this power any other person or persons, by issuing a Commission under Section 2." The remainder of the despatch is purely official.

On 16th July, the Governor General in Council again reports that the bullock train establishments have been placed at the disposal of the Military Authorities to convey Brigadier General Havelock's column. The bullock train has since been sent on to Allahabad. His Lordship in Council forwards copy of a Proclamation offering rewards for the delivery of mutineers, deserters and others. "We have also desired that the steam ferry boat intended for Patna, and those at present in Arracan, should be fitted out with all expedition for service on the Ganges as gun-boats. Meanwhile, one of the river steamers has been ordered to be fitted out as a gun-boat for service on the Ganges, under the command of Lieutenant H. Batt of the Indian Navy. She is to carry an European crew, and to tow up three of the boats belonging to the steamers of the Indian Navy, properly armed.'

In another letter dated August 7th, His Lordship in Council after reviewing facts already given observes, "we are also in communication with the Peninsular and Oriental Steam Navigation Company for the conveyance from Suez of the troops that may possibly have been dispatched to India by that route soon after the intelligence of the mutinies reached England. It is understood that the ordinary mail steamers of this Company can bring 400 men from Suez each trip, and more if there are few passengers. Instructions have accordingly been given for preparing the *Bentinck*, the steamer which conveys the present mail, for the reception on board of that vessel of as many men as she can convey in addition to the ordinary passengers. The only preparations necessary on board are the provision of additional cabooses and cooking vessels for the men, and the adoption of arrangements for their cleanliness. The Commissariat Department has been ordered to provision the vessel. Similar preparations for the conveyance of troops will, for the present, be made on every succeeding mail steamer." And in another letter dated 7th October reports, "in regard to the provision of coal at Galle, it will be seen that arrangements have been made for a supply of 10,000 tons. The Bombay Government have been desired to send all the coal that they can spare. The Peninsular and Oriental Company and the Australian Company will probably together be able to afford about 3,000 tons. Supplies have been ordered from Akyab and Moulmein. About 4,000 tons may be expected from England during this and the following month, as advised in the letter from the Secretary at the India House dated the 10th August last. The Superintendent of Marine has also despatched a supply of 3,000 tons of the best Burdwan coal. About 700 tons of English coal are supposed to be in store at Trincomalee, and more is understood to be coming from England."

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## DISTRICT ROADS.

For 1855-56.

*Madras Records, No. XLVII.*

ON 23rd December, Lieutenant Colonel C. E. Faber, Chief Engineer, presents the Collectors' Reports on District Roads to the Government of Madras. The delay has arisen from some of the Collectors imagining that the reports were to be written by the District Engineers.

*Ganjam.*—The roads in this district are still under construc-

tion. "The Chicacole bridge has been completed, and the new roads through that town are in progress, as is the Itchapore bridge, whose arches were being turned when Mr. Knox wrote. The road between Rambah and Berhampore is now in very fair order, and so is that between Aska and Berhampore."

*Vizagapatam.*—The roads projected in 1853 are not completed. The department is inefficient, and too much work has been attempted at once. The district therefore is covered with incomplete roads, many of which must be postponed for an indefinite period.

*Rajamundry.*—The road through the hill talooks of Jud-dunghy is in progress. A new road from Samulcottah to Coconada is much required, and might be constructed on the face of the dyke erected for the canal already sanctioned.

*Masulipatam.*—"The only improvements made to the roads in this country are, the commencement of the repairs of the Hyderabad road from Ibrahimpatam to Madeveram on the Nizam's frontier, the clearing of a few tracks from one village to another, and the partial formation of a road from Goodewada to Parrimannoo on the Trunk road leading from Bezoarah to Masulipatam; the portion of this line already finished, having proved very serviceable." A road may be made from Bezoarah to Masulipatam on the dyke face of the canal connecting the two places.

*Guntoor.*—The construction of four bridges has been suspended by the incompleteness of the arrangements for the Kistnah channels. Two bridges, the Butteprole bridge over the Nellattore channel, and the bridge, over the Salt Nullah near Carlapollem have fallen, but the reason is not given. The report is meagre and devoid of interest.

*Nellore.*—The Collector reports that if funds are forthcoming to complete the present lines of road the road system will be excellent.

*Cuddapah.*—Progress during the year has been very unsatisfactory from want of funds.

*Bellary.*—Rs. 2,14,458 have been expended in repairing old roads, but the Collector gives no details. The communications of this district have long been defective.

*Kurnool.*—No new line has been commenced in this district.

*Chingleput.*—No more roads wanted except as cross lines.

*North Arcot.*—Five roads have been completed, and nineteen more await completion. Eight which are sanctioned have to be completed, and seventeen require sanction.

*South Arcot.*—150 miles of road have been completed and improved during the year. There is every prospect of the district becoming gradually well provided with roads.

*Tanjore.*—The expenditure in this district was Rs. 1,56,917 which is insufficient. Rs. 9563 has been granted for the roads between the Grand Anicut and the Coleroon, and between Tanjore and Negapatam.

*Madura.*—“The roads generally in the Northern and Western parts of Dindigul are not in good order, but for the repair of some of them, provision has been made in the Budget of the current year and the works will be shortly undertaken.”

*Tinnevelly.*—Various improvements have been effected especially on the principal Northern Road.

*Coimbatore.*—The communications are in good order from the exceeding attention paid by the Collector. The expenditure during 1855 amounted to Rs. 50 a mile, and on the Neilgherries to Rs. 97 a mile.

*Salem.*—The Trunk Road is still in a bad state, but an estimate for repairing it has been sanctioned. “The branch road between Yadapaudy and Sunkerrydroog is nearly completed. The Topoor Pass is quite finished, as also two bullock roads from Yercaud to Darampoory and the Salem side of the Shervaroy Hills”

*Canara.*—The condition of the roads is generally satisfactory.

*Malabar.*—The cross roads and some of the great roads are in an extremely bad condition. The report contains the details condensed by Lieutenant Colonel Faber and tables shewing name of work, date of sanction, and amount expended.

## ANNUAL ENGINEERS' REPORTS.

For 1856-57.

*Bombay Records, No. XLVI.*

ON 22nd November, 1855 the Government of Bombay requested the Executive Engineers of the Presidency to send up Annual Reports on the model of those published in Madras. These orders have now for the first time been obeyed. On 5th June, 1857, the Acting Executive Engineer of Dharwar, Lieutenant G. Close reports very few new works have been commenced during the year, but the expenditure on repairs, and especially repairs of tanks has been very heavy. He mentions details the most important of which is a new bridge at Hooblee just completed of three arches of twenty-foot span. It cost Rs. 4,480 and was built under charge of Sergeant Mungavin. The ryots in the district are usually willing enough, but when they promise

subscriptions on condition that Government shall pay the same sum, they never pay, and the estimates are thrown away. Government should always require some security.

*Belgaum.*—The Acting Executive Engineer, Captain W. R. Houghton reports an expenditure of Rs. 1,00,566 during the year :—

	Rs.	As.	P.
“ Roads, Bridges, &c., ... ..	52,993	14	5
Ferry Boats, ... ..	630	7	5
Tanks, .. ..	1,058	13	5
Military Buildings, .. ..	40,617	11	0
General Buildings, .. ..	360	11	1
Territorial Buildings, .. ..	4,154	2	11
Judicial Buildings, .. ..	96	12	1
Ecclesiastical Buildings, .. ..	653	8	7
<b>Total, .. ..</b>	<b>1,00,566</b>	<b>0</b>	<b>11</b>

He considers that the roads require more expenditure, running as they do through rich black soil called regur. The roads in the Collectorate were originally badly lined out. The road from Belgaum to the Coast via Parpolee Ghaut has been sanctioned, and Rs. 1,37,000 made available for the work. It will be finished in about four years, previous to which repairs have been made in the road over the Ramghaut, a road far too steep. Other roads have been planned, and Rs. 1,058-13-5 expended on repairs of tanks. Captain Houghton considers irrigation wanted, but points to the absolute need of a supervising Agency. One officer cannot supervise the works through a district of 6515 square miles. He considers that four Assistant Executive Engineers are indispensable. On 4th July, 1857 Lieutenant Colonel J. Kilner, Superintending Engineer, Southern Province concurs in the necessity for more aid, but does not think four Assistants necessary yet. On 4th August, General Waddington, Chief Engineer, criticises Captain Houghton's report, considers it confused, and adds that the efficiency of the department in Belgaum depends mainly on the return of Captain Dickinson as Executive Engineer.

*Rutnagherry.*—On 19th June, Lieutenant T. P. Armitstead, Executive Engineer, reports that the new road over the Phonda Ghaut has been completed. It has still to be tested, and the Engineer expects some serious land-slips. Natchnee has been sown on the side embankments, and castor oil and thistle seeds are also to be tried. “The result is, that the cutting of the Phonda Ghaut, eight miles long and twenty-eight feet broad, was executed by 932 labourers in 434 days, 232 of which were monsoon.” Mr. Armitstead details the ordinary works com-



pleted, and adds a list of works proposed. The most important of these is for a perfect road between Phonda Ghaut and Waghotun, 27½ miles to cost Rs. 1,39,868. This road has been marked out with guage paths and stone pillars. General Waddington considers the inclines on the Phonda Ghaut road too steep.

*Kolapore.*—On 6th June, Lieutenant A. Davidson, Executive Engineer reports that the Beejapore and Kolapore Road is nearly completed. Several wells for troops have been sunk successfully. The Amba Ghaut has been surveyed, and an easy line found with a slope of 1 in 20. An estimate will also be submitted for the Kajeerda Ghaut, and another for a first class road from Beejapore to Dajeepore. Lieutenant Davidson complains of want of assistance. He has to frame and revise all estimates, and has no surveyor competent to carry out any work, and no mestrees who could do any thing without supervision. The 500 miles of road in the district have been measured.

On 12th June, 1857 Captain H. A. Adams, Executive Engineer reports that some tanks have been completed, some roads improved, a bridge of nineteen arches of fifteen feet span completed near Yenegaum, and other bridges designed or planned. Some roads have been improved, but nothing of importance has been attempted, and Captain Adams complains of want of assistance. The amounts expended were

Roads,	...	...	...	...	Rs. 9,642	15	5
Bridges,	..	..	..	..	8,467	0	6
Public buildings,	..	..	..	..	4,848	1	1
Dhurmsalas,	...	..	..	..	1,000	0	0
Irrigation,	..	..	..	...	31,147	10	9
Ferries,	..	...	...	...	2,920	15	9
Well,	..	..	..	..	373	5	1

The cost of supervision has been 22 per cent. of expenditure.

*Sattara.*—On 25th May, Capt. Kennedy reports that the great road from Chiploon to Kurar over the Koombarlee Ghaut for which Rs. 6,52,916 was sanctioned has proceeded; of the most difficult section of the work, the Patna bridge, Captain Kennedy incloses a photograph (reproduced in the printed record.) Rs. 2,10,344 has been expended in the year. The Ghaut portion of the works on the Road from Wace to Sheerwul is nearly done, and the cart road over the Wurrundur Ghaut will open after the rains. Smaller roads have also advanced, and the following projects have been submitted :—

“Embanking and mooruming road between Sattara  
and the Warna River, .. .. . Rs. 52,600

Bridging and draining road, with the exception of seven large streams, .. .. .	52,514
Clearing line of road between Loonud and Punder- poor <i>via</i> Phultun, ... .. .	20,350''

There has been little time for works of irrigation, but Captain Kennedy is of opinion that small works will be of more immediate and greater benefit to the Collectorate than heavy undertaking. They take less time to discuss and to execute. A plan for bringing water to the town of Sattara from the Yenna is under consideration, and preliminary estimates are being made. Captain Kennedy thinks more superintendence would enable him to get the work done cheaper. There is a deficiency of masons in the district, and the traditinary rate of wages is too low. The people too are most difficult to keep at work on the Ghauts which they dislike. The writers too are very ill paid, and there is a want of a central depot for plant or engineering appliances. "Officers in charge of detached works of no very great extent cannot supply themselves with expensive appliances; but they would be very glad to avail themselves of such helps, could they procure them on loan, paying of course a reasonable amount for wear and tear and depreciation in value.

"By adopting some plan of this kind, Government would get their works better, more quickly, and more cheaply done, whilst the cost of the 'plant,' being paid for by the different works on which it might be used, would entail no extra expense on the State." The Superintending Engineer, Southern Provinces remarks on and praises highly Captain Kennedy's report. General Waddington also praises it, but considers some of the opinions crude, and ill considered. General Waddington does not believe that extra assistance would have saved money, considers that the low rate of labour is Captain Kennedy's own fault, he having the power to fix his own rates, and that all attempts at forming a central depot for "plant" have hitherto failed.

*Poona.*—On 22nd September, Mr. C. Gerrard, Acting Executive Engineer reports that he has surveyed the proposed Nassik Irrigation scheme. "A detailed report has been forwarded to the late Superintending Engineer, Colonel Scott, in which it will be observed that a very large extent of most valuable land can be irrigated from two reservoirs; one on the Godavery, about four miles west of Nassik, and another, west of a village called Bhagoo, situated about twelve miles south-west of Nassik. This reservoir is of vast extent, and capable of reserving as much water as will amply irrigate all the lands between the proposed canal and rivers Dharna and Godavery, as far as a village called Korhaley, about fifty miles south of the proposed reservoir. The Godavery reservoir is proposed to irrigate the lands south and

east of Nassik as far as a village called Wozur, there to be connected by the Bangunga, as well as a large portion of the lands between the rivers Dharna and Godavery." The lands are vast, and the revenue would be very large, the zemindars proposing an increased taxation of Rs. 5 an acre. Other works have been confined to "the annual repairs to roads and bridges, the building of the Poorundhur Hospital, the four large bridges over the Nassik Road, and sundry other petty works to bungalows, &c. In the whole Collectorate there are 356 miles 1 furlong 146 yards of road made, 103 miles 1 furlong 179 yards metalled, 252 miles 7 furlongs 187 yards moorumed." General Waddington noticing the report praises Mr. Gerrard's exertions, but cannot recommend him as the Engineer to carry them out. He would rather Captain Hart should be appointed to the special task of maturing this project, which originated with Captain Scott, the late Superintending Engineer.

*Poona and Kirkee Cantonments.*—On 8th April, Captain W. D. Graham, Acting Executive Engineer reports that the new European barracks have been suspended since 18th September, 1856, and that the married men's quarters added to the European barracks at Ghorpuree have been considerably advanced. Since the European Overseers went to Persia, the works have been entrusted to Native Surveyors who do very well. The Railway at present draws off almost all labour. The work is done by contractors and done well, but the contractors have lost confidence in the system. The expenditure of the year was Rs. 1,42,097. On 31st July, Lieutenant J. A. Fuller, Executive Engineer sends in a very minute report. Several rounds have been completed and other small works, and he proceeds to describe the dam across the Mokhana valley. "This dam was commenced on the 1st January, 1857, and it is nearly completed. The masonry portion is 168 feet long, and the discharge weir, which is 120 feet long, twenty-one feet in height at the centre of the valley; the weir at pavement is seven feet wide, interior side being perpendicular and the exterior having a batter of  $\frac{1}{4}$ . Each masonry wing is twelve feet high above the pavement of the weir. The sluice on the inner face is provided with cut stone pillars fifteen feet high, with grooves cut therein for the working of the gate, which when hoisted up, will remain suspended clear of the sluice. In order to ensure the dam being perfectly water-tight, an earthen backing (which is the fifth modification), three feet thick at the level of the pavement, and with a slope of 1 to 1, is to be erected against the masonry; it is now half up. The length of puddle dam in prolongation of one of the masonry wings is eighty feet, and it is now seven feet high. It is confidently expected that this work will be completed by the monsoon. A supple-

mentary estimate for Rs. 3,049 has been submitted for this work." Repairs of some extent are projected in the Rartoonda Dam, and the Agra road between Khurdee and Colsette repaired. It was in a dreadful state.

*Nassik and Peint State.*—On 15th June, Lieutenant A. W. H. Finch reports that the Agra and Bombay Road has been improved, tanks excavated, and wells sunk; only two places on this road remain unbridged, one, on the Kadwah, would cost 76,197 rupees, and a Railway bridge must speedily be built. The other, on the Godavery, might be bridged for half that sum and the bridge would be a benefit to Nassik. Of the cross roads the most important is the Nassik and Poonah road. The road is nearly made, but masonry works are still required. The works requisite to finish this road to Nandoor have been sanctioned. In irrigation works repairs only have been executed.

*Ahmednugger.*—On 6th July, Captain C. Scott, Acting Executive Engineer reports that few works of importance have been undertaken during the year, describes the repairs of roads, bridges and barracks, and believes that the work most requiring immediate attention is a road between Malligaum, and Ahmednugger. The aqueducts in and about Nuggur also require to be renewed.

*Candeish.*—Captain H. W. B. Bell, Executive Engineer, reports (no date) certain detailed repairs to the roads and bundaras of the Collectorate. There is a bridge over the Girna nearly complete with 26 arches of 30 feet span. There were no new works commenced of great importance. There is a great want of labour, Candeish itself yielding no labourers at all, and the men from the Deccan often desert.

*Surat and Broach.*—On 26th June, Lieutenant J. E. Trevor, Acting Executive Engineer reports that the roads about Surat have received considerable attention. A Hard projecting into the river opposite Surat Castle and connected with Randier by a road has been sanctioned. It will cost Rs. 10,412. An embankment over the marshes between Dhollera and its port Khoon Bunder has been sanctioned. It will cost Rs. 5,000. The total expenditure of all kinds has been Rs. 1,45,249. The ports of Guzerat have a trade of five millions a year, but the only work completed for their benefit in the year is the Chaput Bunder Jetty at Surat "which was completed at a cost of Rs. 8,499-8-1, and is formed of wood, with a roadway twenty feet in width with a length of 210 feet, and terminating in a flight of steps leading down to low-water mark." A floating pier at Broach has been in progress. A canal between the Taptee and Nerbudda for irrigation purposes has been projected and is now under the con-

sideration of Government. Rs. 4262-14-9 have been expended on lights and beacons in these ports. General Waddington in noticing the report says that in 1853-54 the exports and imports of the Guzerat ports amounted to only £3,400,000.

*Ahmedabad and Kaira.*—Captain C. Scott, Executive Engineer on 20th May, reports on several repairs of no particular importance. His works especially on the Gogo and Ahmedabad Road have been very cheaply done, owing to the use of a very simple barrel drain proposed by General Waddington. The new hospital at Ahmedabad is far advanced, and the waterworks of the same city have been completed. Colonel Goodfellow Superintending Engineer in transmitting the report observes that the roads are worse than they were for want of timely repairs, and the tanks are falling out of use. The province in his opinion has been neglected.

*Deesa.*—On 25th May, Captain A. H. Curtis, Executive Engineer reports on a new system. “In the office, the ledger and daily cash book have alone remained on their former footing, but regular receipt and issue accounts of stock and petty materials have been established; merchants delivering goods on the works have the same measured and certified to at once by the subordinates appointed for the purpose; lengthy nominal rolls of carpenters, masons, and labourers have been abolished as no longer necessary; irregular payments for broken periods to work-people are at an end; and the substitution of daily pay is a simple record compared with the original morning and evening roll-calls of people, many of whom would work for a week and return a month or forty days after for their wages. All the works are now measured up, and figured abstracts filled in daily.

“I have had unusual trouble with the operatives; it was only by the utmost conciliation they were persuaded to work on any other than their own most preposterous terms of commencing at 8 A. M., stopping at 4 P. M., having an hour's rest at noon, and not being fined for short work: they all now come at 7 A. M., and are paid at 5 P. M. I have many bricklayers (inhabitants of Puttun) who can run up fifty feet of solid brick and lime, good masonry, well bounded and jointed throughout, in one day; whereas formerly from twenty to twenty-four cubic feet was an average day's work.” The most important work has been in barracks for married Europeans which are thus described:—“The plan selected has of course been according to the instructions issued by the Honorable the Court of Directors, No. 187, dated 5th November, 1856, which allows each family one room 14' × 16' × 15' under beam, and one verandah room 10' × 14½'. Six blocks, containing each quarters for fourteen families, with a front verandah ten feet broad in the clear the full length,

are in course of construction, and will, I trust, be finished before the end of 1857. The foundations of five were lined out first of all, excavations of four are completed, and foundations and plinth of two are filled in and raised with burnt-brick and lime; and I hope before the end of June to have two completed if not altogether habitable." Other Military buildings have been completed. General Waddington in noticing the report remarks that daily payments succeed only when the Executive Engineer is not present. He remarks also on the married men's quarters:—"It is impossible not to be gratified with the description of the comfortable and nicely finished quarters which Captain Curtis describes and which he states that he has completed with a saving of 5 per cent. on the estimate. But I confess that I am as much alarmed as gratified when I look at the costly nature of the accommodation now thought necessary for an European of the humblest rank. These quarters have cost Rs. 18,062, or Rs. 1,389 for each family; and I have lately had occasion to notice that an estimate for married men's quarters at Ras Tarshayn, Aden, and not of the most durable kind, has nearly reached the sum of Rs. 2,000 for each married man. If the private soldier is to have such quarters as these, the next question is what description of quarters will Staff Serjeants, Warrant Officers, Apothecaries, and all those for whom quarters are provided by the State, have a right to demand. Certainly we cannot expect them to be satisfied with the accommodation hitherto prepared for them, and which nevertheless is very commonly quite as good as that which a Subaltern Commissioned Officer thinks, or used to think, sufficient." He considers that we have run from one extreme to the other, that the expense of accommodating Europeans has quite doubled within his (the General's) own experience.

On 5th December, the Governor in Council criticises the works. His Lordship discusses specially Capt. Kennedy's Report, holding that that officer's opinions are not crude and ill-considered, and quotes with approval the following paragraphs which were submitted by Captain Kennedy in order to prove that educated superintendence is synonymous with economy:—"An educated Engineer knows how to avail himself of all advantages of soil and feature, and, in the simple arrangement of details, is enabled to effect savings to a large amount. He can save money, for instance, by stepping the wing walls of a Bridge *up* a bank instead of sinking them *into* it, as most Overseers, and nearly all Maistries, would do; and as there are few cases in which all four wings of any given Bridge may not advantageously be made to differ in length and mean height,

according to the slopes and soil of the nulla banks up which they are built, on this item alone much can be either saved or uselessly expended. No average plan can be made to provide for the ever-varying circumstances of cases like these; each must be decided on and settled as it arises, both as to length, height, and splay, to fit the nulla and ground on which the Bridge or Drain is constructed. An educated Engineer knows where he may safely found his work, and, while carrying down his excavation to a reliable stratum, he will be able to judge when to stop, and will not, for the sake of extra and unnecessary security, involve himself in an amount of work which is not positively requisite. He will take care in his Road-work to calculate his cuttings so, that, as far as possible, they may balance his embankments; and will manage his details so, as to avail himself, to the utmost, of all favourable features. On Ghaut-works, the height of his section in rock, the nature of the rock itself in reference to the ease or difficulty with which it yields to the mining-bar, and its fitness for building purposes, will enable him to determine on the advisability of less or more retaining wall; and in this matter also, which requires no inconsiderable amount of a kind of judgment which few subordinates possess, is a most fruitful source of saving or expense. An educated Officer, a gentleman, exerts an influence over all under him, which an inferior subordinate can seldom possess; and his orders and directions are more likely to meet with the strict attention which the good of the work requires. Such an Officer is able to take in and comprehend the whole scope and bearing of what is before him, and is thus better able to make all work to one end: he is able on the numerous emergencies which must arise, and which no plans, estimates, or previous instructions can provide for, to act with judgment and promptitude; and, finally, there is hardly a point, no matter how minute, in a varied work of this description, on which a professionally educated Engineer, and a man of judgment and resource, cannot make his presence beneficially felt, and on which his eye is not wanted. This is more specially the case in this country, where, without the usual means and mechanical appliances, so much has to be done by 'make shifts.' His Lordship observes also that the style of "accommodation now sanctioned for European soldiers, has been strongly urged by Officers who have had daily opportunities of observing the requirements of such soldiers and their families, and has been adopted with the approval of the Government of India and the Honorable Court of Directors."

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## PUBLIC INSTRUCTION IN BENGAL.

1856-57.

ON 25th August, 1857, Mr. G. Young, Director of Public Instruction, submits to the Government of Bengal, his usual annual report for 1856-57.

During the year the scheme for the Calcutta University was matured, and in March the first examination of Candidates was held. There were 159 successful candidates of whom 113 were from Government Colleges, 42 from private institutions, and four privately educated. Six private Colleges have been affiliated to the University. The project for erecting a Presidency College has been stopped by want of funds. The Director is not desirous of seeing the project revived, as he contends that Government should rather aid private institutions than erect Government institutions.

There is he considers an embarrassing uncertainty as to the views of Government on this point, and so long as Government is believed not to contemplate the abolition of their own Schools, the Grant-in-Aid system must remain practically in abeyance. The case of the special Colleges, such as those of Medicine, Engineering, and Law is very different. Private enterprise can do little here, and Government must bear the expense.

The scholarship examination was conducted by the Revd. J. Mullens, B. A., H. Woodrow, M. A., Mr. R. Hand, Revd. K. M. Banerjea. The result was "that the greatest per-centage of students who obtained more than *half* the maximum number of marks for Scholarships was from the Presidency College, while Kishnaghur shows the highest per-centage of lads who got more than *one-third* marks. Again, we find that the highest *general average* of marks was gained by the students from Kishnaghur and the lowest by those from Dacca." This is creditable to the Mofussil Colleges who are yearly stripped of their best scholars by the Mofussil Bursaries, stipends paid to the best scholars in the Mofussil to enable them to finish their education in Calcutta. No students came up this year for honours, none remaining through their four years' course. The demand for educated labour is greater than the supply, and men get salaries after one or two years' instruction. The prospect of obtaining a degree may counteract this tendency.

The Medical College retains its reputation, but the Principalship is not on a satisfactory footing. The office was offered to seven gentlemen in succession who refused it, the emoluments being unequal to its responsibilities.



The Law Department of the Presidency College advances in popularity, and of the six students who completed their course every one received a diploma.

The allowance for Professors of Jurisprudence and Municipal Law has been altered to Rs. 1,000 a month for the two, and some changes have consequently taken place in the personnel.

The new College of Civil Engineering "was opened in November last, and its Registers show an average of attendance of thirty-one students." At the 2nd examination, in May only two candidates presented themselves. The College is unpopular, the students not seeing their way clearly to a career.

The Government Zillah Schools are well attended, popular and successful. Whenever in consequence of the increasing demand for English education the Schools become overcrowded, the fee is raised. The department does not encourage purely English Schools preferring Anglo-Vernacular institutions. The Court of Directors have declined to send out trained Masters for these Zillah Schools, till convinced that Masters cannot be obtained in the country. Certain School-masters deprived of employ in the North-west have therefore been engaged. Their services however have not been made permanently available. The control over these Schools hitherto exercised directly by the central office, has been transferred to the Inspectors. A Committee referred to in the last Report was of opinion that Schools like the Zillah Schools should not be aided unless English were taught simply as a language, the basis of instruction being the vernacular. These Schools are frequented by tradesmen, petty Talookdars, and Omlah and are injurious when they teach only a smattering of English.

"Four Normal Schools for the training of Vernacular Teachers, are now in operation at Hooghly, Dacca, Gowhattee, and Calcutta." They promise to be successful.

The Grant-in-Aid system is not only the most important portion of the plan inaugurated by the Despatch of July, 1854 but is its pivot. This system is not in a satisfactory position. On 25th September, 1856 the Director addressed to the Government a letter arguing that the fee fund should be considered part of the subscriptions. That fund is not public, and must therefore be considered private, and within the meaning of the private subscriptions. Indeed it is the best form of them, being less liable to fluctuation and discontinuance than any other. In a subsequent letter written in December, the Director quotes the opinions of his subordinates on the Grant-in-Aid and its failure. Mr. Pratt says, the failure is inevitable if Government adhere to the rules and restrictions laid down in its rules for Grants-in-Aid. Mr. Woodrow says of the 24 Pergunnahs, "In these Dis-

tricts Grants-in-Aid for Anglo-Vernacular Schools will probably succeed, but they have failed, and will utterly fail, for purely Vernacular Schools." Mr. Robinson says, the guarantee required before a Grant-in-Aid is given is an obstacle in the way. In Mr. Harrison's Division not one vernacular School has obtained a Grant-in-aid. Setting aside four Zillahs just around the capital, the average of aided Schools is only  $1\frac{1}{4}$  in each district while in eighteen districts there is not one Vernacular School. "It appears to me, then, that the question simply is, whether the Grant-in-Aid system shall be abolished, and some other method of carrying out the orders of the Honorable Court in regard to the education of the masses substituted for it, or whether the Rules under which that system is at present administered shall be somewhat modified, in accordance with the experience we have gained since their promulgation a year and a half ago." The modification Mr. Young would seek is a relaxation of the Rules as applied to vernacular Schools, the maximum in no case exceeding three-fourths of the entire cost of the School. In these views the Lieutenant Governor generally concurred, and on 31st July, 1857 Mr. Secretary Beadon replies. The Governor General in Council sanctions an increase of expenditure for Grants-in-Aid up to Rs. 10,000 a month. The Government of India does not consider that any sufficient ground has been made out for a relaxation of the Rule about the Grants-in-Aid. "The Director of Public Instruction assumes that it is the *amount* required to be made good from local sources which prevents the people from taking greater advantage of the Grants-in-aid for Vernacular Schools. If so, the remedy consists, not in increasing the proportion contributed by the Government, but in diminishing the total cost of the School. At present it appears that no School is aided, unless the local contributions, including fees, amount to Rupees 10 a month, so that it is seriously contemplated to found a system of Village Schools costing at least Company's Rupees 40 a month each. It seems superfluous to point out the utter impracticability of such a scheme. In the North-West Provinces, the whole cost of a Hulkabundee School is only Rupees 4 or 5 a month." To establish Vernacular Schools at the expense of the State is simply impossible. "The plain fact appears to be that, in the Lower Provinces, the lower classes have not yet learned to appreciate or desire Education, and that the higher classes generally are not actually desirous that their inferiors should be educated. All that the Government can do in such circumstances is to set before the people, in every way, the advantage of teaching their children to read and write, to exhort and persuade them to do so, to point the way by opening Normal and Model Schools,

and to aid in establishing Village Schools by a liberal grant of public money, the amount of which has been wisely limited as a general rule to a sum equal to that contributed from local sources over and above the very small fees paid by the pupils. To go beyond this limit would, in the opinion of the Governor General in Council, be consistent neither with the principle of encouraging private effort and combination, nor with a due regard to the public finances." Indeed the Government of Bengal seems rather to have fostered new and expensive Schools, than indigenous and cheap ones, an erroneous course on which the full opinion of the Lieutenant Governor is requested.

In reply the Director says that he did not propose Vernacular Schools on Rs. 40 a month, Rs. 20 being a maximum. What he meant by his proposal was "assuming Rupees 20 to be, as it is at present, the amount necessary to be made up, instead of the people being required to give Rupees 10, and the Government Rupees 10, the people might, (in certain cases, at the discretion of the Lieutenant Governor,) be asked for only Rupees 5, and the Government might give Rupees 15." As to the establishment of Vernacular Schools by Government being simply impossible, that must depend on the number of them. 600 would obviously be impossible, but six are sanctioned for each Zillah. As to the system of including fees as subscriptions it is important if only to prevent fraud. If it were abolished the fee would be reduced to the lowest conceivable coin, and the remainder presented as a fee in reality, but as a subscription in form.

The indigenous Schools even of the lowest character are not neglected, and as to Mr. Beadon's statement that a different system prevails under each Inspector, the differences—setting aside Behar—are not greater than are inevitable from extent and variety of country. The extent of jurisdiction for instance of the Director may be thus illustrated. A circle of the same extent having Paris as its centre would comprise "the whole of France, England, Belgium, Holland, and Switzerland, and parts of Ireland, Denmark, Austria, Italy, and Spain." His final request is that "Rupees 10,000 a month having been fixed upon as the maximum amount to be spent upon Grants-in-Aid, the discretionary power of the Lieutenant Governor may be enlarged to the extent of granting in each case such sum (and no more) as may be proved to be really necessary in aid of the funds of the School, provided that in no case shall the Government contribute more than three-fourths of the cost of any School, and that, as a general rule, no Grant-in-Aid School shall be set up within ten miles of another School of the same class."

Model Vernacular Schools have been established in thirteen

districts five to twelve in each, and they are in Bengal at least very flourishing. The system of circle Schools, or circles in which one Teacher travels about instructing the indigenous Teachers in their duties has succeeded. In each of the six districts of Behar two Teachers are thus employed.

The system of vernacular scholarships has been extended to fifteen more districts. Ten such scholarships are given annually, and in each district five of which are tenable for one year in a Normal School, and five for four years in a Zillah School. A number of free scholarships carrying a right of free education in a superior School have been sanctioned for Anglo-Vernacular Schools. In Behar model or circle Teachers are examined, and if necessary rewards given them. In Assam, a system is being tried by which for every Village Teacher, "who keeps up a tolerably efficient School, under the general control and influence of the Inspector, a subsidy or grant is given at the rate of one Rupee a month for every ten boys under instruction. Sufficient time has not yet been allowed for judging of the effect of this measure." A proposal to graduate the salaries of the Vernacular Masters in Assam, now universally Rs. 7 a month, was sanctioned by the Lieutenant Governor, but rejected by the Supreme Government. Each Deputy Inspector has been made an Agent of the School Book Society, in order to stimulate the sale of books in the interior. "About the beginning of the year under report, a newspaper in Bengalee, called the *Educational Gazette*, was established, under the editorial charge of the Reverend O'Brien Smith, under the auspices and patronage of this Department, assisted by a Government Grant of Rupees 200 a month. The object is to supply the people in the interior of the country with a newspaper cheap in price and healthy in tone. The plan has been very successful. The paper is very well conducted and popular, and its circulation, before it had been in existence a year, far exceeded that of any other Vernacular Paper" The following is the return of Schools which have received Grants-in-Aid up to 30th April, 1857:—

*RETURN of Schools that have received Grants-in-Aid up to the  
30th April, 1857.*

Names of Districts.	ENGLISH AID-ED SCHOOLS.			*ANGLO-VER- NACULAR AID-ED SCHOOLS.			VERNACULAR AID-ED SCHOOLS.			REMARKS.
	Number.	Monthly Amount of Grant.		Number.	Monthly Amount of Grant.		Number.	Monthly Amount of Grant.		
Calcutta, ... ..	2	†800 0 0	0	.....	.....	.....	2	37 0 0	0	† Including the Calcutta Industrial School.
24-Pergunnahs, ...	12	689 0 0	0	.....	.....	.....	17	264 0 0	0	
Serajunge, ... ..	1	60 0 0	0	.....	.....	.....	14	41 10 8	8	
Kamroop (Assam), ...	.....	.....	.....	.....	.....	.....	2	50 0 0	0	
Howrah, ... ..	.....	.....	.....	2	137 0 0	0	2	50 0 0	0	
Baraset, ... ..	3	83 0 0	0	2	74 0 0	0	2	25 8 0	0	
Hooghly, ... ..	9	450 0 0	0	11	‡594 4 0	0	35	465 0 0	0	‡Including the Jonye Training School.
Burdwan, ... ..	1	50 0 0	0	1	65 0 0	0	19	239 0 0	0	
Nuddeah, ... ..	0	.....	.....	7	270 0 0	0	19	269 0 0	0	
Dacca, ... ..	5	165 0 0	0	3	68 0 0	0	3	122 8 0	0	
Patna, ... ..	1	200 0 0	0	.....	.....	.....	.....	.....	.....	
Midnapore, ... ..	1	82 0 0	0	1	73 0 0	0	9	90 0 0	0	
Bancoorah, ... ..	.....	.....	.....	5	225 0 0	0	7	69 0 0	0	
Seebaagur (Assam), ...	.....	.....	.....	.....	.....	.....	4	24 8 0	0	
Sylhet, ... ..	.....	.....	.....	2	31 0 0	0	.....	.....	.....	
Rungpore, ... ..	.....	.....	.....	2	60 0 0	0	4	50 0 0	0	
Chittagong, ... ..	1	40 0 0	0	.....	.....	.....	.....	.....	.....	
Dinagepore, ... ..	.....	.....	.....	.....	.....	.....	1	10 0 0	0	
Jessore, ... ..	3	192 0 0	0	.....	.....	.....	2	42 0 0	0	
Pubna, ... ..	2	105 0 0	0	.....	.....	.....	1	11 0 0	0	
Furreedpore, ... ..	.....	.....	.....	2	37 0 0	0	5	73 0 0	0	
Backergunge, ... ..	3	77 0 0	0	1	20 0 0	0	1	15 0 0	0	
Rajeshye, ... ..	.....	.....	.....	.....	.....	.....	1	22 0 0	0	
Moorsheadabad, ... ..	.....	.....	.....	.....	.....	.....	2	29 0 0	0	
Beerbhoom, ... ..	.....	.....	.....	.....	.....	.....	1	19 0 0	0	
Total, ... ..	44	2093 0 0	0	39	1654 4 0	0	151	1968 2 8	8	

\* An Anglo-Vernacular School is one in which English is taught as a language only, all other subjects being taught in the Vernacular.

Mr. Young expresses his sense of the valuable services of his subordinates and refers to the Rule that Inspectors must henceforward unless otherwise known to be proficient pass an examination in the Vernaculars.

The Appendices contain "Extracts from the periodical Reports of the Inspectors of Schools and Authorities in charge of Government Colleges and Schools.

"Selection of the more important Circulars, Notifications, &c. issued during the year.

"Reports and Papers connected with the scholarship and Honor Examinations of the year.

"Miscellaneous Statistical and Tabular Statements." Mr. Pratt, Inspector for South Bengal in his report for the quarter ending July, 1856 notices that the boys of the Krishnaghur and Berhampore Colleges do not like the new curriculum for the third and fourth years. They have learnt mathematics and classics till they will not learn physical science. He would teach them some, and argues, "why should Greeshchunder Chuckerbutty be expected to know 'what circumstances enabled Shakespeare to exhibit an accurate knowledge of Greek Mythology,' or 'in what respect the Dramatic compositions called 'Mysteries' differ from those called 'Moralities,' and other facts of a like nature? On the other hand, it is of very great importance, that he should see clearly the danger of living with an open sewer running under the lower floor of his house, or the cruelty of marrying his children at an immature age, or the impolicy of exhausting the soil of his fields by the disregard of important principles in Chemistry: and it is very important that his mind should comprehend the sublimity and beauty of the laws by which his own body and every thing around him are governed; and that his heart should, if possible, be awakened to the great facts and conclusions of Natural Theology." He presses the importance of a complete knowledge of Bengalee on the part of the Zillah School-masters. They are usually deficient in this. He would appoint to each Zillah School a Pundit on Rs. 20 a month. Mr. Pratt notices a number of Schools, and observes that the rich generally do not exert themselves to aid in the formation of Schools. He recommends that two copies of every Vernacular work published shall be sent to Government under a penalty. It is important to educationists to know what is doing in Vernacular literature, and there are at present no means. Efforts have been made to improve and extend the system of local libraries. At Krishnaghur the greatest interest was shewn in this work, and funds were subscribed in a few weeks sufficient to erect a building.

Mr. Woodrow, Inspector for East Bengal in his report for the

same quarter says, a steady improvement may be traced in the indigenous Vernacular Schools. The Gooroomuhashoys are willing to improve their Schools, but even these are really attended by the better classes. Not one-tenth of the population ever attempt to learn to write. One-half the boys are Bramhuns or Kayasts. The citcle Teachers who receive Rs. 15 a month are examined once a month analyzing for instance twenty Chapters of a History of Bengal. They come to Calcutta for their salaries so the examination does not interrupt their studies, and they are thus compelled to improve themselves. In the Eastern districts there is apathy about education and antipathy to vernacular education. "The statistics of the Gurumohashoy circles in the 24-Pergunnahs and Baraset are as follows:—

- 46 Pundits.
- 133 Schools under improvement.
- 5,769 Boys in these Schools.
- 7 Schools in which girls are taught with the boys.
- 62 Girls in these Schools.
- 4,677 Books introduced by the Pundits.
- 112 Books previously in these Schools."

Mr. Harrison, Officiating Inspector in Behar says, that English education is slowly established. The Model Schools are much opposed. The average of attendance is 17 and of these eight-ninths are Hindoos. The Bettiah, Huttooah, and Doornraon Rajahs have promised to set up Schools open to Government inspection. Some other Zemindars have assisted, but in one place the ryots quitted the estate of one proprietor to go to another who promised not to trouble them with Schools. The Benares newspapers do not sell in the province, or many of the books. There is however a reason for this. The books are in Nagri. The people use the Kaithi, and though there is not much difference they are slow to change.

The examinations of Village Schools to reward the best Teachers have been far and unsuccessful. One Master who allowed his School to be examined refused a reward. The attendance next year will be better. Mr. Harrison reports favourably of the assistance he receives from his officers, from the Local Committees and from the Commissioners.

Pundit Eshwur Chunder Surma mentions that the Normal School had at the close of the quarter ninety-one pupils, and supplied fourteen Teachers.

Mr. Pratt in his report for the quarter ending October, 1856 deprecates the reduction in the number of aided Schools, which must follow the order that fees are not to be considered private contributions towards the Schools. The total number of aided Vernacular Schools in the Division established by 30th October was 90.

Mr. Woodrow in his report for the same quarter says he believes the indigenous Schools can be raised. In the 24-Pergunnahs there are sixty-six Schools. "Among all these Schools, there were only three which had any books at all last year, and these were only Lives of Krishna and Almanacs; now every one of them has books. Twelve Schools have classes reading Nitibodh and Bodhodoy. The plan of making girls eligible for reward as soon as they can read the Sheshushekhya, No. I., and rewarding equally the Gurumohashoy who teaches them, has succeeded beyond expectation in certain places. At Sura there are thirteen girls in one School, in Neelgunge twelve in one School, and at Syedpore, near Barrackpore, I myself examined nineteen Brahmine girls—all of good parentage. Every Gurumohashoy has an interest now in bringing girls to his Schools, and they are doing so quietly and without any noise. I have now, in my Indigenous Schools more girls than there are in the Bethune and Central together, and before the end of the year, the number will be doubled." The people of the Eastern districts are much more bigoted, ignorant and prejudiced than those of the western; Grants-in-Aid for Anglo-Vernacular Schools may succeed, but must fail for Vernacular Schools.

Mr. Robinson in his report for the same quarter says the order restricting Government employment to those who can read and write has been fairly carried out in Assam, and with the best effect, grown men even learning to read.

Pundit Eshwur Chunder Surma mentions that the Normal School numbers 78 pupils and sent out 20 Teachers during the quarter. Mr. Pratt in his report for the quarter ending January, 1857 says the inhabitants of Midnapore have subscribed 200 Rs. for a Fives' Court in the School compound. He hopes the same thing may be attempted elsewhere as manliness and courage depend upon physical training. "The Gymnastic Lessons at the Hooghly and Presidency Colleges have not succeeded—probably because the students could see no practical use in the thing. But if a recommendation, which I made some time ago of teaching the lads the use of fire arms and horse-riding were adopted I think there would be no such reluctance. If the sons of our zemindars could acquire the habit of shooting snipe and dacoits, and of riding over their lands and seeing things with their own eyes instead of the eyes of their Omlah, it would be a decided improvement." Four applications had been sent in to establish Schools for girls. The inhabitants consented to Christian female Teachers, and to erect School houses, but did not propose to bear the current expenses. "The projectors make a considerable sacrifice, in exposing, themselves to annoyance and dislike on the part of a large section of their less enlightened neighbours; and



that sacrifice should be held at least as equivalent to a mere pecuniary donation." He was of opinion that the time had come for proposing the introduction of circle Schools into South Bengal, and therefore proposed :—

*"List No. 1.*

30 in Bancoorah at Rs. 25 per mensem,	750	0	0
30 in Midnapore, ... ,, ,,	750	0	0
30 in Hooghly, ... ,, ,,	750	0	0
30 in Nuddea, ... ,, ,,	750	0	0
30 in Burdwan, ... ,, ,,	750	0	0

*List No. 2.*

For the present, and to be extended hereafter when all the Thannahs have been visited :—

20 in Moorshedabad, at Rs. 25 each ..	500	0	0
20 in Malda, ... ,, ... ..	500	0	0
20 in Rajshahyè, ... ,, ... ..	500	0	0
20 in Beerbhoom, ... ,, ... ..	500	0	0

230 Total of Rupees per mensem,	5750	0	0
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"Supposing that on the average 200 boys are taught in each of the Circles, the formation of which has been recommended, the cost will be Rupees 5750 per mensem for the education of 45,000 boys, or an average of about two annas a head per month or Rupees 1-8-0 a year."

In his report for the same quarter Mr. Woodrow remarks that trained Teachers are wanted for the primary Schools. All the Inspectors, and the Governments of Bengal and India have sanctioned their employment, but the Court of Directors considered they could be trained in India. The Schools in Arracan are deficient from the inability of the Masters to speak Burmese. The boys too, owing to the great demand for English, do not stay long enough. There had been an application for an aided School from Sandoway, where though the district is 17 day's post from Calcutta there is a great desire for English. The Buddhist priests teach the people, and 70 per cent. of the population can read and write, but the priests being bound to poverty will not take a Grant in-Aid, nor will they teach secular learning. "The following is a summary of the Indigenous Schools now under improvement, in Baraset and the 24-Perunnahs :—

45 Pundits.  
129 Schools under improvement.  
4767 Boys in these Schools.

10 Schools at which Girls attend.

26 Girls in these Schools.

5294 Books introduced by the Pundits.

“One of the Indigenous Schools under improvement at Dacca is taught by a Native widow. She is paid but once a year, and the highest gift is not more than one Rupee; the average is three annas. This gives just a pice a month. The attendance is about thirty.”

Mr. Robinson complains that the English Schools in the Division teach only words. The students are not taught to think and they forget what they have learnt. The Division contained six aided Anglo Vernacular Schools with 382 scholars, the Normal School at Gowhatte worked well, and the Model Vernacular Schools in Bograh, Rungpore and Dinagepore had succeeded. They had 1053 scholars, a sign of progress, as in these districts not even a Gorumohashoy had ever been known. In Assam the Government Vernacular Schools had on the whole succeeded.

Pundit Eshwur Chunder Surma in his report for the same quarter mentions that the pupils in the Model Schools have made really surprising progress, having in eighteen months, commenced at the Alphabet and “gone through almost all the Class Books at present available; such as:—

Bornoporichoy, or Spelling Book.

Rijupat or Simple Lessons.

Kathamala, or Select Fables of Æsop.

Nitisar, or Moral Stories.

Bodhodoy, or Rudiments of Knowledge.

Pashawbali, or Animal Biography.

Charitabli, or Exemplary Biography.

Nitibodh, or Moral Class Book.

Bhugal Bibarun, or Geography.

Banglar Itihas, or History of Bengal.

Patiganit, or Arithmetic.

Charupat, or Useful and Entertaining Lessons on Miscellaneous Subjects.

Jeeban Charita or Biography.”

The students of these Schools are seldom of the working class, but of the middle classes. The working classes cannot pay School fees, buy books and slates, &c.

Mr. Woodrow, Inspector for East Bengal in his Report for 1856-57 gives the following statistics:—“The Education Division of East Bengal contains a population of 76,53,000, and an area of 33,600 square miles, or 227 persons to each square mile. In this Division, exclusive of Calcutta there are under regular inspection—

12	Government	English Schools.
6	„	Vernacular Schools.
1	„	Normal School.
1	„	Model School.
2	Grant-in-Aid	Superior Schools.
34	„	Intermediate Schools.
31	„	Elementary Schools.
150	Indigenous	Schools under improvement.
<hr/>		
237	Total.	”

The English Schools are attended by 1,964 boys. The monthly cost is:—

	Total Cost.	vernment.
Barrackpore, ... ..	0 15 10	Nothing.
Baraset, .. ..	1 14 11	1 0 8
Jessore, ... ..	2 8 0	1 8 4
Pubna, .. ..	2 9 2	1 14 0
Burrisaul, .. ..	1 7 3	0 3 0
Furreedpore, .. ..	2 8 5	1 10 3
Noakhally, .. ..	4 9 0	3 10 6
Tipperah, .. ..	3 0 10	2 2 9
Chittagong, .. ..	2 5 0	1 5 7
Akyab, ... ..	4 5 0	4 0 6
Ramree, .. ..	4 5 0	3 15 11

Mr. Woodrow details the condition of the Zillah Schools, and remarks that the tendency in all aided Schools is to attend exclusively to English because it pays. 150 Indigenous Schools were under improvement, they are taught by 53 Pundits with an average attendance of 5,784 boys and 59 girls. The improvement is extraordinary, some being equal to aided Schools.

On 23rd May, 1856, the Director of Public Instruction addressed a Circular to the Inspectors requesting reports on the sufficiency of measures in operation for promoting popular instruction. On 15th September, the Inspector for South Bengal replies:—“ In five Districts, containing an aggregate population of nearly six million souls, somewhat less than half the principal places have been visited and ‘ agitated,’ in number about nine hundred and thirty (930); and of these, only one hundred and twenty-four (124) or little more than thirteen per cent., have responded to our call.” The majority of the people are supremely indifferent, the ryots being too poor to pay for any instruction at all, the next class are content with the indigenous—the middle class care only for English education, and the Zemindars are either indifferent or opposed to education as weakening their own authority. The Schools established are usually in places where

some able Zemindar or Calcutta native has his home. These men understand the importance of education. The Inspector considers that education should be made more practical. If we made "provision for a better knowledge of Accounts, of Land Measurement, of Cutcherry work, of the Revenue Laws, of the art of writing Petitions and Law Documents, for lessons in Agricultural Chemistry, we should add immensely to the popularity of our Schools." Normal Schools are required, the combination of three or four Schools into a circle with a visiting Pundit, and a general cheapening of all School books.

On 6th September, the Inspector for East Bengal gives the following statistics of aided Schools :—

District.	ANGLO-VERNACULAR SCHOOLS.		VERNACULAR SCHOOLS.	
	Number.	Amount of Grants.	Number.	Amount of Grants.
Calcutta, ... ..	1	200 0 0	2	32 0 0
24-Pergunnahs, ... ..	11	624 0 0	16	239 0 0
Baraset, ... ..	5	157 0 0	2	25 8 0
Burrisaul, ... ..	3	72 0 0	1	15 0 0
Furreedpore, ... ..	2	37 0 0	4	60 8 0
Dacca, ... ..	8	223 0 0	2	22 8 0
Pubna, ... ..	2	105 0 0	1	11 0 0
Jessore, ... ..	3	192 0 0	2	42 0 0
Total, ... ..	35	1610 0 0	30	447 8 0

138 indigenous Schools are under improvement.

Mr. Robinson, Inspector in Assam on 6th June states that the vernacular village Schools contain 3189 pupils. Thirty-six indigenous Schools have been established. In Sylhet, Bogra, Myensing, Dinagepore and Rampore indigenous Schools scarcely exist. A beginning however has been made, and the people are not unwilling to learn English.

The Inspector of Behar reports on 25th July on the operations of his Division for the past year. In the ten Zillah Schools he remarks there are 1150 boys of whom 95 per cent. always attend. The standard of education is a little lower than in Bengal but not materially so.

Papers follow describing the condition of every College, and School throughout the country, official Circulars of the year, the report on the scholarship examinations, and statistics which may be thus condensed :—

*STATISTICAL RETURN of Government Colleges and Collegiate Institutions in the Lower Provinces for the Year 1856-57.*

Names of Institutions.	Town or Zillah within which situated.	Total number of pupils on the Rolls at the end of the Year.	Total Cost of educating each pupil.	Cost to Government.
Presidency College—General Department, ...	Calcutta, ...	140	46 15 4	43 8 10
Kishnagur College, ...	Kishnagur, ...	20	36 2 3	33 6 6
Calcutta Madrassa—Arabic Department, ...	Calcutta, ...	101	16 1 6	15 11 9
Sanskrit College, ...	Ditto, ...	351	6 9 3	5 13 6
Berhampore College, ...	Berhampore, ...	14	84 6 6	83 4 3
Dacca College, ...	Dacca, ...	43	30 1 1	27 13 11
Hooghly College, ...	Chinsurah, ...	38	26 7 5	0 0 0
Arabic Department, ...	Ditto, ...	53	22 13 9	0 0 0
Patna High School, ...	Bankipore, ...	140	9 6 5	8 2 10

In calculating the charges, two-thirds of the Principal's pay have been reckoned as an expense of the College, the other third being divided between the College and the Collegiate School (which is also under the Principal's general charge,) in proportion to the number of pupils in each. The charges for Servants and Contingencies have been divided between the College and the Collegiate School, in proportion to the number of pupils in each.

*ABSTRACT of Attendance at the Colleges and Schools in 1856-57.*

	Number attending Colleges.	Number attending Superior Schools.	Number attending Inferior Schools.	Total.
General Education.	654	6,071	7,097	13,822
	No Returns.	816	11,608	12,424
Special Education,	402	258	None.	660
	No Returns.	No Returns.	No Returns.	.....
Total, ...	1,056	7,145	18,705	26,906

\* Private Institutions, not receiving aid, objected to send Returns, and are consequently omitted in these Statements.

	Rs.
The Colleges cost in 1856-57, ... ..	3,48,670
The Superior Schools cost, ... ..	3,43,917
Inferior Schools cost, ... ..	1,41,687
Receipts in Colleges were, ... ..	3,50,421
In Superior Schools, ... ..	3,51,857
Inferior, ... ..	1,47,479
Aided Schools for General education received,	6,470
„ inferior Schools, ... ..	44,843
The total cost of all educational measures in the year :—	

**GENERAL STATEMENT of Amount expended by Government on education during the Year 1856-57.**  
(Compiled from the Accountant's Returns.)

	Salaries.	Scholarships, Stipends, and Prizes.	Building and Repairs.	Contingencies, Books, and House Rent.	Grants-in-Aid.	Total.
General Establishment, ... ..	1,45,207 5 1	.....	.....	19,331 8 4	.....	1,64,538 13 5
Govt. Colleges and Schools—						
General, ... ..	5,04,633 1 4	27,568 5 11	2,221 9 4	58,548 8 8	.....	5,92,971 9 3
Special, ... ..	1,01,784 5 3	14,064 2 10	150 0 0	19,059 14 10	.....	1,35,058 6 11
Private Colleges and Schools—						
General, ... ..	.....	20 0 0	.....	.....	*43,936 5 3	43,956 5 3
Special, ... ..	6,700 0 0	.....	.....	.....	.....	6,700 0 0
<b>Total, ... ..</b>	<b>7,58,324 11 8</b>	<b>41,652 8 9</b>	<b>2,371 9 4</b>	<b>96,939 15 10</b>	<b>43,936 5 3</b>	<b>9,43,225 2 10</b>

\* The Statistical Statements show the sum drawn by the Grant-in-Aid Schools to be Rupees 51,313-0-11. The difference, amounting to Rupees 7,376-11-6, is owing chiefly to the Schools entering the sum due for April, 1857, which the Accountant has excluded.



## THE GUICOWAR'S HOSPITAL.

*Indian Records, No. XXIV.*

ON 27th February, 1857, Dr. J. B. Stratton, Residency Surgeon at Baroda, reports upon the Guicowar's Hospital. The Hospital during the past year has become better known and appreciated, especially among the pilgrims, who furnish the worst cases. As a rule few returning pilgrims ever make their appearance. The cases treated during the year were 2,862, of whom 837 were discharged cured, 1,131 discharged relieved, and 36 died. Of diseases the most common are "Periodic Fevers, Skin Diseases, Diseases of Stomach and Bowels, Diseases of Generative Organs, and Diseases of Organs of Respiration." There were only three cases of Fever. Of the 36 cases of death, 27 were in a state of exhaustion from exposure and want. Of the numbers admitted only 30 were female in-door patients, but there were 528 out-door female patients. In fever the Raswanti called in Bengal Rasot (Extract of herberies) has been used with satisfactory results. A gift of Rs. 200 from the Resident purchased two skeletons, a microscope of 4,00' worth £10 in England, and some Medical books.

Leprosy is very common in Baroda, and Dr. Stratton suggests a Leper's Asylum, and a Dispensary on the Southern side of the town. The Vaccine establishment contains sixteen Vaccinators who vaccinated 7,664 cases in the half year ending 31st December, 1856. The per-centage of successful cases was 77.5. Regular Peons for the Vaccinators are required, the villagers giving assistance unwillingly. Common medicines might be given to these Vaccinators with advantage. The establishment will soon be raised to 22 Vaccinators who with their establishment will cost, 541 Syacye Rupees or 473 Company's Rupees. This establishment is for the entire territory.

## KAREN NEE.

*Indian Records, No. XXIV.*

"THE country inhabited by the race of Red Karens lies between the parallels of 0° to 20° N. Latitude and 97° to 99° E. Longitude. On its Southern extremity, it is bounded by a

mountain stream, called the 'Kai Mah'pee.' To the North a small stream, the 'Nau-pai,' forms the boundary between it and 'Levai-Loong,' a mountainous tract, subject to the authority of the Mobyay (Shan) Chief." The Een-lay-Yeea river bound it on the East and Poug Loung Ngay on the West. "Descending upon the central portion of Karen Nee from the Western range, at a height of 6,200 feet, the lower formations present the appearance of a country of widely arched undulations of low-altitude, enclosed between high ranges of mountains on its Southern and Eastern faces, and extending in unbroken wave-like lines to the horizon Northward; while the prospect to the West is closed by the subordinate ranges of mountain limestone, fractured on the sides and ridges into fantastic shapes of high-walled and battlemented forts, with turrets and gigantic buttresses in a state of ruin. Reaching the springing of the undulations, it is then ascertained that they have a higher altitude than was supposed when seen from above, and that the covering lines from gently sloping ranges of  $\frac{1}{4}$  to  $1\frac{1}{2}$  miles in breadth. These rounded hills occupy the Southern portion, or about one-third of the whole latitudinal surface of the country, and incline with graceful curvature to the Northward, until emerged in a vast plain, which extends from that point far into the Shan States." The range of this undulating surface is from 3,000 to 3,350 feet, and that of the plains 2,850 feet above the sea level. The entire country is cultivated, and the jungle has been extirpated. The formation is limestone, grey, hard, and compact, and at the Southern extremity tin deposits are worked, and copper ore and iron have been found. The area is probably 7,200 square miles. In the Western portion are 92 villages containing 7,360 houses, and 36,800 souls. The Eastern portion has 1,200 villages with 36,000 houses and 1,80,000 people. That gives 28 people to the square mile of whom one-third are slaves.

The thermometer when Mr. O'Riley was there varied from 55° to 70° on the undulations, and from 48° to 76° on the plains, and for the remainder of the year a blanket is always necessary. The rains are irregular, but usually last from mid June to October. There are no fogs and no miasmatic diseases, and the cholera has never visited the region. Cattle, buffaloes, and ponies are bred largely, and pigs and goats are plentiful. The latter are very fine. The only wild animal is the leopard. Hares, pheasants and partridges are common. The raspberry, strawberry and creeping pine will grow freely.

The inhabitants are called Red Karens from their clothes, and are supposed to have been seated on the Irrawaddy whence they were driven by the Burmese. They were hunted from

range to range till they reached Karen Nee whence they drove out the Shans. Thenceforward their position has defended them. The only government is that of the chiefs, to whom however they pay no taxes. Each head of a family acts as he likes, and all are armed. Thieves must restore the value stolen, or be sold to the Shans, but offences against the person are punished by fines. The people worship evil spirits, offering animals, but the only regular festival is the annual one. They all get drunk on these occasions. They use divination by fowl's bones. "Having killed a fowl and extracted the leg and wing bones, he next examines them minutely, to ascertain the number, position, and direction of the small apertures upon their surface. Into each hole he inserts a small piece of bamboo, to indicate its direction, and should they occur in certain forms considered favorable and in accordance with his own previously conceived result he is satisfied of the spirit's approbation, and his mind is relieved of all care for the future of his undertaking. But it more frequently occurs that the augury is unpropitious, as the small holes in the bones vary in almost every bird: in such cases, a second and a third fowl, or more, are killed, until the desired result is attained.

"In cases of death and burial also, no religious rites would appear to be observed; the body is conveyed silently to the last resting place of the race, a patch of jungle on the summit of a hill adjacent to the village being reserved for this purpose, where it is interred with a portion of the valuables of the family, implements of household use, and a supply of food, from time to time renewed. A small miniature house is erected over the grave, in which the articles are placed for the sustenance of the spirit during its mournful watch over the decomposition of the remains, which completed, and 'the body returned to the dust that made it,' the spirit departs to the world unknown."

Cultivation is very careful, and the soil, a rich loam, yields 15 to 20 fold. "The cereals usually planted are the red and white paddy, millet and *Kyeik* ('buck-wheat'), the two last being used principally in the manufacture of the fermented liquor *Koung Yai*, which usurps the place of water as their beverage." The exports are tin, teak, and stick-lac, of tin about 17,000 viss are exported yearly. The teak forests are becoming exhausted. The stick-lac yields about 140 tons a year. The only manufactures are rough clothes, and there are neither dyes nor drugs.

The only revenue is a tax on trade in transit producing to the chief about 1000 ticals of silver a year.

The people are in the last stage of barbarism, filthy, deceitful, and superstitious to a degree. They have however much family affection.

The country would serve excellently for a sanatorium, but though only 80 miles from Tounghoo the road is bad, and must be renewed. Even when cut wheel carriages could not ascend. "Next in importance to the restoration of health is that of its preservation and sustenance, and in this respect I may fearlessly hazard the opinion, that the whole country of 'Karen Nee,' with its plains of 2,500 to 2,800 feet, and higher uplands of 3,500 to 3,800 feet in altitude, possesses advantages in this respect not surpassed by any Territory of British India South of the Himalaya. I have elsewhere noticed the fine condition of the cattle and their abundance, and equally with the flocks of goats, sheep would here thrive uncared for; and potatoes, wheat, gram, and all the cereals and vegetables of useful economy find in this region a soil and climate extremely favorable to their culture. The country in our occupation would herein form the Depot from which to draw supplies for the whole Military Force employed in Pegu." Mr. O'Riley thinks the Cinchona might thrive.

The trade is confined to the Shans, and the timber dealers from Tenasserim, the former of which may be worth 13 lakhs a year. The timber trade is not less than 3 lakhs.

The slaves are either the children of debtors held in bondage to redeem unliquidated debts, or kidnapped children, and are sold to the Shans to the number of 2000 or 3000 a year. Sometimes whole villages are seized at once.

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## JUBBULPORE SCHOOL OF INDUSTRY.

*Indian Records, No. XXIV.*

ON 26th January, 1857 Major J. Sleeman, General Superintendent for the Suppression of Thuggee and Dacoity reports that manufactures are increasing and the conduct of the approvers satisfactory. One lad has shewn much aptitude for higher mathematics. The School at Lahore has succeeded, and the tent manufacture has been introduced. "The following articles have been manufactured in the Lahore School during the year :—

"Tents of different sizes,	...	...	...	...	9
"Table Cloths, ditto,	...	...	...	...	24
"Woollen Carpets, ditto,	..	...	...	...	3
"Kidderminster Carpeting, yards,	..	..	..	..	197
"Sutrunjces, ditto,	..	...	..	..	13

"Towels and Napkins, dozen, .. .. .	64½
"The Sale Value of these articles amounts	Co.'s Rs.
to, .. .. .	2,102 1 3
"Out of which has been paid for raw ma- terials, .. .. .	1,573 8 10
"And to hired work-men, .. .. .	129 2 9
"Approvers and their sons, .. .. .	42 13 0
"Leaving a balance in favour of the Institu- tion of, .. .. .	356 8 8

"The thirty-one sons of Thug approvers located at Mecrut in 1850 are now working independent of Government advances, or of any assistance beyond that of the pay of an Overseer to write their letters, keep their accounts, &c. They are rapidly liquidating the debt due to Government for advances made when the Establishment was first formed, and in another twelve months, will be above the world, with a factory and Machinery of their own, and in a position to remunerate an Overseer of their own appointing." The total expense of the School for the year was Rs. 1,33,100. The receipts from goods sold were Rs. 1,04,851. The goods manufactured were

" 401 Tents of sizes.	
301¾ Yards Brussels Carpeting.	
961 " Scotch Carpeting.	
4,559½ " Kidderminster Carpeting, of which 1,196 yards sold, the remaining 3,363½ yards were used up as Carpeting for Tents.	
350 Pieces Table Cloths of different sizes.	
212 Dozen " Napkins.	
145 " Bathing and Wash-hand Towels.	
15 Pieces Plaid.	
69 " Cotton Horse Clothing.	
3 " Woollen Horse ditto"	

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## THE THUGGEE DEPARTMENT.

IN 1856.

*Indian Records, No. XXIV.*

ON 20th March, Major J. Sleeman, the Superintendent reports "Forty-five Phansigar Thugs, fourteen Dhatooreea Thugs, and twenty-six Professional Dacoits, have been arrested by the Establishments in the Punjab during the year." No cases occurred there during the year. In Etawah Capt. Chamberlain

has arrested sixty-two of the Bhudoureea Dacoits of the Gwalior territory. Some of them have turned approvers, and if their leader Pretum can be caught the system will come to an end. Major Williams at Agra has been hunting the Meenah Dacoits of Ulwur and Rajpootana. He has seized and sentenced sixty-six; and the approvers have pointed out some seventy more. These Meenahs though not all Dacoits have a strong feeling of clanship, and protect one another. They follow any successful leader, and are considered by Colonel Sleeman essentially criminal, false and treacherous. They first took to Dacoity during the famine of 1833.

“The Establishment at Lucknow have been engaged throughout the year in a search for the fugitive Phansigar and Dhatoureea Thugs, supposed to be still at large in Oudh, and in carrying out a system of Patrols on the great thoroughfares, which has the effect of deterring the Budhuks, who still haunt the Turace, from leaving its fastnesses for the purpose of plunder.” At Jubbulpore, Nagpore, and Indore the establishments have been hunting the Goar and Mooltanee Bunjarahs, men who by trade carriers never miss an opportunity of Dacoity. Lists of their Tandahs or camps were furnished to the Resident at Hyderabad, the Commissioners at Saugor, in Nagpore and the Nerbudda Territories, and the result has been a great diminution of their ravages. “The thirty-six Tandahs here alluded to have about 6,000 men attached to them, and of this number only 487 are denounced and registered Dacoits; but as every new approver names fresh men as his accomplices, we must conclude that there are hundreds of Dacoits among them yet unknown to us.

“The work in the Hyderabad Office has been greatly reduced since the cession of Berar from the ‘Paidees,’ ‘Thakoonkars,’ and ‘Koolhatees’ having in a great degree renounced their predatory habits and taken to tillage and other honest occupations.”

The establishment at Belgaum have been employed to arrest Kaikarees, but the tribe have fled from their old haunts. A system of registration is to be applied to them. 113 dacoits have been arrested by the department during the year, and 2614 are supposed to be at large.

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## THE ANDAMANS.

### *Indian Records, No. XXIV.*

ON 27th May, 1793 Lieutenant A. Blair reports on the survey of the Andamans. “Having, by your Lordship’s order, engag-

ed some Artificers, Sepoys, and Laborers, and also provided the necessary Stores, I left Calcutta in the beginning of September, 1789, to form a small Settlement at the Port now termed in the Chart Old Harbour, with instructions to prosecute the Survey when the Vessels could be spared from the service of the Settlement. Soon after my arrival, I made a particular Survey of Old Harbour, a plan of which I had the honor to transmit to your Lordship from thence.

“On March the 20th, 1790, having left Lieutenant Wales in charge at the Settlement, I sailed with the *Ranger* and *Viper*, accompanied by Captain Kyd in the *Experiment* to prosecute the Survey, and with an intention to complete the circuit of the Andamans. Our route being from Old Harbour, up the East Coast of the Island, I shall observe the same progression in this Report.” From the entrance of Old Harbour the land rises rather abruptly, to a great height, “a continuation of this, in a broken ridge, in the direction of North, and to an extent of 9 miles, very pointedly marks to the Navigator, the situation of Old Harbour.” At the North extremity the ridge dips gently terminating in a double inlet too shallow for ships. Two miles N. of the second is Port Meadows, a small convenient harbour and 2 miles N. of this is the Eastern entrance of Middle Strait useless for ships of burthen. “Northward, from Middle Strait, there are great inequalities in the surface of the land, some parts low and others rising very abruptly and nearly insulated by the Sea. The direction is North East by North, but deeply indented with Bays and Inlets. The soundings are regular and no dangers without the depth of 10 Fathoms. The distance to Strait Island is 13 miles, the direction North East. Here the Archipelago contracts the breadth of Diligent Strait to three leagues, and from Strait Island to Round Hill (which is the narrowest part) the breadth is only one league.” Here are the caves inhabited by the swallow which builds the edible nests of the Chinese. Lieutenant Blair believes these nests to be mineral formed of a mucilage exuding from the rock.

Strangers should not if possible enter Diligent Strait, but Lieutenant Blair gives directions for so doing. The Archipelago here appears to consist of eleven islands of various sizes all described. From the small Inlet in Latitude  $12^{\circ} 29'$  to  $12^{\circ} 45'$  the land rises very rapidly. It advances due N. then bends North North-East to Stewart Sound, then North and by East, where it rises abruptly into a high ridge called the Saddle. The North Peak is  $1\frac{1}{2}$  miles from the South. The North Peak descends irregularly to the Southern part of Port Cornwallis. The entrance to this port is in Lat.  $13^{\circ} 17'$  2,500 yards broad. The harbour is excellent, the land in its vicinity abounds with

timber, and the soil and climate is that of the most happy tropical situation. Lieutenant Blair proceeds to describe the features of the coast, totally unintelligible without a plan. The natives are inveterately hostile to strangers but susceptible of the most tender impressions.

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## THE MADRAS RAILWAY FARES.

*Madras Records, No. XLIII.*

ON 19th March, 1857, the Consulting Engineer requests that as the scale of Fares on the Madras Railway is experimental, the Manager will submit his views on the classification to be adopted. On the 27th May, the Manager, Major T. A. Jenkins replies forwarding a Report from the Traffic Manager, and observes that the experience gained upon the line teaches them that "extremely low fares are in themselves not sufficient to ensure to the Railway the conveyance of all the traffic of the District to it; and it is confidently believed that an equal quantity of goods would have been conveyed had our rates been higher." He would recommend that the 1st class passenger fare remain untouched, that the 2nd class fare be reduced from nine pies to seven pies per mile, that the 3rd class fare be raised from four pies to five pies a mile. It is not proposed to make great changes but to reclassify the articles so that they may carry—

"	In the 1st Class	300 lbs.	one mile for 1 pie = $\frac{1}{16}$ of an Anna.
"	2nd	" 240	" ditto.
"	3rd	" 160	" ditto.
"	4th	" 100	" ditto."

The enclosed letter from the Traffic Manager complains that the trains are too few, and inconveniently timed, that passengers cannot leave Madras and return the same day. He considers the difference of fares moreover excessive for "whilst upon this Railway the Second Class Fare is more than double the rate of the Third, and the First Class is double the rate charged for the Second, and more than four times that charged for the Third Class, the East Indian Railway Company's Tariff presents a still greater difference, the Second Class being thrice that of the Third, and the First Class double that of the Second, and six times that of the Third Class; and the Great Indian Peninsula Company's charges present a still wider difference, the Second Class being four times that of the Third, the First Class being one-half only more than the Second, but six times that of the Third." He would therefore increase the third class, now four pies



a mile, to five pies, reduce the second class to seven pies, and leave the first as it stands namely one anna six pies, "if the third class fare is continued at four pie per mile, that the second class should be lowered to six pie, the first class remaining as at present, viz., one anna six pie per mile."

The rates in force for parcels have been :—

Weight.	Distance.			Distance.		
	50 miles and under.			Exceeding 50 and less than 100 miles.		
5 Seers and under, .....	0	8	0	0	12	0
Exceeding 5 Seers and less than 20,	0	12	0	1	2	0

The rates are prohibitory, the banghy post, and the goods' train being preferred to the passenger train at the parcel rate. Both are very much cheaper, a parcel not exceeding 8 lbs. costing by parcel's rate 12 annas, by banghy 4, and by goods' train 8 annas 7 pie. The banghy post is forwarded by train. He would suggest :—

Distances.	Parcels.																				
	7 lbs. & under.	14 lbs. & under.	28 lbs. & under.	42 lbs. & under.	56 lbs. & under.	84 lbs. & under.	112 lbs. & under.	140 lbs. & under.	Every 28 lbs. or fractional part.												
	A	P.	A	P.	A	P.	A	P.	A	P.	A	P.	A	P.	A	P.					
15 Miles & under,	2	0	4	0	4	6	5	0	5	6	6	6	0	7	6	0	9	6	0	10	
25 " "	2	0	4	6	5	0	6	0	7	0	0	8	6	0	10	0	0	12	6	1	0
50 " "	2	0	5	0	6	0	7	6	9	0	0	11	0	0	13	0	0	1	0	1	6
75 " "	2	0	6	0	7	0	9	0	11	0	0	14	0	0	1	0	0	1	6	1	9
100 " "	2	0	7	0	8	6	10	0	13	0	0	1	0	1	0	0	1	0	2	0	0

Mr. Fletcher would also reclassify the goods, placing in the first or cheapest class goods not requiring cover, second agricultural produce, third manufactured articles, and fourth goods seldom carried ; at the annexed rates :—

" First Class	8 pie per Ton per mile =	293 per maund per mile.
Second do.	10 do. do.	367 "
Third do.	15 do. do.	551 "
Fourth do.	24 do. do.	881 "

with 50 per cent. upon the weight upon light articles specified."

He would abolish the terminal charge, which is too high for short distances and imperceptible on long ones. Mr. Fletcher

considers that the want of a system for the collection and delivery of goods is the great drawback on the prosperity of the Railway. Mixed trains also of goods and passengers would be popular, as native merchants like to accompany their goods. Roads also are greatly wanted to the stations. The mode of calculation also by the standard maund is very inconvenient as it introduces fractions into the village rates. He would prefer the ton or a decimal system.

On 22nd May, 1827 the Consulting Engineer reviews the correspondence. He would lower all the rates. As a rule the Railway has failed to attract any but a high class of passengers, the number of passengers between 1st July and 31st December, 1856 having been 165 per diem from Madras and 133 from Arcot. Thousands travel between Madras and Trevellore, a station, on foot and in bandies, the Rail with its charge of 4 pies a mile for the third class being too dear. Colonel Pears does not believe the time bill or the want of mixed trains to be of importance, for on festival days the Railway meets all requirements except cheapness, and still the people walk. To raise the third class fare and lower the second is he thinks "to see the people starving, and as a remedy to raise the price of bread, and look to the development of a traffic in sandwiches." Colonel Pears enters into arguments to prove that the second and first class have an amount of room, and an expense of carriage proportioned to their increased fares. "Mr. Fletcher hopes to induce some of the lowest class to ascend to the higher, no easy matter, though the difference be but 2 pies. He forgets that the difference in the profit gained from the few, who thus forsake the 3rd for the 2nd, will not be worth the paper that we are expending in discussing it; that the rise in the rate of the 3rd class will certainly expel a certain number from the line altogether; and that, as it is certain the 2nd class has already been patronised by many, who, he, trusted, would take the 1st, a fall in the 2nd class rate will not diminish its attractions." The rates are too high being as compared with English rates and English wages just three times as great. "On a review of the operations of the last 11 months, and upon the principles which I have here, and elsewhere, advocated, I propose a revision of the present rates, and the adoption of the following :—

1st class		2nd class		3rd class		4th class with goods.	
A.	P.	A.	P.	A.	P.	A.	P.
1	0	0	7	0	3	0	1½

or if the low rate for the slow train is still objected to, I would propose :—

1st class		2nd class		3rd class	
A.	P.	A.	P.	A.	P.
1	0	0	6	0	2

Even as it is the cost of a third class passenger is only 1.25 pies a mile, while if each carriage built for sixty received even 49 the cost would fall to 0.913 pies a mile. The rate proposed therefore would pay. Colonel Pears agrees that the charge for parcels is too high. He thinks the classification proposed though not very expedient, not very objectionable, but utterly objects to the Railway undertaking the business of delivery and collection. "The fact is, the common carts can carry at a marvellously cheap rate. There can be no question but that at this moment good carts, carrying 15 Indian maunds at least, can be got to work from Vellore to Madras for 4 Rupees, or even  $3\frac{1}{2}$  Rupees, returning with a load of salt for 2 or  $2\frac{1}{2}$  Rupees. Taking  $6\frac{1}{2}$  Rupees for the double journey, we have 15 maunds carried 168 miles at a cost of  $6\frac{1}{2}$  Rupees, being an average charge of less than  $\frac{1}{2}$  of a pie per maund per mile, or less than 1 A. 2 P. per ton per mile, including 'collection and delivery.' All depends on cheapness. The rates will be low enough when long distances are opened, and all Colonel Pears would recommend for the present is to strike off the terminal charge. All raw produce should be carried as cheaply as possible and the following observed as a principle:—"That it is to the interest of the Railway Proprietors, of the Government, and of the people, that these Railways should do the work of the country—that all attempts to lead or drive the people to take only the accommodation the Managers choose to give them, something different from what they want, are unsound in principle; and that, consequently all efforts directed thus to the development of high classes, while the mass of the people are not carried, are empirical and vain. If, therefore, we find that the mass of the people prefer travelling slow—crowded and cheap—to quick—with more accommodation and at a higher charge, we should make arrangements to enable them to do so. It is to the interest of the Railway to provide, as near as possible, what the people want."

The Appendices contain Colonel Pear's system for the analysis of the cost of each unit of work, and these tables:—

## APPENDIX A.

## MADRAS RAILWAY.

## PASSENGER'S TRAFFIC.

Open 65 Miles from Madras to Arcot.

Revenue Account (Three Months) from 1st Oct. to 31st Dec. 1856.

PAYMENTS.					
To Locomotive Department—Salary of Superintendent and Office expenses, ...		580	4	8	
Foremen, Enginemen, and Firemen's Wages, ...		1,604	14	6	
Wages of Laborers, Cleaners, &c., ...		225	9	1	
Coke and Coal consumed, ...		2,584	11	11	
Oil, Tallow, Waste, &c., ...		287	12	9	
Materials for repairs of Engines and Tenders, ...		267	13	9	
Wages for do., ...		453	3	8	
					6,004 6 4
REPAIRS OF CARRIAGES AND WAGGONS.					
Superintendence, ...		63	2	7	
Wages, ...		237	9	6	
Stores, ...		215	6	11	
					516 3 0
TO TRAFFIC DEPARTMENT.					
Salaries of Traffic Manager and Assistant Station Masters and Clerks, ...		4,038	1	7	
" of Guards, ...		264	14	2	
Wages of Porters, Greasemen, &c., ...		1,222	14	1	
" of Gatemen, Pointsmen, &c., ...		509	9	0	
Cost of Tallow, Grease, and Waste, ...		172	6	0	
" of Oil, in lighting Stations and Signals, and for the use of Pointsmen, &c., ...		271	12	0	
" of Tickets issued, ...		28	7	6	
Advertising, Printing, and Stationery, ...		839	1	8	
Cost of Stores not otherwise classified, ...		47	6	4	
Travelling expenses and allowances, ...		199	13	4	
Contingent Charges and Petty Disbursements, ...		4	4	8	
					7,598 10 4
TO GENERAL CHARGES.					
Agent and Manager, Cashier, Audit and Accountant and Office expenses, ...					*2,445 10 4
Total Expenditure, ...					16,564 14 0
Receipts for three months, ...					37,036 5 11
Profit, Rupees, ...					20,471 7 11

(Signed) T. T. PEARS,

Consulting Engineer for Railways.

\* The total expenditure is Rupees 3,668-7-5, of which some one-third has been charged to Goods and two-thirds to Passengers, in accordance with the arrangement adopted by the Agent and Manager in the Half-yearly Revenue Account.

## APPENDIX. F.

## MADRAS RAILWAY.

## GOODS' TRAFFIC.

Open 65 miles from Madras to Arcot.

Revenue Account (Three months) from 1st October to 1st Dec. 1856.

" PAYMENTS."		Rs.	A. P.	Rs.	A. P.
To Locomotive Department.—Salary of Superintendent and Office expenses, ...					
	876	1	0		
Foremen, Enginemen, and Firemen's wages, ...					
	2,194	8	4		
Wages of Laborers, Cleaners, &c., ...					
	297	7	2		
Coke and Coal consumed, ...					
	4,144	6	4		
Oil, Tallow, Waste, &c., ...					
	293	2	11		
Materials for repairs of Engines and Tenders,					
	421	11	0		
Wages for do. ...					
	951	14	10		
				9,179	3 7
REPAIRS OF CARRIAGES AND WAGGONS.					
Superintendence, ...					
	103	6	5		
Wages, ...					
	404	14	0		
Stores, ...					
	330	11	5		
				838	15 10
TO TRAFFIC DEPARTMENT.					
Salaries of Traffic Manager and Assistant Station Masters and Clerks, ...					
	2,019	0	9		
Salaries of Guards, ...					
	449	11	4		
Wages of Porters, Greasemen, &c., ...					
	1,270	9	10		
" of Gatemen, Pointsmen, &c., ...					
	376	0	2		
Cost of Tallow, Grease, and Waste, ...					
	2,277	0	0		
" of Oil in lighting Stations and Signals, and for the use of Pointsmen, &c., ...					
	135	14	0		
Advertising, Printing, and Stationery, ...					
	419	8	8		
Cost of Stores not otherwise classified, ...					
	23	11	2		
Travelling expenses and allowances, ...					
	99	14	8		
Contingent Charges and Petty Disbursements, ...					
	2	2	4		
				7,073	8 11
TO GENERAL CHARGES.					
Agent and Manager, Cashier, Audit and Accountant, and Office and Expenses, ...					
				1,222	13 1
Total Expenditure, ...					
				18,314	9 5
Receipts for three months, ...					
				34,141	2 5
Profit, Rupees, ...					
				15,826	9 0

T. T. PEARS,  
Consulting Engineer for Railways.

Appendix B contains a memorandum from certain native merchants of Vellore, proposing separate carriages for males and females, and for the higher and lower castes, and a reduction of fares in all three classes to one anna six pies, and two pies a mile respectively. They request also a reclassification of goods.

A long correspondence follows on the mode of charging for cotton. The charge was up to 31st January,  $\frac{1}{4}$  of a pie for every three cubic feet per mile. The natives would not send it at that rate. The Traffic Manager therefore carried the cotton as dead weight at Rs. 5-1-8 per ton, or half a pie per mile per maund. The quantity rose in December to 5,044 maunds. Government in reply on 5th February object to give up the principle of carrying measurement goods by measurement, object to double the permanent charge for cotton, and suggest a special and cheaper measurement for that loosely packed article. Mr. Fletcher in reply on 17th March adheres to his opinion, arguing that the special measurement would be unintelligible, and his system is a reduction in practice of fifty per cent., and has induced merchants to send their cotton. The question is referred to the Court of Directors.

## MINERAL DISTRICTS OF THE NERBUDDA VALLEY.

*Bombay Records, No. XLIV.*

ON 10th June, J. H. Blackwell, Coal Viewer, reports on the iron and coal districts of the Nerbudda to the Government of Bombay. He had been engaged in the examination for four months. The mineral district extends from Baug to Jubbulpoor, a distance of 350 miles. The valley through this course varies from 20 to 50 miles in width, and is bounded by the Vindhya on the North, and the Satpoora, and Punchmurry Hills on the South. The whole valley and hill is covered with jungle, but in the valley there are large tracts of cultivated soil. The upper part of the valley is level, cultivated, full of population, and under British rule. The lower part is chiefly in native hands. The Nerbudda can hardly be said to be navigable, in any part, and "the only made roads are, one from Bombay to Agra, which crosses the lower part of the valley, and a road from Indore through Burwai to Asseerghur; but even the Agra road is impassable for loaded carts during the rains." There are country

fair weather roads in every direction. From Jubbulpore there is a first class road to Mirzapore, and the Great Indian Peninsula Railway will traverse the entire valley. "The coal measures extend along the southern side of the valley, with some interruptions, from Baitool and Sewnie to the neighbourhood of Jubbulpore. They consist of a series of slightly micaceous sandstones, shales, and coal-seams, and are quite destitute of iron ore. They form a long narrow strip, resembling an old sea-beach, extending along the base of the Punchmurry Hills." The coal is of no great area, being overlaid by an unconformable series of rocks. It is probable that the field is of little value compared with that of Bengal. It possesses however limestone near the ore, which the Bengal field does not.

Iron has been found at

" Baug,	...	...	Brown iron ore or limonite.
Burwai,	...	...	Ditto and compact hematite.
Kaitcote,	..	...	Ditto.
Chandghur,	..	...	Compact hematite.
Towah River,	...	...	Ditto ditto.
Muchuck River,	...	...	Brown ore and compact hematite.
Tendukera,	..	...	Calcareous hematite.
Hutnapoor,	..	...	Silicious hydrate.
Ladgaum,	..	...	Brown ore or limonite.
Dhurumpoorah,	...	...	Micaceous specular ore.
Agaria,	..	...	Ditto ditto.
Purtabghur,	..	...	Ditto ditto.
Jowli,	..	...	Ditto ditto."

Baug is a place in Holkar's territory, sixty miles west of Mundlairsir and twenty miles north of the Nerbudda. The rocks form two distinct formations, the upper series consisting of soft thick bedded yellow sandstone similar in appearance to the Paris sandstone, hard dark slaty shales, and a highly fossiliferous limestone. The lower series consist of "hard quartzose sandstone; metamorphic schists; hard grey crystalline limestone." Iron is found in the sandstone in mineral lodes or veins, and has formerly been largely worked. It is now abandoned. In one of the old shafts 52 feet depth, the working is evidently a large vein perhaps fifteen feet thick. "The ore is a hydrated peroxide of iron, and belongs to the class of ores called brown ores or limonites. The greater part is soft and friable, of a yellowish brown colour, in which are interspersed masses and strings of hard dark brown ore. It would yield upon an average about thirty-five per cent. of iron. The ore is not practically a good one: the per-centage of iron is rather low; and, being silicious, it would require more fuel and limestone in smelting than an

argillaceous or calcareous ore of the same richness. The quantity existing is very considerable, and if properly worked it might be raised at a small cost." Grey crystalline limestone is found close to the ore. There is no coal; and the supply of wood is thin, but extends over a large area. It is not in the Viewer's opinion a good place to begin operations.

Burwai is a good sized town, 28 miles East of Mundlaisir, and 4 from the river. "A made road runs from Indore through Burwai to Asseerghur, crossing the Great Indian Peninsula Railway Company's proposed line at sixty-five miles from Burwai, and thus rendering the mines accessible." A great deal of ore has been found, especially at a village called Nandia where a large vein ten feet deep has been worked. Similar ore is seen at other points, other ores are found at Korundia 4 miles from Burwai and at Chictee Modree 5 miles from Burwai and Kurrunpoora six miles all worked but abandoned under the competition of English iron ore. Near Burwai there is a good fire clay, light grey limestone, and a boundless jungle. It is a good place for a charcoal iron work.

There is ore at Kaitcote but valueless, and at Chandghur, and its neighbourhood. At Bamber there is ore but not very rich, and very refractory to smelt. There are deposits at Cartsa Byrow on the Towah, at Makeraban, Muchuck, Lemekaira and Kirmin but they are of no practical value, as there is no fuel. No further ore is found till we reach Tendukea 150 miles further up the valley.

Two miles from that place at Oomerpani is a very large vein in the limestone of the schist formation. It has been largely worked, the ore being obtained from a depth of from thirty to forty feet. There is undoubtedly a very large quantity of ore of excellent quality containing 40 per cent. of iron; it is "a calcareous ore, somewhat similar to the forest of Dean ores worked in the mountain limestone of Gloucestershire." It would contain its own flux and is particularly easy to smelt. It is near coal, the best seams in the valley being at Mopani 30 miles away. There are from 70 to 80 furnaces here and the iron which is of two qualities is very good. The iron is cheaper than English iron. The quantity burned out is about 25 tons per week during 8 months. All the works stop in the rains. "It was at Tendukera that Captain Franklin some thirty years ago manufactured by the native method sufficient iron for the construction of a suspension bridge." The ores at Hutnapoor, Ladgaum are of no practical value, but the mine at Dhurrumpoora, 10 miles from Jubbulpoor is valuable. It yields to native processes 50 per cent. of iron. The nearest limestone is five miles away. At Agaria, 20 miles North East



of Jubbulpoor are the shafts sunk by Messrs. Hunt and Elmsley. The ore here is very rich yielding 60 per cent. of iron. At Jowli, 12 miles further there is a similar ore, and these two places are for the richest. The ore can be obtained cheaply, but the flux is at some distance. There is no coal but wood could be obtained from the jungle in large quantities. "There would be less difficulty in transporting machinery to these mines than to any others in the valley."

Coal is found at Sonadeh, Sucker River, Mopani, Sher River, Lemata Ghaut. The first two the Viewer did not see. At Mopani, the coal is in a good position, and the Railway will run within ten miles of it. There are three beds, the upper one "9 feet 6 inches thick, and of very good quality. In the lower part of it there are one or two thin layers of inferior coal, but with this exception it is uniformly good. The second bed is 3 feet 5 inches thick, and of the same quality as the first. The third bed is 6 feet thick, and of inferior quality; about 2 feet 9 inches in the centre being good coal, but the top and bottom very poor." The coal makes a fair coke, and would do for iron processes, except for smelting. The extent of the coal is unfortunately uncertain, but the Viewer believes it as certain as anything without positive proof can be that there is a great quantity of coal.

On the Sher river the coal is too thin to be of practical value, and at Lemata Ghaut the coal is very poor.

Mr. Blackwell considers the coal of the Nerbudda less in extent than its iron, and proceeds therefore to calculate how far the jungle can supply the deficiency. "A European forest yields from  $6\frac{1}{2}$  to 12 tons of kiln-dried wood per acre, averaging 8 tons, and being cut once in eight years will yield a continuous supply of 1 ton per acre per annum. As well dried hard wood yields 25 per cent. of charcoal, this is equivalent to 5 cwt. of charcoal per acre, or 160 tons per square mile per annum." Indian jungle will yield as much, and from the low price of carriage and other causes each factory may rely on supplies from 1,200 square miles of jungle. "Now if this twelve hundred square miles of jungle yielded one-fourth of the estimated produce of a European forest, or 40 tons of charcoal per square mile, instead of 160, we should have a continuous supply of 48,000 tons per annum, which at 3 tons of charcoal per ton of wrought-iron would be sufficient for a yearly make of 16,000 tons of iron, or 300 tons per week." Mr. Blackwell considers Mopani and Agraria the places for iron works, but would erect experimental works at Burwai. "The expense of erection of the machinery already sanctioned would not be greater at Burai than at Mundlaisir, and the additional erections and machinery that I pro-

pose would cost from £800 to £1,000." A few months' working would soon shew its value. Coal could be brought in from Mopani on a tramway and the cost would be "if this plan were followed, to make say 250 tons of wrought-iron per week as follows:—

<i>Charcoal Work at Tendukera</i> , for the production of 60 tons of pig-iron per week, inclusive of foundry, small rolling-mill, fitting shop, &c., ...	£6,000
<i>Large Work at Mopani</i> , to consist of six charcoal blast-furnaces, capable of making 40 tons per week each, or 240 tons per week in all, and mill and forge for the conversion of 300 tons of pig into wrought-iron, .. .. .	34,000
<i>Tramway</i> , ten miles, at £2,000 per mile, ...	20,000
twenty miles, at £1,000 per mile, ...	20,000
Total, .. .. .	£80,000"

The time required would be three years, as workmen must be collected and trained. The iron would be produced at £6 per ton while English iron on the spot is costing £12. Mr. Blackwell is of opinion that natives could do all the work, though of course greater numbers would be required than of Europeans. He has no doubt that iron can be made in this district cheaper than it can be imported.

## THE HIMALAYAS.

### *Bengal Records, No. XXVII.*

ON 1st December, 1831 Mr. B. H. Hodgson, Officiating Resident, Nepal, transmitted certain papers on the commerce of Nepal. Mr. Hodgson would not recur to the old mode of increasing our commerce by arms, and diplomacy, but thinks there is too evident a tendency to neglect the subject altogether. Formerly there was a great trade between the Cis and Trans-Himalayan countries. All records are lost, and Mr. Hodgson put his calculations on record in order to avoid a similar calamity for the future. He has formed his conjectural estimates of the trade after consultation with the merchants of Kathmandu. The imports amount to Rs. 16,11,000 and the exports to Rs. 10,64,833 of Kuldar rupees making the total movement of trade, 26,75,833 Kuldar rupees. This is about a lakh of rupees in excess of the average, the Durbar having made some extraordinary purchases of horses, guns, vehicles, and kinkhabs. This agrees

with a calculation of twenty-five lakhs a year, as the average trade, framed from returns of duties and articles exempted from duty. The duties on the Northern Branch of this trade are not known, but on the Southern Branch they amount to 1,60,364 Nepalese rupees.

To understand the trade which might be made to spring up, we must examine the Russian trade with China. The distance from Petersburg to Peking is 5,500 miles, and the water passage takes three years, and the land route one year, while the Russian Government levies on all foreign articles in the trade from 20 to 25 per cent. "The Russians export to China, peltry, woollen and cotton cloths, glass-ware, hard-ware, hides, and prepared leather. Russia imports from China, musk, borax, rhubarb, tea, raw and wrought silk, ditto ditto cotton, porcelain, japan-ware, water colors, &c. But the best musk, borax and rhubarb by far are those of Tibet, and especially of Sifan, the North-Eastern Province of Tibet; and no tea is better or more abundant than that of Setchuen, which Province is only eighty-seven days' journey from Kathmandu; whilst, of course, the musk, borax and rhubarb regions (as above indicated) are yet nearer to us, yet more inaccessible to the Russians, than Setchuen."

From Calcutta to Peking is 2880 miles, the first 540 of which are from Calcutta to Kathmandu. Of this section two-thirds are covered by a navigable river. The merchant from Kathmandu may easily reach Peking in five months. "But wherefore speak of Peking? At the eighty-seventh stage only, from Kathmandu, the merchant enters that rich and actively commercial province of China Proper, called Setchuen, whence, by means of the Yangtse-kiang, and of the Hoangho, he may transport his wares, as readily as cheaply, throughout the whole Central and Northern parts of China, if he can be supposed to have any adequate motive for going beyond the capital of Setchuen, where he may sell his European and Indian products, and purchase tea or silk or other products of China. The mountains of Sifan and of Tibet, which yield the finest borax, musk and rhubarb in the world, lie in his way both to and fro; and, in a word, without deviating from his immediate course, or proceeding above ninety days' journey from Kathmandu, he may procure where they grow, or are wrought, all those valuable articles of commerce which Russia must seek indirectly and at a much greater cost." Only information is needed for the trade to spring up.

Detailed reports of which the above abstract is a summary are annexed.

*The Trade of Nepal.*—Lakhs of people from the plains now attend the Nepalese festival of Pasupati Kshetra at Kathmandu,

and although Europeans not attached to the Residency cannot penetrate into the interior, natives can. The Calcutta merchant must first reach Govindgunge on the Gandak in Sarun by water, then convey his wares by bullocks to the base of the hills, then take bearers to Kathmandu. "The total expenses, therefore, per bullock, from Kesriah to Hitounda, are Sicca Rupees 3-6-0. The load of each bullock is four pukka maunds. The stages are nine, as follows:—Kesriah to Bhopatpoor, 5 cos; to Lohia, 7 cos; to Segoulee, 5 cos; to Amodahi, 5 cos; to Pursoni, 6 cos; to Bisouliah or Simrabasa, 4 cos; to Bichiako 5 cos; to Chooriah Ghauti, 3 cos; and to Hitounda, 4 cos; being 44 cos in all." From this point the expense is:—

	<i>Nepalese Rs.</i>	<i>Siccas.</i>
Hire of Porters, .. ..	4 0 0	3 4 0½
Duties, Paise Rs., 4 12 0	3 12 8	3 0 9¼
	<hr/>	<hr/>
Per bullock load, ..	7 12 8	6 4 9¾

At Kathmandu, a final duty is paid of 3-8 per cent. Nepalese rupees or 2-13-6 Sicca per cent.\* Here the merchant will get cent. per cent. for his European goods if well selected. The value of the goods is settled by the invoice, and appraisement of the custom house officer. One or two articles are more highly taxed.

	Rs.
Indian Groceries, .. ..	4 1
Peltry, .. ..	4 1
Quick-silver and drugs, .. ..	4 1
Indigo (in kind) ... ..	8 2
Precious stones, .. ..	1 3 6
Indian lace, .. ..	4 1

The Export duty usually amounts to 4-11-1 per cent. Gold however is duty free, silver is prohibited, and ponies are taxed at 7 Nepalese rupees a head.

The duties upon the Bhote trade through Nepal are levied by Government officers, not farmed, and amount to per cent:—

Taksâr, ... ..	0 6 0
Nikâsi, ... ..	0 10 0
Bahidâr, ... ..	0 0 1

The chief exports to Bhote are "European Broad Cloths (crimson, green, orange, liver, and brown-colored). Cutlery, Pearls, Coral, Diamonds, Emeralds, Indigo, and Opium. Goods im-

\* Sic in origine, but there is a mistake in all these figures. Four per cent. is four per cent. whatever the currency, Mr. Hodgson has converted the per-centage, but not converted the hundreds.

ported into Nepal from Bhote (no duty levied there) pay to the Taksâr at Kâthmându as follows:—

ARTICLES.	DUTY.
Musk Pods, per seer, (in kind) ... ..	1½ Tolahs.
Gold, per tolah, ... ..	1 Anna.

Silver is all necessarily sold to the Taksar and is received at the Sicca weight, paid for at the Nepalese or Mohari weight, differenc three annas." The chief imports from Bhote are:—

ARTICLES.	DUTY.
Chours, white, ... ..	Per Dharni 4 Annas.
Ditto, black, ... ..	Ditto 3 „
Chinese and Bhotea Velvets, Wool- lens, Satins, Silk Thread, and Raw Silk, ... ..	} Per Cent. 4 Rupees.
Peltry of Mongolia and Bhote, as Samoor, Kakoon, Chuah-khal, Garbsooth, &c., ... ..	
Borax, ... ..	Ditto 4 „
Chinese and Bhotea Tea, ... ..	Ditto 4 „
Drugs, ... ..	Ditto 4 „

A Dharni is three seers. The expence of transit to the Bhote frontier is Rs. 1-10 for each porter. He carries 48 seers. There are two roads one to Kooti and one to Keroong both Bhotea towns. The Nepalese rupee is worth 13 annas and the Bhote, nominally the same, five gundas less from its adulteration.

A table of goods amount wanted and price in Nepal are appended. It is remarked that Nepal is full of copper, iron and zinc. The people have some skill in working the former metals but not the latter ore. The country absorbs a great many horses, the gentry within the last fifteen years having become universally horsemen. The Nepalese Government pays for horses in elephants. Opium and Indigo are both in great demand in Thibet.

In exports the most valuable musk, rhubarb and borax. The rhubarb is the finest in the world, and is exported to Russia via Siberia. The paper of Nepal is very good and the drugs of Cachar and Thibet have a high reputation in the East. Tea may be had in any quantity, both ~~tea~~ in the English sense, and tea triturated and made into cakes. Vases, sword handles, snuff boxes, &c. are made of Yu, or oriental jade, and copper may be obtained in some quantities at 2 Rs. per seer.

*The Geography of the Himalayas.*—Mr. Hodgson says "I had been for several years a traveller in the Himalaya, before I could get rid of that tyranny of the senses, which so strongly impresses almost all beholders of this stupendous scenery with

the conviction that the mighty maze is quite without a plan. My first step towards freedom from this overpowering obtrusiveness of impressions of sense was obtained by steady attention to the fact, that the vast volume of the Himalayan waters flows more or less at right angles to the general direction of the Himalaya, but so that the numberless streams of the mountains are directed into a few grand rivers of the plains, either at or near the confines of the two regions. My next step was due to the singular significance of the topographic nomenclature of the Népalèse, whose 'Sapt Gandaki' and 'Sapt Cousika' rivetted my attention upon the peculiar aqueous system of the Himalayas, urging me thenceforward to discover, if possible, what cause operated this marked convergence of innumerable transverse parallel streams, so as to bring them into a limited series of distinct main rivers. My third and last step was achieved when I discovered that the transcendent elevation and forward position, at right angles to the line of ghats, of the great snowy peaks, presented that causal agency I was in search of; the remotest radiating points of the feeders of each great river being coincident with the successive loftiest masses belonging to the entire extent of the Himalaya. It was in Népal that this solution of these problems occurred to me, and so uniformly did the numerous routes I possessed represent the points of extreme divergence of the great rivers by their feeders as synoptical with the highest peaks, that I should probably long ago have satisfied myself upon the subject, if my then correspondent, Captain Herbert, had not so decidedly insisted on the very opposite doctrine—to wit, that the great peaks intersect instead of bounding the principal alpine river basins." He enters into details useless without the map, and proceeds to discuss the climate. For every thousand feet gained in elevation you have a diminution of temperature equal to 3 and 3½ Farhenheit. "The whole of what I have denominated the 'lower region,' as well as all the deep beds of the larger rivers of the 'central region,' lying much below what I have given as the elevational demarcation of the two regions' or four thousand feet, are subject to the Awal.

"After what has been stated, it will be seen at once, that tables of temperature, rain-fall and moisture, could, if given, only hold true of the exact spots where they were registered." This great law is however disturbed by every kind of circumstance. "The latitude in a small degree, but in a far greater, the longitude or position with reference to the course of the rainy monsoon—the number of interposed ridges crossing that course—and the elevation, are the circumstances determining the heat and moisture that is, the climate, of any given

spot of the Eastern, Central, or Western Himalaya. There are amazing differences of climate in very proximate places of equal elevation, caused by their relative position to covering ridges, and also, as has been proved experimentally, by the effects of clearance of the forest and under growth and letting in the sun upon the soil."

The general character of the climate is temperate, for months the thermometer stays at temperate of Fahrenheit scarcely ranging 5° day and night. Storms are few, epidemics rare, goitre prevalent and special disease almost unknown. "The general character of the surface in all parts of the Himalaya is a perpetual succession of vast ridges, highly sloped, and having very narrow interposed glens. Valleys properly so called are most rare. There are in fact, only two throughout the great extent from Gilgit to Brahmakund; or those of Cashmere and of Nepal, the latter only sixteen miles in either diameter." Lakes are very small, and "every part of the chain abounds in minerals, particularly iron and copper; lead, sulphur, plumbago, in less degree. Mineral springs, both hot and cold, sapid and insipid, are generally diffused, and I am aware of other instances of lambent flame issuing in the fashion of the well-known Jwalamukhi of the Punjab, which superstition has consecrated." Salt is unknown, lime scarce, and no precious metals have been discovered. "In Botany the upper region is that of junipers, cypresses, cedars, larches, yews, poplars, boxes, dwarf rhododendrons, hollies, willows, walnuts, birches, and, in general, of the superior conifers, particularly to the South-East for to the North-West they descend into the middle region, even the stately cedar, which however is unknown East of Kumaun. In the second or central region birches, hollies, and willows recur. It is the region of oaks, chesnuts, horse chesnuts, magnolias, laurels, alders, tree rhododendrons, cherry and pear trees (large and wild), oleas, (forest trees), maples or sycamores, thorns, ashes, elms, horn-beams, elders, paper and wax trees, tea allies, (eurya and thea also, as an importation which has succeeded to perfection, but chiefly below 4,000), tree ferns, some few and peculiar palms, (chamærops, &c.), and the inferior sorts of pines. The third or lower region is that of sauls (shorea), sissus, (dalbergia), acacias and mimosas, tunds, (cedrela), cotton trees, (Bombax), tree figs, (elasticus, Indicus religiosus, &c.), buteas, dillenias, duabangas, erythrians, premnas, some common palms (Phœnix), &c., but rare and poor." The Northern region is exclusively inhabited by Bhotéas, the central and lower region are full of small tribes. These may be divided into dominant or unbroken, broken tribes, and out castes. The mountains seem to have been peopled from the great Turanian fount, by successive immigrations. The moun-

tains are full of animals. " To the upper region exclusively belong, among the Ruminants, the Bisons (*Poepagus*) and Musks, the Wild Goats (*Ibex*, *Hemitragus*) and Wild Sheep (*Pseudois*, *Caprovis*); among the Rodents, the Marmots and Pikas (*Lagomys*); among Plantigrades, the Bears proper (*Ursus*). In the middle region, true Bovines (*Bos*) take the place of the Bisons of the upper region; Bovine and Caprine Antelopes (*Budorcas*, *Capricornis*, *Nemorhedus*) replace its Musks and Wild Goats and Sheep; common Rats and Mice, and Hares and Porcupines and Hedgehogs its Marmots and Pikas; and Sun Bears (*Helarctos*) its true Bears; whilst the Deer family, unknown to the upper region, is here represented only by the anomalous Stilt-horns (*Styllocerus*). In the lower region the Ox family is represented by *Bibos* and *Bubalus* (splendid wild types); the Deer family, here abundant, by *Rusas*, *Rucervi*, *Axises*, and Stilt-horns to boot; the Antelopes by *Tetracerus*, or the four-horned kind; the Rodents by the Bambu Rats (*Rizomys*) and Spiny Hares (*Caprolagus*); and the Bear family by the Honey Bears (*Melursus*); add to all which that to this region are exclusively confined all the large *Pachydermes*, such as the Elephant and Rhinoceros; and the Monkeys also (*Semnopithecus* et *Macacus*), though not so exclusively in their case. The Carnivora, again, are represented in the upper region by Ounces, by Foxes of a large sort (*Montanus*), by the Weasels proper, and by the Ailuri or Catlories; in the middle region, by the Wild Dogs (*Cyon*), the Marten-Weasels, Leopards, Thick-tailed Leopards (*Macroceloides*), Wild Cats (*Murmensis*, *Pardochrous*, *Ogiebii*), Chauses or Lybian Lynxes (*Lybicus*), Zibets, Screwtails (*Paradoxurus*), and *Prionodons*; and in the lower region by Tigers, Leopards, Hyenas, Wolves, Jackals, insectivorous Foxes (*Kokri*), Bear-badgers (*Ursitaxus*), Sand-Bears (*Aretonyx*), *Urvas*, Mangoses, *Helictes* or Oriental Gluttons, Small Civets (*Viverrula*), Hirsute Screwtails, and sharp-faced Cats (*Celidogaster*). Zibets and Chauses recur in this region frequently, and one small species of Mangoose is found in special spots of the central region. The Otters in the upper region are represented by the small golden and brown species (*Aurobrunnea*); in the central, by *Monticola* and *Indigitata*; in the lower, by the large Chinese species (*Sinensis*). Among the Squirrels, the great thick-tailed and large purple species (*Macruroides* et *Purpureus*) belong solely to the lower region; the small Lokries (*Locria* et *Locrroides*) to the central; and the Siberian, to the upper; whilst Flying Squirrels, a numerous group, (*Magnificus*, *Senex*, *Chrysothrix*, *Alboniger*), are confined to the central region, so far as appears. In the Bat group, the frugivorous species, or



Pteropines, all are limited to the lower region, whilst the Horse Shoes (Rhinolophine) specially affect the central region; and the Bats proper (Vespertilioninæ) seem to be the chief representatives of the family in the Northern region."

Mr. Hodgson describes the birds, and proceeds to sketch the geological features. As we approach the mountains we pass through the Terai or plain, the Bhaver, a vast primeval forest of saul, and the Dhuns of lower vallies. The Dhuns are divided from the forest, and are full of rich timber and malaria. East of the Mechi, the sandstone formation becomes invisible, and the Terai disappears. "I conceive that the lower region owes its distinctive character, as a whole, to the vast mass of diluvial detritus, which was shot from the mountains upon the plains, like gravel from a cart, at some great geological epoch, and which has been, since its deposit, variously and often abraded both in degree and direction, by oceanic, and, in a far less degree, by ordinary floods." Mr. Hodgson quotes proofs of this theory and proceeds to give the height of the Himalayan peaks:—

CHIEF PEAKS OF ANDES. FEET.		CHIEF PEAKS OF HIMALAYA. FEET.	
Aconcagua, .. ..	23,000	Jamnoutri, .. ..	25,669
Chimbarazo, .. ..	21,424	Nanda-dévi, .. ..	25,598
Sorato, .. ..	21,286	Dhoulá-giri, .. ..	27,600
Illimani, .. ..	21,149	Gosain-than,* .. ..	24,700
Descabado, .. ..	21,100	Dévadhúnga, .. ..	29,002
Desya-cassada, .. ..	19,570	Kangchan, .. ..	28,176
		Chumalhari, .. ..	23,929

## ♦ THE NEPALESE MISSION TO PEKIN.

*Bengal Records, No. XXVII.*

IN 1843, the Maharajah of Nepal presented Mr. Hodgson with two papers containing the accounts of two Nepalese Missions to Pekin. Nepal has been bound to send such Missions every five years since 1792. The time of departure is usually in June, and the number of the Mission is rigidly fixed, and the Ambassador must always push on with only a month and a half at Lhassa, where the Nepalese have large establishments. He travels from Tingri on horseback, 1700 miles, and then enters a Chinese cart to do 700 miles more, being all the while in the hands of Chinese only, who are indifferent to caste. Till the last treaty with Thibet, the Nepalese Envoy, a high Hindu, had to eat tea, dogs and sun-dried flesh. The two papers seem to be drawn up with an especial eye to military expeditions. The two were

drawn up wholly independent of each other. The first or Chountra embassy set out in 1817 of the second or Kaji in 1822. The total distance "from Kathmandu to Peking, according to the Kaji, is 1,268½ kos; according to the Chountra, 1,250 kos; and in that space occur, according to the former authority, 106 mountain ranges, which are crossed; according to the latter, 104. The Kaji's paper gives us the further information, that 150 lakes and tanks occur in the route; 652 rivers, crossed by 607 bridges and 23 ferries; and lastly 100 forts." And the

	<i>Political limits according to</i>		<i>Mountain ranges according to</i>	
	<i>Chountra.</i>	<i>Kaji.</i>	<i>Chountra.</i>	<i>Kaji.</i>
I. Nepal (from Kathmandu to Khasa),... ..	29	34½	6	5
II. Tibet (from Khasa to iron bridge of Tachindo),	636	649½	63	71
III. China (Tachindo iron bridge to Peking), ...	585	584½	35	30
	<hr/>	<hr/>	<hr/>	<hr/>
Kos, .. ..	1250	1268½	104	106

Mr. Hodgson details and fixes the site of each pass and mountain range, and deduces certain results as affecting the geology of the Himalayas. The general result of the discussion is that none of the facts can be fixed with certainty until the exploration of the whole of the Bam-i-dunya or Dome of the world, or Asie Centrale of Humboldt.

### SUB-HIMALAYAN RACES.

*Bengal Records, No. XXVII.*

THE fifth paper contains an account of a journey from Kathmandu to Darjeeling which it is impossible to condense, while another describes the aborigines of the Sub-Himalayas, and gives a comparative table of twelve of the languages they speak. These tribes are all closely affiliated, and all from the North. "The legends of the dominant races indicate a transit of the Himalaya from thirty-five to forty-five generations back—say 1,000 to 1,300 years, and that I prefer the remoter period, because the transit was certainly made before the Tibetans had adopted from India the religion and literature of Buddhism, in the seventh and eighth centuries of our era. This fact is as clearly impressed upon the crude dialects and cruder religious tenets of the sub-Himalayans as their Northern origin is upon their peculiar

forms and features, provided these points be investigated with the requisite care, for superficial attention is apt to rest solely upon the Lamaism recently as imperfectly imported among them, and upon the merely exceptional traits of their mixed and varying physiognomy." The type is Mongolian but softened, and the complexion pale brown like high caste Hindus. "The general description of the Himalayans, both of earlier and later immigration is as follows:—head and face very broad, usually widest between the cheekbones, sometimes as wide between the angles of the jaws; forehead broad, but low and somewhat receding; chin defective; mouth large and salient, but the teeth vertical and the lips not tumid; gums, especially the upper, thickened remarkably; eyes wide apart, flush with the cheek, and more or less obliquely set in the head; nose pyramidal, sufficiently long and elevated, save at the base, where it is depressed so as often to let the eyes run together, coarsely formed and thick, especially towards the end, and furnished with large round nostrils. Hair of head, copious and straight; of the face and body deficient. Stature rather low, but muscular and strong. Character phlegmatic, and slow in intellect and feeling, but good humoured, cheerful and tractable, though somewhat impatient of continuous toil. Polyandry yet exists partially, but is falling out of use. Female chastity is little heeded before marriage, and drunkenness and dirtiness are much more frequent than in the plains. Crime is much rarer, however, and truth more regarded, and the character on the whole amiable." The people are indifferent to all creeds, and intensely clannish, never intermarrying. The people have no notion of a common progenitor or "eponymous Deity," and are usually nomadic cultivators. They have no craftsmen, all such work being performed by helot races located among them for years. The women of each tribe are its domestic manufacturers.

Mr. Hodgson describes their original abode or Thibet. This is a truncated triangular plateau, "stretching obliquely from South-east to North-west between 28° and 36° of North latitude and 72° and 102° of East longitude. It is cold and dry in the extreme, owing to its enormous elevation, averaging 12,000 feet above the sea, to the still vaster height of those snowy barriers which surround it on every side, and which on the South reach 29,000 feet, to an uncommon absence of rain and cloud, to the extreme rarification of its atmosphere, to its saline and sandy soil, and, as a consequence of all these and a reciprocating cause too to the excessive scantiness of its vegetation. It is bounded on the South by the Hemachal, on the North by the Kuenlun, on the West by the Belur, and on the East by the Younling—all for the most part perpetually snow-clad, and of which the

very passes on the South average 16,000 to 17,000 feet of elevation." It is for the most part a plain, but cut up by ravines and low hills. It is nowhere a desert, and has been for ages the great track of commerce, and of ethnological movement. "South of the whole of Tibet, as above defined, lie the sub-Himalays, stretching from Gilgit to Brahmakund, with an average breadth of ninety miles, divided climatically into three pretty equal transversal regions, or the Northern, the Central and the Southern, the first of which commences at the ghat line of Hemachal, and the last ends at the plains of Hindostan; the third lying between them with the great valley of Nepal in its centre. That valley is of a lozenge shape, about sixteen miles in extreme length and breadth, cultivated highly throughout, and from 4,200 to 4700 feet above the sea. The only other valley in the whole Eastern half of the sub-Himalayas is that of Jumla, which is smaller and higher, yielding barley (*Hordeum celeste*,) as the great valley, rice. To the West is the large but single vale of Cashmere and the Duns, both too well known to require further remark." The sub-Himalayas are a congeries of mountains, very precipitous and with deep glens covered with rich mould. "The great rivers descend from the snows in numerous feeders, which approach gradually and unite near the verge of the plains thus forming a succession of deltoid basins, divided by the great snowy peaks as water-sheds thus:—

"	<i>Basins.</i>	<i>Peaks.</i>
1.	Alpine Gangetic basin.	Nanda-devi.
2.	" Karnatic basin.	Dhavalagiri.
3.	" Gandacean basin.	Gosain-thap.
4.	" Cosian basin.	Kangchanjunga.
5.	" Tishtan basin.	Chumalhari.
6.	" basin of the Monas.	The Gemini two unnamed peaks."

In these five regions lie the sub-Himalayan races. All bear the Thibetan characteristics in a greater or less degree, and "if they all be (as surely they are) of the same Turanian origin, it must be allowed that very striking differences of climate and of habits, operating through very many generations, can produce no obliterative effects upon the essential and distinctive signs of race."

The seventh paper is on the military tribes of Nepal. The Bramhuns from the twelfth century downwards fled from the tide of Mussulman invasion to Nepal. They made the people Hindoos, raised their chiefs and fighting men to the rank of Kshatriyas, and added to them the fruit of their own intercourse with native women. The Khas or dominant tribe are now Kshatriyas, still insist that children of commerce between their

women and Bramhuns shall be Kshatriyas, shall wear the thread, and shall assume the father's name. Gradually the Khas thus half civilized conquered the surrounding tribes, and became thoroughly Hindooized. The Ekthariahs are the descendants of Rajpoots driven into the hills, and as they intermarried less assume a vague superiority over the Khas with whom however they are inextricably blended. The Thakuris differ only from the Ekthariah "by the accidental circumstance of their lineage being royal. At some former period, and in some little State or other, their progenitors were princes." The remaining divisions are the Magar and Gurung who now supply most of the soldiers. They are less Bramhunized, and though adopted into Hindooism as a caste above Sudras and Vaisyas are not thoroughly Hindoos. Of them all the Khas are the most devoted to the House of Goorkha. "These highland soldiers, who despatch their meal in half an hour, and satisfy the ceremonial law by merely washing their hands and face, and taking off their turbans before cooking, laugh at the pharisaical rigour of our *Sipahis*, who must bathe from head to foot and make *pūja*, ere they begin to dress their dinner, must eat nearly naked in the coldest weather, and cannot be in marching trim again in less than three hours.

"In war, the former readily carry several days' provisions on their backs: the latter would deem such an act intolerably degrading. The former see in foreign service nothing but the prospect of glory and spoil: the latter can discover in it nothing but pollution and peril from unclean men and terrible wizards, goblins, and evil spirits. In masses, the former have all that indomitable confidence, each in all, which grows out of national integrity and success: the latter can have no idea of this sentiment, which yet maintains the union and resolution of multitudes in peril, better than all other human bonds whatever; and, once thoroughly acquired, is by no means inseparable from service under the national standard."

The eighth paper is on the Chepang and Kusunda tribes. These are two broken tribes apparently of an earlier population. They pay no taxes and acknowledge no allegiance, live by hunting in huts made of boughs; they are a slight but not a deformed race, very dark, with long heads, protuberant mouths, low narrow foreheads, high cheek bones, flat faces, and small eyes. Mr. Hodgson is satisfied chiefly by the lingual test that the Chepangs spring from the Lhopas of Bhutan, and that the deterioration of colour and size arises from long continued degradation. Lhopa is the native name for an inhabitant of Bhutan. Bhutan is Sanscrit and means Bhutant or the end of Bhote, the Bramhuns taking that region to be the end of Thibet.

The ninth paper is a description of Nayakote and the people inhabiting it. "Nayakote, or the Hither Nayakote, as it is often called to distinguish it from Nayakote of the Choubisi, is the name of a petty town and district lying W. N. W. seventeen miles from Kathmandu, by the high road to Gorkha." The town "consists of from sixty to a hundred pakka three storied houses, in the Chinese style of Kathmandu, chiefly owned by the court and chiefs; of a durbar, called the upper, to distinguish it from the lower one on the banks of the Tadi; and of a temple to Bhairavi, all in the like style of architecture." The town was formerly the winter residence of the nobles of Kathmandu but is now given up. Mr. Hodgson describes the city, and defines the district as a plateau with two valleys or legs extending from it. All are swampy, hot, rice beds. The low lands are very thinly peopled, only by wild tribes. The whole district is supposed by Mr. Hodgson to contain 350 houses. The soil is clayey mixed with silex and calx, and produces besides the higher cerealia, the orange and pine apple. The Bombay mango spoils becoming dropsical, but almost all kinds of tropical fruits flourish. Rice grows especially in the Biasis, the spots below the plateau. The staple crop of Nayakote is Munsera, a bright golden rice, and the ook or local sugar-cane of which there are five varieties is incomparably better than that of most parts of India. Of the whole surface of the Tars or plateaux of the valley half is devoted to orchards. The lower classes are tribes who affect to be hillmen. They are dark with slender forms, oval faces, elevated features and a peculiar dialect. They seem to be of the class to which the Indian aborigines belong. They comprise five races who will not intermarry, but whose distinctive peculiarities are slight.

Mr. Hodgson describes the rivers, the Sindhu which rises from Sindhubhanjung, an offsett from Mount Manichur, and after a course of fifteen miles falls into the Tadi.

The Likhu runs parallel to the Sindhu rising from above the Kabilas ridge, and after a course of twenty miles falling into the Tadi.

The Tadi or Suryavati rising in the most easterly of the twenty-two little lakes in Gosain-than, has a course of thirty miles to Devi Ghat where it merges in the Trisool.

The Trisool rises from the principal of the twenty-two lakes of Gosain-than which "occupies a flat summit of considerable extent, that cannot be less than 16,000 feet high, and lies immediately below the unrivalled peak variously called Nilkant, Gosain-than, and Dhawala-giri." This lake is about a mile in circuit and from it the river issues in three clefts. It is a deep blue arrow stream.

The tenth paper is on the tribes of Northern Thibet (Horyeul and Sokyeul) and Sifan. It contains a series of vocabularies in seven tongues being the languages spoken by tribes dwelling in Thibet. "For my part I apprehend that the true characteristics of the Chinese and Tibetan languages have been a good deal obscured by bookmen, Native and European; and though it be somewhat premature to venture an opinion before I have completed my pending investigation of the Gyarung and Horpa tongues I still must say that I suspect few competent Judges will rise from the attentive study of this and my two prior series of vocabularies, without feeling a conviction that the Indo-Chinese, the Chinese, the Tibetans, and the Altaians have been too broadly contra-distinguished, and that they form in fact but one great ethnic family, which moreover includes what is usually called the Tamulian element, of Indian population, as well as nearly every element of the population of Oceania." The vocabularies in Mr. Hodgson's opinion shew the intimate connection of all these families. "And I infer that the differences characterizing this vast family of languages however striking at first sight are subordinate, because when the languages are examined upon a broad enough scale, these differences are seen to pass away by insensible gradations." Mr. Hodgson analyses the distinctions of the dialects, and "I think, I may safely affirm upon the strength of my vocabularies, that the Sokpo of the Tibetans are, as has been already assumed in this paper, no other than the Olet and Kalmak of Rumusat and Klaproth, whilst their confères, the Horpa, are almost as evidently Turkish, the Turkish affinity of the latter being inferred, not only from the vocables, but from the complex structure of Horpa verbs and from the quassi-Arian physiognomy of the samples I have seen of the Horpa race." Therefore the Sokpo are not the famous race which gave an appellation to Sogdiana. "Reverting to what I have better assurance of, I shall next note a fact as extraordinary almost as that which formed the subject of my last communication to the society, to wit, that some of Humboldt's characteristics of the Malayo-Polynesian tongues hold good as to the Gyarung language even more strangely than Rosen's of the Circassian; so that we may have possibly, in the unsophisticated tongue of this primitive race of mountaineers, situated centrally between the Chinese, the Indo-Chinese, the Tibetans, and the Altaians, and protected from absorption, assimilation or conquest by their fastnesses, the main and middle link of that vast chain which unites the insular and continental nations of the East and the most dispersed scions of the immensely diffused family of the Mongolidæ."

Neither of these great tribes Sokpo and Horpa employ any

writing. As to the physical unity of the tribes Mr. Hodgson supplies the following table, with descriptions of the individual from whom it was taken:—

*Andoan. Horpa. Gyarung. Manyuk.*

	I.	II.	III.	IV.
Height without shoes, ... ..	5.8. $\frac{1}{2}$	5.7. $\frac{1}{2}$	5.3.0	5.4.0
Length of head, from crown to chin (with calipers), ... ..	0.8. $\frac{1}{2}$	0.8. $\frac{1}{2}$	0.9.0	0.9. $\frac{1}{2}$
Girth of head, ... ..	1.10.0	1.9. $\frac{1}{2}$	1.10. $\frac{3}{4}$	1.10. $\frac{3}{4}$
Length of head, fore and aft, or forehead to occiput, ... ..	0.7. $\frac{3}{4}$	0.7. $\frac{3}{4}$	0.8.0	0.8.0
Width of head, between parietes, ... ..	0.6. $\frac{1}{2}$	0.6.0	0.6. $\frac{1}{4}$	0.6. $\frac{1}{2}$
Crown of head to hip, ... ..	2.4. $\frac{3}{4}$	2.4.0	2.3. $\frac{1}{2}$	2.3.0
Hip to heel, ... ..	3.3. $\frac{3}{4}$	3.3. $\frac{1}{2}$	2.11. $\frac{1}{2}$	3.1.0
Width between the shoulders, ... ..	1.4.0	2.1.0	1.1. $\frac{1}{2}$	1.4.0
Girth of chest, ... ..	3.1.0	2.9.0	2.11. $\frac{1}{4}$	2.11. $\frac{3}{4}$
Length of arm and hand, ... ..	2.6. $\frac{3}{4}$	2.6.0	2.4. $\frac{3}{4}$	2.4.0
Ditto of arm, ... ..	1.0.0	1.0.0	0.11. $\frac{1}{2}$	0.11. $\frac{1}{4}$
Ditto of fore-arm, ... ..	0.11.0	0.10.0	0.9. $\frac{1}{2}$	0.9. $\frac{3}{4}$
Ditto of hand, ... ..	0.8.0	0.7. $\frac{3}{4}$	0.7. $\frac{1}{4}$	0.7. $\frac{1}{2}$
Ditto of thigh, ... ..	1.8.0	1.7.0	1.6. $\frac{1}{2}$	1.7.0
Ditto of leg to ankle, ... ..	1.4. $\frac{1}{2}$	1.5.0	1.3.0	1.5.0
Ditto of foot, ... ..	0.11.0	0.10.0	0.9. $\frac{1}{2}$	0.9. $\frac{1}{4}$
Width of hand, ... ..	0.4. $\frac{3}{4}$	0.4. $\frac{3}{8}$	0.4.0	0.4.0
Ditto of foot, ... ..	0.4. $\frac{3}{4}$	0.4. $\frac{1}{2}$	0.4. $\frac{1}{2}$	0.4.0
Girth of thigh, ... ..	1.9.0	1.4. $\frac{3}{4}$	1.6. $\frac{3}{4}$	1.7. $\frac{1}{2}$
Ditto of calf, ... ..	1.3. $\frac{1}{2}$	1.1. $\frac{3}{4}$	1.2.0	1.1. $\frac{1}{2}$
Ditto of fore-arm, ... ..	0.11.0	0.9. $\frac{3}{4}$	0.10.0	0.9. $\frac{1}{2}$

The eleventh paper contains an account of the systems of Law and Police in Nepal. It was obtained from various individuals and is written in the form of question and answer. There are four Courts according to one account of Law in Kathmandu. According to another there are eight. The jurisdiction is civil only but has no territorial limits. The Supreme Court in the Kot Linga where the head judicial officer always presides. They sit permanently, never quitting the capital, but when necessary sending out Judges; when any body is dissatisfied, he appeals to the Premier. If he will not do justice he appeals to the Raja, who appoints a Council or Committee of Ministers to hear his case. The judicial officers sit in such cases with the Ministers.

The authority of the Dharmadhikari is only over-caste questions, and he punishes by fine.

If the prosecutor fails to appear the offender is remanded to prison.

There are four Provincial Courts, two for the East and two for the West from whom an appeal lies to the Supreme Court. All civil cases are within their jurisdiction, and all criminal cases except "1, *Brahmahatya*, or slaying a *Brahman*; 2, *Gouhatya*, or killing a cow; 3, *Strihatya*, or killing a woman; 4, *Balahatya*, or



killing children ; and 5, Patki ; and all unlawful intercourse of the sexes, such as incest, adultery or whatever involves a loss of caste by the higher party." The Provincial Courts are appointed by the Provincial Governors subject to the approval of the Durbar. The Judges are " at the capital, one *dit'ha* for all the four courts ; and for each of them two *bicharis*, one *jamadar*, twenty-five *sipahis*, twenty-five *mahanias*, and five *chaprassis*. The *dit'ha* gives orders to the *bichari*, the *bichari* to the *jamadar* ; and the *jamadar* to the *sipahis* and *mahanias* who serve processes, and see that all persons are forthcoming when required for the purpose of justice. [Another authority adds the following to the list of officers, after the *bichari*, viz. the *bahidar*, *araz-begi* and two *naikia*. The *dit-ha* (he says) decides ; the *bichari* conducts the interrogation of the parties, and ascertains the truth of their statements ; the *bahidar* writes the *kail-mama*, which the *bichari's* interrogation has forced from the party in the wrong ; the *araz-begi* is the superintendent of the jail, and sheriff or officer who presides over, and is answerable for, executions. The *naikias*, with their *mahanias*, inflict the *kora* when needed, and they are also subordinate to the *araz-begi*."] The Judges are paid by salaries and fees. All cases not involving life may be referred to Panchayuts at the discretion of the parties, but cases of assault are seldom so referred. The Panchayuts are appointed by the Judge with the consent of the parties. The executive aid of the Court is lent to them and the Court carries out their decision. The Panchayuts must be unanimous and the higher castes must be tried by higher castes. The Panchayuts are never paid any thing in civil suits. " If the plaintiff be absent and the defendant present, it is the custom to take security from the defendant to appear when called upon at some future time and to let him depart : no decision is come to in such cases. If the plaintiff be present and the defendant absent, the latter is not therefore cast ; he is searched for, and until he is found, no decision can be pronounced "

Security is also taken from prosecutors and witnesses, the procedure is as follows :—" If a person comes into court and states that another person owes him a certain sum of money, which he refuses to pay, the *bichari* of the court immediately asks him for the particulars of the debt, which he accordingly furnishes. The *bichari* then commands the *jamadar* of the court to send one of his *sipahis* to fetch the debtor ; the creditor accompanies the *sipahi* to point out the debtor, and pays him two *annas* per diem, until he has arrested the latter and brought him into court. When he is there produced, the *dit'ha* and *bicharis* interrogate the parties face to face. The debtor is asked if he acknowledges the debt alleged against him, and will imme-

diately discharge it. The debtor may answer by acknowledging the debt, and stating his willingness to pay it as soon as he can collect the means, which he hopes to do in a few days. In this case, the *bichari* will desire the creditor to wait a few days. The creditor may reply that he cannot wait, having immediate need of the money; and if so, one of the *chaprassis* of the court is attached to the debtor, with directions to see to the producing of the money in court, by any means. The debtor must then produce money or goods, or whatever property he has, and bring it into court. The *dit'ha* and *bicharis* then, calling to their assistance three or four merchants, proceed to appraise the goods produced in satisfaction of the debt, and immediately discharge it; nor can the creditor object to their appraisement of the debtor's goods and chattels. In matters thus arranged, that is, where the defendant admits the cause of action to be valid, 5 per cent. of the property litigated is taken from the one party, and 10 per cent. from the other; and no more. If the defendant, when produced in court in the manner above described denies, instead of confessing, the debt, then the plaintiff's proofs are called for; and if he has only a simple note of hand unattested, or an attested acknowledgment, the witnesses to which are dead, then the *dit'ha* and *bicharis* interrogate the plaintiff thus: 'This paper is of no use as evidence; how do you propose to establish your claim?' The plaintiff may answer: 'I lent the money to the father of the defendant; the note produced is in his hand-writing, and my claim is a just claim.' Hereupon the plaintiff is required to pledge himself formally to prosecute his claim in the court in which he is, and in no other. The words enjoining the plaintiff thus to gage himself, are '*Beri t'hapo*;' and the mode is by the plaintiff's taking a rupee in his hand, which he closes, and strikes the ground, exclaiming, at the same time, 'My claim is just, and I gage myself to prove it so.' The defendant is then commanded to take up the gage of the plaintiff, or to pledge himself in a similar manner to attend the court duly to the conclusion of the trial, which he does by formally denying the authenticity of the document produced against him, as well as the validity of the debt; and upon this denial he likewise strikes the earth with his hand closed on a rupee. The rupee of the plaintiff and that of the defendant, which are called *beris*, are now deposited in court. The next step is for the court to take the fee called *karpan*, or five rupees, from each party. The amount of both *beris* and *karpan* is the perquisite of the various officers of the court, and does not go to the government. The giving of *karpan* by the parties implies their desire to refer the dispute to the decision of the ordeal; and accordingly, as

soon as the *karpan* is paid down, the *dit'ha* acquaints the government that the parties in a certain cause wish to undergo the ordeal. The necessary order is thereupon issued from the Darbar; but when it has reached the court, the *dit'ha* and *bicharis* first of all exhort the parties to come to an understanding and effect a settlement of their dispute by some other means; if however, they will not consent, the trial is directed to proceed. The ordeal is called *nyaya*, and the form of it is as follows: The names of the respective parties are described on two pieces of paper, which are rolled up into balls, and then have *puja* offered to them. From each party a fine or fee of one rupee is taken; the balls are then affixed to staffs of reed, and two *annas* more are taken from each party. The reeds are then intrusted to two of the *havildars* of the court to take to the Queen's Tank; and with the *havildars*, a *bichari* of the court, a *brahman*, and the parties proceed thither, as also two men of the *Chamakhalak* (or *Chamara*) caste. On arriving at the tank, the *bichari* again exhorts the parties to avoid the ordeal by adopting some other mode of settling the business, the merits of which are only known to themselves. If they continue to insist on the ordeal, the two *havildars*, each holding one of the reeds, go, one to the East and the other to the West side of the tank, entering the water about knee deep. The *Brahman*, the parties, and the *Chamakhalaks*, all at this moment enter the water a little way; and the *Brahman* performs *puja* to VARUNA in the name of the parties, and repeats a sacred text, the meaning of which is, that mankind know not what passes in the minds of each other, but that all inward thoughts and past acts are known to the gods SURYA, CHANDRA, VARUNA, and YAMA; and that they will do justice between the parties in this cause. When the *puja* is over, the *Brahman* gives the *tilak* to the two *Chamakhalaks*, and says to them, 'Let the champion of truth win, and let the false one's champion lose!' This being said, the *Brahman* and the parties come out of the water, and the *Chamakhalaks* separate, one going to each place where a reed is erected. They then enter the deep water, and at a signal given, both immerse themselves in the water at the same instant. Whichever of them first rises from the water, the reed nearest to him is instantly destroyed, together with the scroll attached to it. The other reed is carried back to the court where the ball of paper is opened, and the name read. If the scroll bear the plaintiff's name, he wins the cause; if it be that of the defendant, the latter is victorious. The fine called *jit'hour*i is then paid by the winner and that called *harow*i by the loser; besides which, five rupees are demanded from the winner in return for a turban which he gets, and the same sum, under

the name of *sabhasudd'ha* (or purification of the court), from the loser. The above four demands on the parties, viz. *jil'hourri*, *harouri*, *pagri* and *sabhasudd'ha*, are government taxes; and, exclusive of these, eight *annas* must be paid to the *mahanias* of the court, eight *annas* more to the *kotmal*, eight more to the *kumhal-naikias*, and, lastly, eight more to the *khardar* or registrar. In this manner multitudes of causes are decided by *nyaya* (ordeal), when the parties cannot be brought to agree upon the subject matter of dispute, and have neither documentary nor verbal evidence to adduce." Complainant states his case and if the accused denies evidence is heard. Then "if the witnesses depose positively to their having seen the accused commit the murder, the latter is again asked what he has to say; and if he still refuses to confess, he is whipped until he does; the confession when obtained, is reduced to writing and attested by the murderer, who is then put in irons and sent to jail. Cases of theft, robbery, incest, &c. are also thus dealt within Nepal, and the convict sent to prison. When the number amounts to twenty or thirty, the *dit'ha* makes out a calendar of their crimes, to which he appends their confession, and a specification of the punishment usually inflicted in such cases. This list the *dit'ha* carries to the *Bharadar Sabha* (council of state), whence it is taken by the *premier* to the prince, after the *dit'ha's* allotment of punishment to each convict has been ratified, or some other punishment substituted. The list, so altered or confirmed in the council of state, and referred by the *premier* to the prince, is as a matter of form, sanctioned by the latter, after which it is re-delivered to the *dit'ha* who makes it over to the *araz-begi*. The latter, taking the prisoners, the *maha-naikias*, and some men of the *Porya* caste with him proceeds to the banks of the *Bishen-mati* where the sentence of the law is inflicted by the hands of the *Poryas* and in the presence of the *araz-begi* and the *maha-naikias*. Grave offences, involving the penalty of life or limb are thus treated. With respect to mutual revilings and quarrels, false evidence, false accusation of moral delinquency, and such like minor crimes and offences, punishment is apportioned with reference to the caste of the offender or offenders."

The parties plead invariably *viva voce*, and there are no *vakeels*. Sometimes a relative is admitted to speak. The witnesses are unpaid, but the accused and accuser are invariably confronted. Perjury in mild cases is punished with fine, in heavy cases with corporal chastisement or death. Oral testimony is given on oath or the *Hari-vansa*, but in the absence of evidence ordeals are employed as a substitute. The parties depose in their own suits, and no evidence is recorded except on very grave

questions. No fees are charged during trial but a percentage on the amount claimed is paid by both parties and also a fee to the Judge.

The village system is imperfect in Nepal, but there is a village police, and the State "instead of collecting its revenues, and paying its establishments out of them, prefers the method of assigning its revenue claims directly to its functionaries, and leaving them to collect the amount; while, as judicial follows revenue administration in Nepal, the government feels little concern about territorial divisions: in the whole country Westward, from *Kathmandu*, as far as the *Narayani* river, and Eastward as far as the *Dud Kosi* River, there is no specific *arrondissement*, district, or *zillah*. These large tracts of country are assigned principally to the *Compu*, or army stationed in the capital; and their judicial administration is for the most part in the hands of deputies of the Officer, supervised by certain migratory royal judges, called *mountain-bicharis*."

The rules of inheritance vary in each tribe but among the Khas sons by concubines get a third of the share of a legitimate son; adoption is confined to kindred, and wills except for more main purposes are disallowed. "The creditor may attach duns to the debtor, to follow and dun him wherever he goes. The creditor may also stop the debtor wherever he finds him; take him home, confine, beat and abuse him; so that he does him no serious injury in health or limbs. [Another answer states, that the creditor may seize upon the debtor, confine him in his own house, place him under the spout that discharges the filthy wash of the house, and such like; but he has no further power over him].

"Destruction of human life, with or without malice and, in whatever way, must be atoned for by loss of life. Killing a cow is another capital crime. Incest is a third. Deflowering a female of the sacred tribe subjects a man of a lower caste to capital punishment, and the confiscation of all his property. Robbery is a capital crime. Burglary is punished by cutting off the burglar's hands." Women and Bramhuns are never executed, but degraded in every possible way and then expelled Nepal.

The Newars take no heed of adultery but among the Parbatias, the husband may kill the adulterer.

The laws of Nepal are excessively stern as regards the intercourse of the castes. A Bramhun who has intercourse with a woman of lower caste except a prostitute is disgraced, banished. Any other man so offending is slain. Any woman having intercourse with an outcaste, among whom Mussalmans are reckoned immediately has her nose cut off, and is banished as an outcaste. "A male outcaste, who has intercourse, under any circumstances, with a pure Hindu female, and whether the fe-

male be the seducer or the seduced, be maid, wife, or widow, chaste, or a wanton, is adjudged to die; and the female is rendered noseless and an outcaste; unless of the sacred order, when her nose is spared. If an outcaste female pass herself off for one of a pure caste and have commerce with a Hindu, she shall have her nose cut off; and he, if he confess his sin so soon as he discovers it, shall be restored to caste by penance and purification; but if he have connexion knowingly with such a female, he shall be emasculated, and made an outcaste."

## TRADE OF THE MADRAS TERRITORIES

FOR 1856-57.

### IMPORTS.

			<i>Merchandise.</i>	<i>Treasure.</i>
Gangam, .. .. .	Rs.	16,077	Rs.	48,000
Vizagapatam, .. .. .		3,42,998		
Rajahmundry, .. .. .		3,42,460		1,76,359
Masulipatam, .. .. .		98,433		
Guntoor, .. .. .		4,984		
Nellore, .. .. .		15,930*		30,843
Madras, .. .. .		1,42,90,385		1,02,46,760
South Arcot, .. .. .		86,264		63,366
Tanjore, .. .. .		10,61,485		9,17,647
Madura, .. .. .		1,27,415		
Tinnevely, .. .. .		3,21,534		5,57,631
Malabar, .. .. .		49,61,700		21,38,103
Canara, .. .. .		18,74,579		28,59,868

### EXPORTS.

Gangam, ... .. .	Rs.	9,07,895		
Vizagapatam, .. .. .		19,08,755		
Rajahmundry, .. .. .		14,10,124		67,800
Masulipatam, ... .. .		3,40,075		
Guntoor, ... .. .		2,717		
Nellore, ... .. .		1,06,507		
Madras, ... .. .		1,23,46,911		32,15,472
South Arcot, ... .. .		8,51,285		1,500
Tanjore, ... .. .		32,44,587		10,000
Madura, ... .. .		3,36,365		

Tinnevely, .. .. .	27,62,574	21,500
Malabar, .. .. .	48,70,635	8,612
Canara, .. .. .	76,45,328	2,014

The re-exports are also given, and the tonnage which is as follows:—

	<i>Arrivals.</i>	<i>Departures.</i>
	Tons, 7,0 6	
Ganjam, .. .. .	10,535	30,960
Vizagapatam, .. .. .	28,076	42,596
Rajahmundry, .. .. .	4,578	52,449
Masulipatam, .. .. .	146	10,291
Guntoor, .. .. .	7,823	46
Nellore, .. .. .	2,79,725	8,943
Madras, .. .. .	7,664	2,73,298
South Arcot, .. .. .	40,737	14,242
Tanjore, .. .. .	22,166	66,413
Madura, .. .. .	24,261	21,533
Tinnevely, .. .. .	1,42,834	27,079
Malabar, .. .. .	76,505	1,53,002
Canara, .. .. .		88,631

The following is the description of the trade article by article:—

		IMPORTS.			
<i>Articles.</i>				<i>Cwt.</i>	<i>Rs.</i>
Alum,	.. .. .	.. .. .	.. .. .	Value.	5,695
Apparel.	Boots and Shoes, .. .. .	.. .. .	.. .. .	ditto,	12,447
	Buttons, .. .. .	.. .. .	.. .. .	ditto,	3,778
	Gloves, .. .. .	.. .. .	.. .. .	ditto,	10,756
	Gold and Silver Lace and Thread,	.. .. .	.. .. .	ditto,	1,54,829
	Haberdashery, .. .. .	.. .. .	.. .. .	ditto,	49,908
	Hats and Caps, .. .. .	.. .. .	.. .. .	ditto,	21,072
	Hosiery, .. .. .	.. .. .	.. .. .	ditto,	44,785
	Millinery, .. .. .	.. .. .	.. .. .	ditto,	3,50,985
Wearing Apparel, .. .. .	.. .. .	.. .. .	.. .. .	ditto,	1,54,076
	Do. Military, .. .. .	.. .. .	.. .. .	ditto,	33,111
Arms and Ammunition, .. .. .	.. .. .	.. .. .	.. .. .	ditto,	43,515
Bats and Balls, .. .. .	.. .. .	.. .. .	.. .. .	ditto,	2,917
Beads, .. .. .	.. .. .	.. .. .	.. .. .	ditto,	32,554
Billiard Tables, .. .. .	.. .. .	.. .. .	.. .. .	ditto,	3,056
Books & Stationery.	Books—British, .. .. .	.. .. .	.. .. .	ditto,	1,11,642
	Do. Foreign, .. .. .	.. .. .	.. .. .	ditto,	3,399
	Prints and Engravings, .. .. .	.. .. .	.. .. .	ditto,	4,931
	Stationery, .. .. .	.. .. .	.. .. .	ditto,	2,65,998
Brushes, .. .. .	.. .. .	.. .. .	.. .. .	ditto,	6,112
Cabinetware, .. .. .	.. .. .	.. .. .	.. .. .	ditto,	8,688
Cards—Playing, .. .. .	.. .. .	.. .. .	.. .. .	ditto,	4,635
Carriages, .. .. .	.. .. .	.. .. .	.. .. .	ditto,	6,185

Carried forward, .. 13,35,074

<i>Articles.</i>				<i>Rs.</i>	
				Brought forward, ... 13,35,074	
	Cattle—Horses, ... ..	...	No.,	6,32,930	
	Chalk, ... ..	...	Tons,	3,641	
	Chunks, ... ..	...	No.,	6,318	
	Coach Furniture, ... ..	...	Value Rs.,	9,007	
	Coal and Coke, ... ..	...	Tons,	66,421	
	Coffee, ... ..	...	lbs.,	987	
	Congreves or Matches, ... ..	...	Value Rs.,	2,777	
	Corks, ... ..	...	Gross,	24,842	
	Cotton Wood, ... ..	...	lbs.,	25,743	
Cotton Goods.	Twist and Yarn—British,	...	..	22,17,433	
	Ditto Foreign,	...	..	52,955	
	Thread, ... ..	...	..	71,374	
	Piece Goods—Dyed, ... ..	...	{ Pieces, Yards,	6,05,308	
	Ditto, Printed, ... ..	...	{ Pieces, Yards,	3,44,995	
	Ditto, Plain, ... ..	...	{ Pieces, Yards,	19,02,080	
	Lace & Small ware, ... ..	...	Value Rs.	7,037	
	Cow Tails, ... ..	...	Cwt.	2,050	
Drugs.	Acularak, ... ..	...	ditto,	1,579	
	Arsenic, ... ..	...	ditto,	1,997	
	Assafetida, .. ..	...	ditto,	47,269	
	Borax and Tincal, ... ..	...	ditto,	11,798	
	Brimstone, ... ..	...	ditto,	20,334	
	Camphor, ... ..	...	lbs.,	95,031	
	Ditto Green, ... ..	...	ditto,	11,144	
	China Root, ... ..	...	Cwt.,	13,262	
	Cinnabar, ... ..	...	ditto,	7,851	
	Copperas, ... ..	...	ditto,	2,495	
	Cubebs, ... ..	...	ditto,	5,131	
	Gallingal, ... ..	...	ditto,	8,114	
	Gallnuts, ... ..	...	ditto,	9,854	
	Goodauck, ... ..	...	ditto,	5,769	
	Liquorice Root, ... ..	...	ditto,	3,427	
	Long Pepper Root, ... ..	...	ditto,	8,467	
	Musk, ... ..	...	lbs.	1,100	
	Opium—On Company's Account,	...	...	Cases.,	1,100
	Potash, ... ..	...	...	Cwt.,	5,014
	Russacarpoorum, ... ..	...	...	ditto,	1,103
Sulphuric Acid, ... ..	...	...	Gallons,	381	
Turpentine, ... ..	...	...	ditto,	4,876	
Other Sorts, ... ..	...	...	Value Rs.,	45,262	
Dyes.	Catechu or Terrajaponica,	...	...	Cwt.,	8,627
	Choyaroot, ... ..	...	...	ditto,	6,700
	Cochineal, ... ..	...	...	ditto,	3,573
				Carried forward, .. 76,41,730	



<i>Articles.</i>				<i>Rs.</i>
		Brought forward, ...		76,41,730
Dyes.	Indigo, ...	...	lbs.,	1,634
	Madder or Muujeet, ...	...	Cwt.,	22,551
	Poovathoo, ...	...	ditto,	25,624
	Saffron, ...	...	lbs.,	8,108
	Other Sorts, ...	...	Value Rs.	3,681
Eppapindy, ...	...	...	Cwt.,	1,274
Fans, ...	...	...	Value Rs.,	609
Fireworks, ...	...	...	ditto,	29,473
Fruits and Nuts.	Albacur, ...	...	Cwt.,	1,738
	Almonds, ...	...	ditto,	19,185
	Betel Nut—Boiled, ...	...	ditto,	1,21,836
	Ditto Raw, ...	...	ditto,	2,24,992
	Cashew Nuts, ...	...	ditto,	406
	Cocoanuts, ...	...	No.,	41,081
	Ditto Kernels, ...	...	Cwt.,	48,441
	Dates, ...	...	ditto,	1,98,811
	Kississ, ...	...	ditto,	7,653
	Raisins, ...	...	ditto,	29,140
Tamarind, ...	...	ditto,	22,390	
Other Sorts, ...	...	Value Rs.,	5,197	
Glassware.	Bottles, ...	...	ditto,	77,145
	Other Sorts, ...	...	ditto,	96,210
Grain.	Caramanaloo, ...	...	Quarters,	1,752
	Dholl, ...	...	ditto,	22,112
	Horse Gram, ...	...	ditto,	3,002
	Menoomooloo, ...	...	ditto,	34,088
	Paddy, ...	...	ditto,	3,65,622
	Pease, ...	...	ditto,	81,801
	Pessaloo, ...	...	ditto,	3,517
	Rice, ...	...	ditto,	12,23,959
	Sanagaloo, ...	...	ditto,	50,411
	Wheat, ...	...	ditto,	1,97,598
Other Sorts, ..	...	Value Rs.,	3,974	
Grocery, ...	...	...	ditto,	8,678
Gums.	Asphaltum, ...	...	Cwt.,	3,727
	Benjamin, ...	...	ditto,	67,232
	Glue, ...	...	ditto,	6,072
	Rosin, ..	...	ditto,	464
	Other Sorts, ...	...	Value Rs.,	1,561
Gunnies and Gunny Bags, ...	...	...	No.,	3,02,791
Hides.	Tanned, ...	...	ditto,	12,266
	Untanned, ..	...	ditto,	1,063
Ice, ...	...	...	Tons,	1,91,860
Instru- ments.	Astronomical, ...	...	Value Rs.	1,000
	Band, ...	...	ditto,	4,230
	Chemical, ...	...	ditto,	2,726

Carried forward, ... 1,12,20,405

<i>Articles.</i>				<i>Rs.</i>	
			Brought forward, ...	1,12,20,405	
Instruments.	{	Mathematical, ...	Value Rs.	6,884	
		Musical, ...	ditto,	48,713	
		Philosophical, ...	ditto,	6,073	
		Surgical, ...	ditto,	3,719	
		Surveying, ...	ditto,	5,184	
		Telegraphic, ...	ditto,	100	
		Other Sorts, ...	ditto,	2,319	
Ivoryware, ...		ditto,	2,741		
Jewellery.	{	Clocks and Watches, ...	No.,	31,393	
		Coral, ...	ditto,	1,36,866	
		Do. False, ...	ditto,	3,650	
		False Pearls, ...	ditto,	7,567	
		Lamitta, ...	ditto,	4,257	
Other Sorts, ...		ditto,	75,703		
Lac Stick, ...		Cwt.,	15,142		
Machinery, ...		Value Rs.	1,10,049		
Malt Liquors, ...		Gallons,	2,93,035		
Manufactured Metals.	{	Brassware, ...	Value Rs.	40,180	
		Copperware, ...	ditto,	6,971	
		Cutlery, ...	ditto,	38,899	
		Hardware, ...	ditto,	1,31,504	
		Ironware, ...	ditto,	53,837	
		Lacqueredware, ...	ditto,	1,225	
		Platedware, ...	ditto,	50,292	
		Silver Plate, ...	ditto,	12,070	
		Silverware, ...	ditto,	4,447	
		Tinware, ...	ditto,	3,330	
		Types—Printing, ...	ditto,	23,210	
Other Sorts, ...		ditto,	29,852		
Marble Slabs, ...		ditto,	2,662		
Mats, ...		ditto,	3,558		
Ditto Bags, ...		ditto,	1,601		
Materials.	{	Book Binding, ...	ditto,	5,154	
		Drawing, ...	ditto,	4,656	
		Printing, ...	ditto,	3,673	
		Shoe Maker's, ...	ditto,	2,556	
		Watch, ...	ditto,	1,638	
Medicines, ...		ditto,	32,772		
Metals.	{	Copper.	Bolt and Ingot, ...	ditto,	1,17,198
			Composition, ...	ditto,	1,11,601
			Nails, ...	ditto,	13,397
			Old, ...	ditto,	72,573
			Rod, ...	ditto,	24,777
			Sheet, ...	ditto,	2,21,119
			Sheathing, ...	ditto,	27,970
Slabs and Tiles, ...	ditto,	59			

Carried forward, ... 1,30,16,581

<i>Articles.</i>				<i>Rs.</i>
		Brought forward, ...	1,30,16,581	
Metals.	Iron.	Bar and Bolt, ...	..	Value Rs. 7,27,770
		Hoop, ...	... ..	ditto, 57,644
		Nails, ...	... ..	ditto, 16,085
		Old, ...	... ..	ditto, 2,582
		Pig, ...	... ..	ditto, 8,324
		Rails, ..	... ..	ditto, 32,670
		Rod, ..	... ..	ditto, 39,132
		Sheet, ...	... ..	ditto, 34,601
		Shot, ...	... ..	ditto, 1,764
		Wire, ...	... ..	ditto, 3,613
		Swedish, ...	... ..	ditto, 6,684
		Gong Metal, ...	... ..	ditto, 41,742
		Steel, ...	... ..	Cwt., 34,127
		Spelter, ...	..	ditto, 60,645
		Tin, ...	..	ditto, 37,004
		Ditto Plates, ...	... ..	ditto, 12,246
		Lead Pig, ...	... ..	ditto, 12,299
		Ditto Sheet, ...	..	ditto, 1,887
		Brass, ...	... ..	ditto, 19,298
		Ditto Composition, ...	... ..	ditto, 81,392
	Ditto Old, ..	... ..	ditto, 50,406	
	Ditto Sheet, ...	... ..	ditto, 14,502	
	Ditto Sheathing, ..	..	ditto, 1,407	
	Ditto Wire, ...	... ..	ditto, 4,142	
	Patent Sheathing, ...	... ..	ditto, 13,280	
	Yellow Metal, ...	... ..	ditto, 9,147	
	Ditto Nails, ...	... ..	ditto, 2,078	
	Ditto Sheathing, ...	... ..	ditto, 16,564	
	Quicksilver, ..	... ..	ditto, 28,118	
	Zinc, ...	... ..	ditto, 2,000	
	Other Sorts, ..	... ..	Value Rs., 26,969	
	Military Stores.	{ On Company's Account, ... } ...	..	ditto, 13,39,067
{ On Private Account, } ...			... .. ditto, 23,438	
Molasses or Jagree, ...	... ..	Cwt. 24,490		
Naval Stores.	{ Anchors, ... Canvas, ... Chain Cable, ... Coir and Coir Rope, ... Cordage, .. Hemp, ... Do. Rope, ... Pitch, Tar and Dammer, ... Twine, ... Other Sorts, ...	... ..	Value Rs. 3,346	
		... ..	Bolts, 18,616	
		... ..	Cwt. 3,731	
		... ..	ditto, 71,045	
		... ..	ditto, 5,754	
		... ..	ditto, 31,574	
		... ..	ditto, 3,913	
		... ..	ditto, 31,277	
... ..	ditto, 13,024			
... ..	Value Rs. 20,591			

Carried forward, ... 1,60,06,569

<i>Articles.</i>				<i>Rs.</i>
		Brought forward, ...		1,60,06,569
Oils.	Cassia, ... ..	...	Gallons,	657
	Castor, ... ..	...	ditto,	8,797
	Cinnamon, ... ..	...	ditto,	522
	Cocanut, ... ..	...	ditto,	12,433
	Cod Liver, ... ..	...	ditto,	1,071
	Gingely, ... ..	...	ditto,	11,171
	Fish, ... ..	...	ditto,	2,278
	Linseed, ... ..	...	ditto,	6,004
	Wood, ... ..	...	ditto,	3,049
	Other Sorts, ... ..	...	Value Rs.	4,652
Oilman's Stores, ... ..	...	ditto,	1 29,870	
Paint & Colours.	Arthal, ... ..	...	Cwt.	1,655
	Red Lead, ... ..	...	ditto,	1,317
	Ditto Ochre, ... ..	...	ditto,	1,820
	Sandarach (Sundroos), ..	...	ditto,	2,170
	Varnish, ... ..	...	ditto,	4,834
	Verdigris, ... ..	...	ditto,	2,407
	Vermillion, ... ..	...	ditto,	8,027
	White Lead, ... ..	...	ditto,	7,906
Other Sorts, ... ..	...	Value Rs.,	22,829	
Papier-mache Ware, ... ..	...	ditto,	2,222	
Perfumery,	Eau-de-Cologne, ... ..	...	dozens,	3,276
	Layender, ... ..	...	ditto,	1,408
	Rose Water, ... ..	...	Gallons,	10,608
	Other Sorts, ..	...	Value Rs.	33,027
Photographic Apparatus, ... ..	...	ditto,	17,060	
Pictures and Portraits, ... ..	...	ditto,	10,169	
Picture Frames, ... ..	...	ditto,	492	
Pipe Staves and Casks, ... ..	...	ditto,	83,107	
Porcelain & Earthenware, ... ..	...	ditto,	1,10,296	
Precious Stones.	Diamonds, ... ..	...	ditto,	44,400
	Pearls, ... ..	...	ditto,	29,090
	Rubies, ... ..	...	ditto,	16,750
	Other Sorts, ..	...	ditto,	43,725
Provisions.	Arrowroot, ... ..	...	Cwt.	1,045
	Barley, ... ..	...	ditto,	2,117
	Confectionery, ..	...	Value Rs.	33,504
	Flour, ... ..	...	Cwt.	4,451
	Fresh, ... ..	...	Value Rs.	22,476
	Ghee, ... ..	...	Cwt.	14,575
	Sago, ... ..	...	ditto,	4 583
	Salted, ... ..	...	Value Rs.	61,750
Other Sorts, ... ..	...	ditto,	12,807	
Railway Materials, ... ..	...	ditto,	32,46,923	
Rattans and Canes, ... ..	...	ditto,	6,566	
Saddlery, ... ..	...	ditto,	49,968	

Carried forward, ... 2,01,06,433

<i>Articles.</i>				<i>Rs.</i>
		Brought forward, ...	2,01,06,433	
Salt.	{ On Company's Account,	... .. lbs.	83,653	
		Goa, ... .. "	1,146	
		On Private Account,	64,554	
Salt	petre, ... .. Cwt.	3,988		
Seeds.	{ Adjuvan,	... .. Quarters,	817	
		Coriander, ... .. ditto,	23,670	
		Cummin, ... .. ditto,	92,081	
		Fenegreek, ... .. ditto,	24,078	
		Fenal, ... .. ditto,	6,690	
		Gingely, ... .. ditto,	30,986	
		Mustard, .. .. ditto,	17,209	
	Other Sorts, ... .. Value Rs.	11,155		
Shawls—Cashmere,	.. .. Pieces	5,443		
Silk Raw—British,	... .. lbs.,	35,159		
Silk Piece Goods.	{ British,	... .. Pieces,	1,70,452	
		Foreign, .. .. Yards,	39,769	
		Velvet, British, ... .. Pieces,	4,365	
		Yards,		
Shoe Blacking,	... .. Value Rs.	1,651		
Soap, ... .. ditto,	12,051			
Spectacles, ... .. ditto,	3,049			
Spices.	{ Cardamums, ... .. lbs.,	6,291		
		Cassia, ... .. ditto,	5,203	
		Cinnamon, .. .. ditto,	2,331	
		Cloves, ... .. ditto,	65,475	
		Ginger, .. .. ditto,	20,395	
		Mace, ... .. ditto,	8,775	
		Nutmeg, ... .. ditto,	12,342	
		Pepper, ... .. ditto,	41,125	
		Ditto Long, .. .. ditto,	20,680	
		Ditto White, ... .. ditto,	1,425	
		Other Sorts, ... .. Value Rs.	7,378	
Spirits.	{ Arrack, ... .. Gallons,	2,11,126		
		Brandy, ... .. ditto,	1,37,240	
		Gin, ... .. ditto,	10,446	
		Rum, .. .. ditto,	2,717	
		Whiskey, ... .. ditto,	465	
		Other Sorts, ... .. Value Rs.	154	
Sugar,	... .. Cwt.,	55,670		
Ditto Loaf, ... .. ditto,	3,142			
Ditto Candy, ... .. ditto,	12,545			
Statuary, ... .. Value Rs.,	2,100			
Tea, ... .. lbs.	1,23,262			

Carried forward, ... 2,14,88,686

<i>Articles.</i>				<i>Rs.</i>
		Brought forward, ...		2,14,88,686
Timber and Planks.	Teak, ...	Value Rs.,		1,45,178
	Mahogany ...	ditto,		2,983
	Other Sorts,...	ditto,		8,60,764
Tabacco.	Manufactured, ..	No., } lbs., }		11,297
	Unmanufactured, ...			2,73,391
Toys, ...		Value Rs.		15,798
Trunks and Boxes, ...		ditto,		9,386
Umbrellas, ...		No.		26,323
Wax and Wax Candles, ...		lbs.		29,166
Wines.	Cape, ...	Gallons,		13,759
	Champagne, ...	ditto,		16,720
	Cherry Brandy, ...	ditto,		612
	Claret—English, ...	ditto,		1,092
	Ditto French, ...	ditto,		34,490
	Cider and Perry, ...	ditto,		1,084
	French, ...	ditto,		2,502
	Curacoa, ...	ditto,		1,195
	Ginger, ...	ditto,		196
	Hook, ...	ditto,		1,467
	Lisbon, ..	ditto,		2,783
	Madeira, ...	ditto,		17,990
	Marasquino, ...	ditto,		388
	Marsella, ...	ditto,		383
	Moselle, ..	ditto,		1,669
	Noyeau, ...	ditto,		480
	Port, ...	ditto,		23,039
Sherry, ...	ditto,		1,07,143	
Woods.	Other Sorts, ...	Value Rs.,		19,783
	Sandalwood, ...	Cwt.		2,929
	Sappan, ...	ditto,		224
	Other Sorts, ...	Value Rs.		23,754
Wood Screw, ...		ditto,		6,495
Wool, ...		lbs. ...		1,448
Woollens.	Alpacca, ...	Pieces, } Yards, }		9,045
	Billiard Cloth, ...			989
	Blankets, ...	Pieces, } Yards, }		8,328
	Blue Cloth, ...			7,340
	Broad Cloth, ...	Pieces, } Yards, }		51,898
	Carpets, ...			1,630

Carried forward, ... 2,82,23,822

<i>Articles.</i>				<i>Rs.</i>	
			Brought forward, ...		2,32,23,822
Woolleens.	Circassian Cloth, ...	...	...	{ Pieces, } { Yards, }	1,270
	Davalies, ...	...	...	{ Pieces, } { Yards, }	1,223
	Doe Skins, ...	...	...	{ Pieces, } { Yards, }	5,987
	Drab Cloth, ...	...	...	{ Pieces, } { Yards, }	915
	Flannel, ...	...	...	{ Pieces, } { Yards, }	21,426
	Gambroons, ...	...	...	{ Pieces, } { Yards, }	1,423
	Medium Cloth, ...	...	...	{ Pieces, } { Yards, }	1,279
	Merino;... ..	...	...	{ Pieces, } { Yards, }	2,007
	Scarlet Cloth,...	...	...	{ Pieces, } { Yards, }	10,481
	Serge, ...	...	...	{ Pieces, } { Yards, }	1,318
	Shawls, ...	...	...	{ Pieces, }	7,450
	Tweeds, ...	...	...	{ Ditto, } { Yards, }	5,359
	Worsted, ..	...	...	{ Pieces, } { Yards, }	7,657
	Other Sorts, ...	...	...	Value Rs.	60,507
Sundries, ...	...	...	ditto,	1,73,120	
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Total Merchandize,		...	...	...	2,35,25,244
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Treasure. {		Gold, ..	...	...	29,81,753
{		Silver, ...	...	...	1,40,55,629
{		Copper, ...	...	...	1,200
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Total Treasure, ...		...	...	...	1,70,38,582
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Total Merchandize & Treasure,		...	...	...	4,05,63,826

EXPORTS.

		Articles.	Value	Rs.
Apparel.	{	Boots and Shoes, ...	Rs.	13,029
		Gold Thread and Lace, ...	ditto,	16,320
		Haberdashery, ...	ditto,	2,336
		Hats and Caps, ...	ditto,	150
		Hosiery, ...	ditto,	900
		Millinery, ...	ditto,	3,541
	{	Wearing Apparel, ...	ditto,	33,013
		Arms and Ammunition, ...	ditto,	4,283
		Bangles, ...	ditto,	1,463
		Beads, ...	ditto,	4,310
	{	Books, ...	ditto,	22,024
	{	Stationery, ...	ditto,	1,984
		Bones, ...	Cwt.	7,395
		Cabinet Ware, ...	Value Rs.	16,313
		Carriages, ...	ditto,	7,282
Cattle.	{	Bullocks, ...	No.	36,900
		Horses, ...	ditto,	4,000
		Sheep, ...	ditto,	21,320
		Chanks, ...	Value Rs.	75,532
		Coffee, ...	lbs.	9,44,446
		Cotton, Wool, ...	"	72,22,286
Cotton Goods.	{	Cotton Twist and Yarn, ...	"	39,620
		Thread, ...	"	4,922
		Piece Goods, Dyed, ...	{ Pieces,	8,57,172
			{ Yards,	...
		Do. Plain, ...	{ Pieces,	9,21,502
	{ Yards,	2,46,625		
	{	Pieces,	2,46,625	
	{	Yards,	...	
		Dregs of Gingely Oil, ...	Cwt.	68,949
Drugs.	{	Aloes, ...	ditto,	2,249
		Camphor, ...	lbs.	304
		Coculus Indicus, ...	Cwt.	1,984
		Cuscus Root, ...	ditto,	1,023
		Gallnut, ...	ditto,	14,573
		Garlic, ...	ditto,	17,171
		Kaud Seque Checke, ...	ditto,	1,805
		Myrabolanes, ...	ditto,	5,380
		Nux Vomica, ...	ditto,	1,458
		Senna, ...	ditto,	25,877
		Zedora Zerumbeth, ...	ditto,	1,219
	{	Other Sorts, ...	Value Rs.	10,544

Carried forward, ... 1,06,56,204



Articles.				Rs.
		Brought forward, ...		1,06,56,204
Dyes.	{ Catechu or Terrajaponica, ...	...	Cwt.	4,365
	{ Indigo, ...	...	lbs.	47,24,631
	{ Turmeric, ...	...	Cwt.	1,21,529
Embroidery, ...	...	...	Value Rs.	939
Feathers, ...	...	...	No.	9,631
Firewood, ...	...	...	Value Rs.	14,840
Fishmaws, ...	...	...	Cwt.	4,235
Fruits and Nuts.	{ Betel Nut—Boiled, ...	...	ditto.	2,22,694
	{ Ditto Raw, ...	...	No.	
	{ ...	...	Cwt.	1,78,269
	{ Coconut, ...	...	No.	4,61,961
	{ Ditto Kernel, ...	...	Cwt.	4,36,772
	{ Dates, ...	...	ditto,	3,470
Tamarind, ...	...	...	ditto,	10,658
	{ Other Sorts, ...	...	Value Rs.	719
Fuller's Clay, ...	...	...	Cwt.	5,304
Goolal Powder, ...	...	...	Value Rs.	7,975
Glass Ware.	{ Bottles, ...	...	ditto,	3,413
	{ Other Sorts, ...	...	ditto,	5,522
Grocery, ...	...	...	ditto,	60
Grain.	{ Anoomooloo, ...	...	Quarters,	7,674
	{ Condooloo, ...	...	ditto,	4,052
	{ Dhol, ...	...	ditto,	18,325
	{ Horse Gram, ...	...	ditto,	46,635
	{ Menoomooloo, ...	...	ditto,	8,673
	{ Natcheny, ...	...	ditto,	11,809
	{ Paddy, ...	...	ditto,	3,65,066
	{ Pease, ...	...	ditto,	19,366
	{ Pessaloo, ...	...	ditto,	18,650
	{ Rice, ...	...	ditto,	51,19,522
	{ Ditto Shavee, ...	...	ditto,	2,574
Sanagaloo, ...	...	...	ditto,	2,42,711
	{ Wheat, ...	...	ditto,	1,12,797
Other Sorts, ...	...	...	Value Rs.	13,751
Gums of Sorts, ...	...	...	ditto,	523
Gunnies and Gunny Bags, ...	...	...	No.	14,244
Hides and Skins.	{ Tanned, ...	...	ditto,	8,22,773
	{ Untanned, ...	...	ditto,	5,65,060
Honey, ...	...	...	Cwt.	2,440
Horns, ...	...	...	No.	1,00,719
	{ ...	...	Cwt.	
Hooka Shells, ...	...	...	Value Rs.	4,481
Instrument—Band, ...	...	...	ditto,	2,025
Ivory and Elephant's Teeth, ...	...	...	ditto,	4,519
„ Ware, ...	...	...	ditto,	2,455

Carried forward, ... 2,43,83,535

Articles.		Brought forward, ..		Rs.	
				2,43,83,535	
Jewel- lery.	{ Clocks and Watches,	...	Value Rs.	6,792	
	{ Other Sorts,	...	ditto,	36,211	
Machinery, ...	...	...	ditto,	2,050	
Malt Liquors,	...	...	Gallons,	27,587	
Manufactur- ed Metals.	{ Brassware,	...	Value Rs.	5,989	
	{ Ironware,	...	ditto,	279	
	{ Platedware,	...	ditto,	3,290	
	{ Silverware,	...	ditto,	1,951	
	{ Other Sorts,	...	ditto,	5,216	
Mats, ...	...	...	ditto,	8,544	
Medicines.	...	...	ditto,	1,249	
Metals.	Copper.	{ Bolt and Ingot,	...	Cwt,	300
		{ Old,	...	ditto,	6,050
		{ Sheet,	...	ditto,	994
	Iron.	{ Bar and Bolt,	...	ditto,	47,059
		{ Cast,	...	ditto,	20,096
		{ Hoop,	...	ditto,	1,838
		{ Kentledge,	...	ditto,	2,789
		{ Pig,	...	ditto,	12,317
	Steel,	...	...	ditto,	2,193
	Spelter,	...	...	ditto,	313
{ Other Sorts,	...	Value Rs.	1,525		
Military Accoutrements,	...	...	ditto,	5,814	
Military Stores.	{ On Company's Account,	...	ditto,	1,32,550	
	{ On Private Account,	...	ditto,	3,797	
Molasses or Jagree,	...	...	Cwt,	40,121	
Ditto Palmira,	...	...	ditto,	2,037	
Musical Instruments,	...	...	Value Rs.	9,267	
Naval Stores.	{ Coir and Coir Rope,	...	Cwt.	2,97,422	
	{ Do. on Company's Account,	...	ditto,	24,000	
	{ Hemp,	...	ditto,	41,289	
	{ Pitch, Tar and Dammer,	...	ditto,	4,438	
	{ Other Sorts,	...	Value Rs.	7,817	
Oils.	{ Cassia,	...	Gallons,	3,295	
	{ Castor,	...	ditto,	28,169	
	{ Cocoanut,	...	ditto,	5,04,722	
	{ Eloopa,	...	ditto,	1,225	
	{ Fish,	...	ditto,	9,088	
	{ Gingely,	...	ditto,	54,918	
	{ Lamp,	...	ditto,	36,637	
	{ Linseed,	...	ditto,	2,406	
	{ Manilla,	...	ditto,	55,346	
	{ Margosa,	...	ditto,	1,058	
{ Other Sorts,	...	Value Rs.	3,224		
Oilman's Stores,	...	...	ditto,	2,440	
Perfumery—Sandal Oil,	...	...	ditto,	34,868	

Carried forward, ... 2,58,84,115

<i>Articles.</i>				<i>Rs.</i>
		Brought forward, ..	Value Rs.	2,58,84,115
	Pipe Staves and Casks, ...	..	Value Rs.	22,693
	Pictures and Portraits, ...	..	ditto,	8,411
	Porcelain and Earthenware, ..	..	ditto,	6,474
Precious Stones.	{ Diamonds, ...	..	ditto,	43,250
		..	ditto,	2,410
		..	ditto,	11,450
		..	ditto,	43,165
		..	ditto,	2,665
Printing Materials.	{ Arrow Root, ...	..	ditto,	1,000
		..	Cwt.	44,212
		..	ditto,	1,221
		..	ditto,	120
		..	Value Rs.	62,987
		..	Cwt.	3,58,196
Provisions.	{ Confectionery, ...	..	Value Rs.	55,512
		..	ditto,	11,114
		..	ditto,	12,315
		..	ditto,	3,415
		..	ditto,	935
	Rattans and Canes—Bamboos, ..	..	ditto,	29,097
	Reeds, ...	..	ditto,	80,336
	Saddlery, ...	..	ditto,	1,09,699
Salt.	{ On Company's Account, ...	..	lbs.,	2,53,810
		..	ditto,	20,161
Saltpetre,	{ On Private Account, ...	..	Cwt.	17,452
		..	Quarters,	4,814
		..	ditto,	1,406
		..	ditto,	3,522
		..	ditto,	3,392
		..	ditto,	17,07,799
		..	ditto,	2,98,564
		..	ditto,	21,194
		..	ditto,	12,431
		..	ditto,	22,900
		..	ditto,	5,719
		..	ditto,	6,276
		..	Value Rs.	6,546
		..	Cwt.	23,028
Sharkfins, ...	{ Shawls—Cashmere, ...	..	Pieces,	1,449
		..	ditto,	18,351
		..	lbs.,	4,75,761
Silk Piece Goods,	{ Silk Piece Goods, ...	..	Cwt.,	1,40,110
		..	lbs.,	4,14,555
Soap, ...	{ Cardamums, ...	..	ditto,	3,594
		..	ditto,	6,660
		..	ditto,	75,970
		..	ditto,	
Spices.	{ Cassia, ...	..	ditto,	
		..	ditto,	
		..	ditto,	
	Ditto Buds, ...	..	ditto,	
	Chillies, ...	..	ditto,	

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Carried forward, ... 3,03,40,256

		<i>Articles.</i>			<i>Rs.</i>
			Brought forward, ..		3,03,40,256
Spices,	{	Cinnamon, ... ..	...	lbs.	4,143
		Cloves, ... ..	...	ditto,	19,327
		Ginger, ... ..	...	ditto,	69,185
		Mace, ... ..	...	ditto,	669
		Nutmegs, ... ..	...	ditto,	1,808
		Pepper, ... ..	...	ditto,	9,43,740
		Other Sorts, ... ..	... Value Rs.		1,999
Spirits.	{	Arrack, ... ..	...	Gallons,	17,059
		Brandy, ... ..	...	ditto,	10,978
		Gin, ... ..	...	ditto,	971
		Rum, ... ..	...	ditto,	39,318
		Whiskey, ... ..	...	ditto,	216
		Other Sorts, ... ..	... Value Rs.		12
		Sugar, ... ..	...	Cwt.	37,90,482
		Do. Candy, ... ..	...	ditto,	1,842
		Do. Loaf, ... ..	...	ditto,	2,198
		Tallow, ... ..	...	ditto,	6,493
		Tea, ... ..	...	lbs.	57,461
Timber & Planks.	{	Poon, ... ..	...	... Value Rs.	21,283
		Teak, ... ..	...	ditto,	2,42,670
		On Company's Account,	...	ditto,	36,770
		Other Sorts, ... ..	...	ditto,	17,269
Tobacco.	{	Manufactured, ... ..	...	No. lbs.	32,187
		Unmanufactured, { Private Account,	...	"	1,70,158
		{ Company's Account,	...	"	6,020
		Portoiseshells, ... ..	...	"	1,740
		Toys, ... ..	...	Value Rs.	2,929
		Trunks and Boxes, ... ..	...	ditto,	2,531
		Umbrellas, ... ..	...	No.	2,754
		Wax and Wax Candles, ... ..	...	lbs.	89,329
Wines.	{	Champaigne, ... ..	...	Gallons,	1,157
		Claret, ... ..	...	ditto,	1,629
		Madeira, ... ..	...	ditto,	2,288
		Port, ... ..	...	ditto,	7,725
		Sherry, ... ..	...	ditto,	9,002
		Other Sorts, ... ..	... Value Rs.		124
Woods.	{	Black, ... ..	...	ditto,	50,751
		Ebony, ... ..	...	ditto,	1,899
		Jungle, ... ..	...	ditto,	1,41,716
		Red, ... ..	...	Cwt.	1,65,192
		Sandal, ... ..	...	ditto,	1,22,096
		Sappan, ... ..	...	ditto,	48,922
		Satin, ... ..	...	ditto,	1,770
		Other Sorts, ... ..	... Value Rs.		22,963
		Woodenware, ... ..	...	ditto,	2,333
		Wool, ... ..	...	lbs.	27,261

Carried forward, ... 3,65,40,120

Articles:				Rs.	
		Brought forward, ...		3,65,40,120	
Woollens.	}	Blankets, ...	... ..	{ Pieces,	24
				{ Yards,	
		Carpets ...	... ..	{ Pieces,	23,134
				{ Yards,	
		Cumblies, ...	... ..	{ Pieces,	5,160
				{ Yards,	
		Flannel, ...	.. ...	{ Pieces,	3
		{ Yards,			
Serge, ...	... ..	{ Pieces,	1,086		
		{ Yards,			
Shawls,	... ..	Pieces,	817		
Other Sorts, ...	... ..	... Value Rs.	6,934		
Sundries, ...	... ..	... ditto,	1,49,550		
Total Merchandize,		... ..	...	3,67,26,828	
Treasure.	}	Gold, ...	... ..	...	4,000
		Silver.	{ On Company's Account,	...	10,00,000
			{ On Private	.. ..	23,29,678
Total Treasure,		... ..	...	33,33,678	
Total Merchandize and Treasure, ..		... ..	...	4,00,60,506	

CASES IN MADRAS POLICE OFFICES.

1856.

ON 19th October, 1857, Colonel J. C. Boulderson, Commissioner of Police, reports on the business of the year. After noticing the tables appended, the Commissioner advocates an increased Police Force for the harbour, and mentions that he does not consider the Police force of the Presidency, though greatly increased, too large. Colonel Boulderson reviews certain cases and observes that the great majority are thefts and assaults.

The Coroner's report appended shews a total of 169 inquests, against 87 in 1850. There has been a decided increase every year, probably caused by the greater efficiency of the Police. Of these cases 53 were from drowning, the wells being left unguarded. There were four cases of cold and starvation, three deaths from snake bites, one from a shark bite, and six of suspected infanticide. Sixteen were reported to the Coroner but in ten decomposition had gone too far. There is reason to suspect that infanticide is very prevalent in Madras.

*General Comparative Statement of Cases summarily disposed of by the Magistrates and those committed for trial to the Criminal Quarterly Sessions in Her Majesty's Supreme Court of Judicature at Madras from the Royapett and Town Police Courts during the year 1856.*

Charges.	Number of cases.	Number of persons sentenced to death.	Number of persons transported.	Number of persons sentenced to hard labor.	Number of persons convicted and imprisoned.	Number of persons flogged.	Number of persons fined.	Number of persons dismissed from the service.	Number of persons acquitted or dismissed.	Total number of persons
Assault with intent to kill or do some grievous bodily harm, ...	3	..	1	..	..	..	..	..	2	3
Aggravated assaults, ...	5	..	..	..	..	..	..	..	4	7
Assaults, ...	3,349	..	..	4	10	6	1,125	..	4,752	5,897
Assaulting Police Officers, ...	13	..	..	1	..	..	7	..	6	14
Attempting to steal or suspected of stealing, ...	85	..	..	5	..	1	..	..	133	139
Aiding and abetting in assault cases, ...	2	..	..	..	..	..	2	..	..	2
Abuse, ...	4	..	..	..	..	..	4	..	5	9
Allowing prisoners to escape, ...	9	..	..	..	..	..	4	..	5	9
Breach of the Peace, ...	2,094	..	..	1	..	4	2,817	..	1,359	4,181
of the Police Regulation No. 4, vending viz. Liquor or Toddy without licence and smuggling under Act XIX. of 1852, ...	14	..	..	..	..	..	5	..	12	17
of Police Regulation No. 6, using false Weights and Measures, ...	33	..	..	..	..	..	27	..	22	49
of Police Regulation No. 10, furious and careless riding and driving, ...	157	..	..	..	..	7	173	..	118	298



General Comparative Statement of Cases summarily disposed of by the Magistrates, &c.—(Continued).

Charges.	Number of cases.	Number of persons sentenced to death.	Number of persons transported.	Number of persons sentenced to hard labor.	Number of persons convicted and imprisoned.	Number of persons flogged.	Number of persons fined.	Number of persons dismissed from the service.	Number of persons acquitted or dismissed.	Total number of persons.
Injuring trees, public property, &c.,	33	..	..	1	..	..	22	..	28	51
Ill treating cattle,...	1	..	..	..	..	..	..	..	1	1
Ill-usage,	..	..	..	..	..	..	..	..	..	..
Keeping a gambling house,	4	..	..	..	..	..	..	..	5	5
Kidnapping or stealing children under the age of 10 years,	..	..	..	..	..	..	..	..	..	..
Larceny,	47	..	17	40	..	..	..	..	35	92
Landing grain out of the prescribed limits,	5	..	..	3	..	24	..	..	87	114
Murder,	2	1	..	..	..	..	..	..	1	2
Misdemeanors,	657	..	..	3	..	10	308	1	699	1,021
Music or beating of tom-tom, &c. without permission,	1	..	..	..	..	..	1	..	3	4
Nuisance.	2,423	..	..	..	..	6	3,180	..	976	4,162
Neglect of Duty, ...	910	..	..	..	..	24	750	9	215	998
Obstructing the road,	16	..	..	..	..	..	18	..	14	32
Overloading (boats),	3	..	..	..	..	..	..	..	5	5
Obtaining under false pretences,	3	..	1	2	..	..	..	..	..	3
Purchasing Regimental clothing or necessaries,	2	..	..	..	..	..	..	..	1	3
Poisoning cattle,	..	..	..	..	..	..	..	..	..	..
Profligate behaviour,	67	..	..	..	..	..	80	..	44	124





On 26th November, 1857 the Government remark on the delay which has occurred in presenting the Report, and observe that the Harbour Police has been sanctioned by the Supreme Government. They remark on the value of the Monegar Choultry to which 113 persons in the last stage of destitution, and 127 idiots were brought by the Police. They consider the post mortem examinations should not be made where the cause of death is self-evident, and ask for information on the risk to life caused by the state of private wells.

THE  
ANNALS  
OF  
INDIAN ADMINISTRATION.

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CRIMINAL JUSTICE IN THE MADRAS  
PRESIDENCY.

THE last report of the Foujdaree Udalt is for the year 1856. The report though dated only up to the end of December, 1856 was not submitted to Government until the 18th of June, 1857. The delay was owing to the non-receipt of returns from one of the Lower Courts.

The Madras Criminal Statistics are arranged under two classes : "petty offences" and "crimes and misdemeanors." The former class include such crimes as petty assaults, cattle stealing and theft ; the latter embrace homicide, murder, gang robbery, rape, &c. as against the person, and forgery, perjury and housebreaking as against property.

In Ganjam with an estimated population of 9,26,930, 5060 persons were summoned for petty offences and of these 1,159 or 22 per cent. were punished. Of the persons summoned 27 only were dealt with by the Magistracy, 3986 by the district police and 1047 by the village police. The returns exhibit but little improvement as compared with those of 1855. Cattle stealing and theft had indeed rather diminished, but of 205 persons summoned for these crimes all but 87 escaped unpunished.

In the same district of Ganjam there occurred 269 cases of crime and misdemeanor implicating 684 persons. In 169 of these cases not one of the parties implicated, supposed to number 373 persons, were apprehended. Thus the perpetrators of 62 per cent. of the crimes committed during the year were not discovered. The Police Magistracy and Courts examined into 118 cases of crime in which 302 persons were implicated and of these 30 per cent, were alone punished. The returns

under this head also exhibit but little improvement over those of 1855. Of heinous offences against the person but very few were reported during the year. Thus there were only three murders and one rape, the bulk of the crimes consisted in burglary. The compiler of the returns observes on the report submitted to Government, "there has been an increase of 717 in the number of persons pending and summoned, and 84 in the number punished for petty offences as compared with the previous year, as also a total increase in the crimes and misdemeanors of 19 cases and 55 persons." The working of the village police in this district is reported to be improving; the number of cases disposed of by them being somewhat greater in 1856 than in the former year.

The population of Vizagapatam is estimated in the report at 12,54,272 persons. The number of persons summoned for petty offences was 4,844 or only one in every two hundred and fifty-nine persons. Fifteen per cent. of those summoned were punished and only one case of cattle stealing was reported as occurring in the whole district. The village police dealt with 2 persons, the district police with 4,829 and the Magistracy with 3.

One hundred and fifty-seven cases of crime and misdemeanor implicating 315 persons were reported as occurring during the year. In forty per cent. of these cases no one implicated was arrested. One hundred and thirteen cases and 207 criminals were brought before the District Police, Magistracy and the Courts during the year and of the summoned 41 criminals were alone punished. The Foujdaree Udalt observes on this report "an increase of 178 will be found in the number of persons pending and summoned for petty offences, while the total number of cases reported to have been committed during the year under review is the same as that reported in 1855, but there is a total decrease in the number of persons concerned, chiefly in these charged with housebreaking and cattle stealing." The Magistrate adds that "generally speaking, life and property are as well protected in this district as they are in those countries in Europe which boast of the highest civilization and of an improved system of police."

In Rajahmundry 15,179 persons were summoned for petty offences, amongst whom were only 296 accused of theft and cattle stealing. The village police dealt with 1,486 of the summoned, the district police with 13,491 and the Magistracy with 202. The percentage of punished to summoned was 112.

There were 709 cases of crimes and misdemeanors reported, of which ten were cases of murder, and 1356 persons were supposed to be implicated in the commission of the reported crimes. In 450 out of the 709 cases not a single person implicated was

arrested. On the whole during the year, 302 cases of crime and misdemeanor and 741 criminals concerned were examined. But of those examined only 155 or 20 per cent. were punished.

The Court observe that "in petty offences there was an increase of 2250 in the number of persons pending and summoned and an increase of 38 cases in crimes and misdemeanors as compared with that of the previous year. There is a decrease of the cases under the head of burglary, the main increase being under the head of theft. The returns shew that the village police have paid more attention to the duties devolving on them, as is evidenced by the increase in the number of petty offences."

The population of Masulipatam is estimated at 5,20,866 persons, the number of persons summoned for petty offences was 5169 and the reported cases of crime and misdemeanor were 571 in which 1170 persons were supposed to have been implicated. Of those summoned for petty offences 1894 were punished or 36 per cent. of the summoned. In 71 per cent. of the cases of crime and misdemeanor not a single person implicated was apprehended. One hundred and eighty-six cases and 370 persons charged with their commission were brought before the Magistracy, Police, and Courts, but 101 or 27 per cent. were alone punished. The compiler remarks upon the Magistrate's returns:—"The report exhibits an increase over last year of 436 persons charged with petty offences; there is also a small increase in the number of persons whose cases have been dealt with by the village police. The Joint Magistrate in charge, however, is constrained to remark that these officers perform their duty in an unsatisfactory manner, and he anticipates no improvement until they are remunerated for the performance of their duties. Allusion is again made to the evils arising from the peculiar geographical position of the Madhera Pergunnah, which jutting in between the Frontier Talooks of the sub-divisions, affords an easy means of escape to marauders. This circumstance has, however, already been brought to the notice of Government in former reports. It is satisfactory to remark that in the more serious offences affecting property there has been a decrease in the number of cases as compared with those noticed last year."

Guntoor numbers a population of 5,70,088. During the year 1856, 9262 persons were summoned for petty offences and 413 cases of crime and misdemeanor were reported. The village police dealt with 886 of the petty offences, the district police with 8,206 and the Magistracy with 170. Sixteen per cent. of those charged with petty offences were punished. In 76 per cent. of the cases of crime and misdemeanor reported not one person implicated was arrested. During the year 128 cases were brought up for examination and 284 persons examined but 25 per cent. only were

punished. The report observes "in crimes and misdemeanors there is an increase of 34 cases over the number reported last year. The efforts of the police in this district appear weak and ill-directed as regards the detection of crime; their inefficiency has been frequently reported on by the Magistrate, who earnestly presses on the consideration of Government the necessity of strengthening it. That its efforts are attended with but little practical result is shown by the fact of 315 out of 413 reported cases remaining undetected."

In Cuddapah with a population of 14,51,921, four thousand two hundred and eighty-three persons charged with petty offences were summoned and 30 per cent. of them punished. Of the offenders summoned the village police dealt only with 17 and the Magistracy with 332. No less than 1,209 cases coming under the head of crimes and misdemeanors were reported during the year; in 56 per cent. of these cases none of those implicated were arrested. One thousand nine hundred and thirty-three persons accused of heinous offences were examined, but only 9 per cent. of the persons so charged were punished. The cases of murder reported were 33, shewing a decrease of 9 cases as compared with the returns of 1855.

On these criminal statistics the Foujdaree Udalt remark:—"The returns from this district for the year under review shew a decrease both in petty cases as well as the more serious crimes and misdemeanors. Crimes of a heinous nature against the person have decreased, the only noticeable increase being 29 cases of housebreaking. Of the property stolen by gang robbers a little more than 5½ per cent is recovered: in that obtained by housebreaking about ¼. The Magistrate mentions two instances where the village officers, aided by the villagers, have successfully resisted the attacks made upon them by gang robbers, and that he has taken every opportunity of encouraging them in their defence of their persons and property. The explanation furnished by the Session Judge as to the detention of prisoners before him for more than 30 days, the Court consider not satisfactory."

The population of Bellary in 1856 was 12,29,599, the persons summoned for petty offences were 4,613 and the cases of crimes and misdemeanors reported numbered 1,266. Thirty-three per cent. of the persons charged with petty offences were punished, the village police dealing with 239 of those summoned, the district police with 4026 and the Magistracy with 348.

During the year 702 cases of crimes and misdemeanors were brought before the Courts, Police and Magistracy and eighteen per cent. of the 1,707 persons implicated were punished. Of the 1266 cases of heinous crime reported during the year, 54

per cent. were unable to be traced to the criminals. There were no less than forty cases of murder. The report closes with the following :—“ It will be observed from this return that there is a decrease in the number of persons punished for petty offences, and a large decrease of 477 cases in crimes and misdemeanors committed during the year. Of this number, no less than 333 cases occur under the head of robbery by open violence. The Magistrate repeats his expression of the want of more European agency. He states, ‘ I cannot but think that more European officers are wanted, who having small districts, could at once be on the spot, and control and give energy to the native police officers, whose labours in detecting robbers are frequently frustrated by the unsatisfactory nature of the evidence, when the cases come before the Courts.’ The reason assigned for the detention of prisoners beyond 30 days before the Session Court is any thing but satisfactory.”

The returns from the district of Nellore shew that with a population of 9,35,690, nine thousand two hundred and fifty-five persons were summoned for petty offences and 2746 persons were supposed to have been implicated in 910 cases of crimes and misdemeanors reported. Of those summoned for petty offences twenty-six per cent. were alone punished and of the cases of crime and misdemeanor reported 49 per cent. were not traced. Five hundred and eleven cases were enquired into by the Police, Magistracy and the Courts, and sixteen per cent. of those implicated were punished. The remarks of the compiler upon these statistics are “ the returns from this district exhibit an increase in the number of persons punished for petty offences, and a very slight decrease in the total number of crimes and misdemeanors. It is to be regretted that in offences against property, these returns exhibit an increase over those of last year; this increase more especially in the cases of highway robbery, the perpetrators of which the Magistrate states to be marauders from the Cuddapah district. The state of crime in this district as well as in the district of Bellary, has been specially noticed by Government, and explanations afforded by the local officers regarding its prevalence, and the measures they have taken for its suppression have been reported.”

North Arcot had in 1856, 14,85,873 inhabitants of these 13,559 were summoned for petty offences and 6265 were reported as implicated in 1081 cases of crime and misdemeanor. Of those summoned for petty offences 22 per cent. were punished. The district police dealt with no less than 13,158 persons, the Magistracy with 163 and the village police with 238.

Seventy-four per cent. of the crimes and misdemeanors reported during the year were not traceable. The Police, Magistracy and Courts enquired into 330 cases and 13 per cent. of the offenders were punished. The remarks appended to the statistics are "the returns for the year under notice in respect to this district exhibit an increase in the number of persons punished for petty offences. In the number of serious crimes and misdemeanors there is a total decrease of 27 cases as compared with the returns of the preceding year, the principal decrease being in highway and gang robberies. These crimes were of most frequent occurrence in those parts of the district which it has been stated in former returns afford peculiar facilities for their commission and for the evasion of the robbers. The subsequent state of crime in this district at the commencement of the current year has been under the consideration of Government. The delay of persons charged with petty offences before the Police has not been accounted for, and is very unsatisfactory."

Chingleput has a population of 5,83,462 persons, of these 6,298 were summoned for petty offences and 1387 supposed to be implicated in 362 reported cases of crime and misdemeanor. Of those summoned for petty offences forty per cent. were punished. Forty-six per cent. of the crimes and misdemeanors committed were not brought home to the offenders. The Courts, Police and Magistracy investigated 253 cases of crime and punished twenty-six per cent. of the 618 persons arrested. There was only one case of murder in the district and the compiler remarks in the returns:—"It is satisfactory to observe a large decrease in the number of persons charged with petty offences. There is also a large decrease in the number of heinous offences committed during the year under review, which the Magistrate attributes partly to the comparative ease enjoyed by the people consequent on the more favorable nature of the season, and partly to the augmentation of the Police force temporarily sanctioned by Government in May, 1856, for a period of 6 months."

The returns from South Arcot exhibit a considerable decrease in the crime of gang robbery, shewing only 37 cases in 1856 to 101 in 1855. The Magistrate considers this satisfactory, attributing the decrease to the increased vigilance of the Police and the greater prosperity of the district. The persons summoned for petty offences during the year numbered 10,925 and of these 38 per cent. were punished. Eleven hundred and forty-nine cases of crime and misdemeanor were reported and three thousand three hundred and eighteen persons were supposed



to be implicated, but only 40 per cent. were apprehended. Six hundred and twenty-six cases were examined during the year under report and 15 per cent. of those implicated punished.

The Salem returns exhibit a decrease of persons punished for petty offences but an increase of those summoned. In the serious crimes there is an increase of 45 cases, the greatest increase being in gang robberies and housebreaking. The population of Salem may be estimated at 11,95,377. The number of persons summoned for petty offences was 13,228 and of these 24 per cent. were punished. The number of cases of serious crime reported was 1090, and the number of persons implicated supposed to be 3,659, of these 47 per cent. were not detected. The Magistracy, Courts and Police investigated during the year 626 cases and punished 15 per cent. of the persons apprehended as implicated.

In Coimbatore with a population of 11,53,862 persons, 10,863 were summoned for petty offences and 4868 reported as being implicated in serious crimes. Of those summoned for petty offences 47 per cent. were punished and of the reported cases of crime 1343 in all, 57 per cent. were never traceable. During the year, 659 cases were investigated and fourteen per cent. of the arrested punished. There were 29 cases of murder. To the returns the following remarks are appended:—"Though the returns for the year under notice exhibit an increase in the number of persons punished for petty offences, it is satisfactory to observe, in spite of the adverse seasons as noticed by the Magistrate, a considerable decrease in the more serious crimes and misdemeanors. There is an increase under the head of murder one case of which may be specially noticed. In Suttimungalum Talook a wife and a husband had an altercation and quarrel between each other, when in a fit of rage the husband lifted up his two children aged  $4\frac{1}{2}$  and 2 years, and dashed them on a stone, whereby the children were killed instantly. The man was arrested and sent up by the Police to the Criminal Court, but on his way to Coimbatore, he refused to take any sustenance for 2 days (probably as it appeared from the dreadful impression his own deed had made on his mind), and died before he reached the Court."

Trichinopoly numbers 7,09,196 inhabitants. The number of persons summoned for petty offences was 7,717 of whom 29 per cent. were punished. The number of heinous crimes reported was 478 and 1385 persons were supposed to be implicated, but 57 per cent. of the cases were never traced. The Police, Magistracy and Courts dealt with 293 cases and punished 16 per cent. of those apprehended as implicated. There were only seven cases of murder, but one "case of murder was attended with cir-

circumstances so extraordinary as would almost have induced a belief in the insanity of the prisoner, but for the strong evidence to the contrary. The victim of this murder was a boy of 16, who was sitting close to the high road when the prisoner came up to him, caught hold of him by the lock of hair at the back of his head, dragged him a short distance, severed the head from the body and drank the warm blood of his victim. The 2nd witness a lad of the same age as the deceased ran horrified to the village which was close by and gave the alarm. The 3rd, 4th and 5th witnesses immediately came to the spot and endeavoured to capture the prisoner; he threatened them with the bill-hook he still held in his hand as they went for further assistance. On their return they found the prisoner; cutting the head of the deceased open and eating the brains, on the witnesses again approaching, the prisoner fled leaving the bill-hook behind but keeping hold of the deceased's head which he subsequently threw at the 5th witness."

In Tanjore out of a population of 16,76,086 there were 17,625 persons summoned for petty offences and 1731 persons supposed to be implicated in heinous crimes. Of those summoned for petty offences 29 per cent. only were punished and of the 636 serious crimes reported 67 per cent. were not traced. The Magistracy, Courts and Police examined 257 cases and punished of the 642 persons apprehended as implicated, 27 per cent. The compiler remarks:—"The returns for the year under review exhibit an increase in the number of persons punished for petty offences. In the more serious crimes and misdemeanors there has been an increase of 64 cases over the number reported as having occurred during the year 1855. The great increase appears under the head of housebreaking, and this offence seems to have occurred more frequently towards the close of the year, thus swelling the returns under this head; no special reasons however are assigned by the Magistrate for the greater prevalence of this kind of crime at this particular season of the year."

In Madura with a population of 17,56,791 persons, 15,299 were summoned for petty offences and 1855 were implicated in heinous offences. Thirty-one per cent. of those summoned for petty offences were punished and out of 525 cases of serious crime reported 32 per cent. were not traced. The Magistrates, Courts and Police examined into 469 cases of crime in which 1419 persons had been apprehended as implicated, but of these only 15 per cent. were punished. The returns exhibited thirty-two cases of murder being an increase of 13 over the returns of 1855. The Magistrate notices that this crime "has been committed under circumstances of a peculiar nature—parties hire a bandy and bullocks, murder the driver, and proceed into another district,

where they dispose of the cart and bullocks—a conviction has been obtained in one case of this nature.”

The Tinnevely returns shew an increase of 107 under the head of crimes and misdemeanors as compared with the preceding year. For petty offences out of a population of 12,69,216 persons 6693 were summoned for petty offences and of these 34 per cent. were punished and 4020 persons were supposed to be implicated in 782 cases of reported serious crimes. The crimes examined into during the year were 539 and 12 per cent. of those arrested on suspicion were punished.

The Malabar district comprising those of Calicut and Tellicherry has a population of 15,14,909. During the year under review 12,999 persons were summoned for petty offences and 22 per cent. were punished. There were 1,061 cases of heinous crime reported, in 236 of which no clue was ever obtained to any of the implicated. The Magistracy, Courts and Police examined into 890 cases and punished 20 per cent. of the 2,082 persons apprehended as implicated.

The Canara district has a population of 10,56,333. The number of those summoned for petty offences was 10,293 of whom 31 per cent. were punished. The number of heinous offences reported during the year was 632 of which 227 were not traceable. Four hundred and sixty-six cases were examined and 21 per cent. of the 1314 persons arrested as implicated punished.

The Ganjam Agent reports that during the year 4,745 persons were summoned in his agency for petty offences and 22 per cent. of them punished. There were 589 heinous crimes reported of which 70 per cent. were not traceable. The cases dealt with during the year amounted to 249 in which 1030 persons were supposed to be implicated, of those 21 per cent. were punished.

The detentions of 201 persons by the Agent for a period exceeding 30 days the Court of Directors do not consider satisfactory as no adequate explanation has been given.

The Vizagapatam Agent states that in his agency during 1856, 14,372 persons were summoned for petty offences and of these only nine per cent. were punished. Three hundred and forty-one heinous offences were reported during the year of which 60 per cent. were not traceable. One hundred and sixty-six cases were disposed of during the year but only ten per cent. of those who were arrested were punished.

In the Kurnool agency 1,794 persons were arrested for petty offences and one hundred and seven only punished. Three hundred and fifty-one heinous offences were reported and only 41 per cent. of them were traceable. Two hundred and fifty-one

heinous crimes were examined into, but of the 579 persons arrested on suspicion only 21 per cent. were punished.

TABLE shewing the relative proportion borne by the persons summoned for Petty Crimes and for Heinous Crimes to the Population.

1	2	3	4	5	6	7	8
	Population.	Summoned for Petty theft and other Petty Crimes exclusive of assault and abusive language.	Proportion to Population.	Persons implicated in Crimes and Misdemeanors.	Proportion to Population.	Persons implicated in cases involving grave injury to person or property.	Proportion to Population.
In 1855,	2,40,39,697	19,608	One in 1,226	78,271	One in 307	31,258	769
In 1856,	2,15,81,697	20,391	„ 1,053	70,234	„ 307	28,360	760
Increase,	...	783	...	...	...	...	...
Decrease,	24,58,000	..	168	8,037	...	2,898	.. 9

The report here gives certain tables exemplifying still further the state of crime in the Madras Presidency in 1856, and the operation of the Criminal Courts. It appears from the reports that out of 1,83,982 petty offences disposed of by the Police, 9,550 were detained under a period of thirty days and 4,946 were detained above sixty days; out of 5,215 persons brought before the Magistracy 596 were detained under thirty days and 29 above sixty. The Police detained from a total of 21,031 persons apprehended for crimes and misdemeanors, 1,306 above thirty days, the Magistracy out of a total of 2,274 arrests 245 only above 30 days and the Courts from a total of 11,334 apprehensions 492 persons above sixty days.

The following table exhibits the number of Police charged with abuse of authority in 1856:—

	Bribery.	Extortion.	Oppression.	Other abuse of authority.
Heads of Police, ... ..	12	11	4	11
Ameens of Police Cutwals, &c., ... ..	4	3	3	8
Servants on the establishment of Heads or Ameens of Police, ... ..	32	21	5	14
Peons including Duffadars, &c., ... ..	57	47	45	41
Village Police including Heads of Villages as defined by Section 3, Regulation IV. of 1816, watchers, &c., ... ..	86	183	112	231
Total, ... ..	191	215	169	305

Of these 880 officers 203 were punished 672 acquitted and 3 were maliciously accused, the undisposed cases were pending at the end of the year. In 1855 the number of police charged with abuse of authority was 1143. The number of malicious charges brought in 1856 against various persons was 853 to 1024 in 1855. Most of these malicious charges were made before the Police. The report contains tables shewing the results of various appeals to the Magistrates, Sessions Court and Foujdaree Udaltut from the subordinate Courts. The following is the abstract statement shewing the average number of days intervening between the apprehension, commitment and final sentence in the trials referred to the Foujdaree Udaltut:—

	1	2	3	4
	Total number of Trials.	Days between the dates of apprehension and final sen- tence.	Days between the dates of commitment and final sentence.	Days between the dates of the receipt of record by Foujdaree Udaltut and final sen- tence.
In 1855, ...	136	84	61	5
In 1856, ...	133	88	68	8
Increase, ...	...	4	7	3
Decrease, ...	3	...	...	...

### JAILS OF THE MADRAS PRESIDENCY.

Mr. Rohde, the Inspector of Prisons submits his report for the year 1856-57 to the Government of Madras on the 10th of November. During the year the Inspector of Prisons had directed his attention chiefly to the messing of prisoners, their punishment in the different jails for petty offences, the system of jail guards and of out-door labour. Mr. Rohde observes with regard to the latter of these heads that no material improvement in the condition of the prisoners can be looked for until in-door labour shall be universally adopted. With reference to the education of prisoners, Mr. Rohde had been requested to communicate with the Government officers of Bombay and Bengal as to the scheme of education pursued in those Presidencies. Answers were received from Mr. Thornhill and Dr. Mouat, which are in the report, as also an extract from Dr. Walker's report on prison education at Agra. Dr. Mouat's reply was short as he had not then matured any plan for the introduction

of education in the jails under his control and "did not see his way clearly to any material moral benefit from such schemes of prison instruction as could be safely or properly introduced in Indian jails at the present time." With regard to the lock-up houses Mr. Rohde observes that the space provided is very insufficient and in some men and women are locked up together. The report therefore suggests that there should be in every Cusbah station, "two male and one female ward, with spaces, at least 6 feet by 3 on the floor, for not less than 20 prisoners, with iron barred doors, ventilation from below, and a roof constructed without flat tiles, or with other aperture."

In the year 1856-57 there were 16,537 persons imprisoned for periods varying from one month to fourteen years, of which 10,152 were imprisoned for one month and 295 only for fourteen years. The average number of persons in confinement on any one day during the year as drawn up from returns published only twice a year was 5880, of these nearly three thousand were employed on the roads. The number of persons imprisoned for debt during 1856-57 was 630 and they were indebted on an average 212 rupees a head. Of the prisoners about two-thirds could neither read nor write and not a fifth part could read and write well. There were only twenty escapes during the year. The expense incurred by the Madras Government in the maintenance of the jails and of the prison discipline and convicts was Rs. 3,13,095-10-10½. The deaths were 282 or about five per cent. of the average number at the jails, the cases of sickness were 15,013. The average number of sick at any one time was 686½ or forty per cent. of the average number of prisoners. This average is of very little use as it is not struck upon the whole number of prisoners confined during the year the terms of their imprisonment being taken into consideration.

The report contains the rules for the management of public jails as drawn up by Mr. Rohde.

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## MILITARY COLONISTS.

### *Parliamentary Papers.*

ON the 9th May, 1856, the Court of Directors called the attention of Her Majesty's Government to the advantages enjoyed by Her Majesty's retired officers in settling on the Crown lands of any of Her Majesty's Colonies, these advantages not being

shared in by retired officers of the East India Company's services. In reply to this letter the Colonial Secretary stated that wherever Her Majesty had control, like privileges would be at once conferred on the Hon'ble Company's retired officers; but that with regard to the Cape of Good Hope, New South Wales, Victoria and New Zealand the control of the waste lands had been transferred by Act of Parliament to local legislatures.

This reply was dated the 27th June, 1856 and soon after a communication was addressed by Her Majesty's Government to the Court of Directors requiring to know whether it might not be practicable and desirable to hold out advantages to officers and soldiers retired or discharged from the Indian Armies to induce them to settle in those localities in India best adapted to Europeans. The communication was forwarded to the Governor General on 3rd September, 1856, and he directed the several local Governments to report on the matter.

On the 5th October, 1857 just one year after the date of the original communication the reports of the local Governments were forwarded to the Hon'ble Court of Directors. Sir John Lawrence, the Chief Commissioner of the Punjab stated that there was no arable land in the mountainous districts of the Punjab within British territory and in the valleys the climate was more or less insalubrious. Sir John Lawrence was of opinion that little could be done in the Punjab even by good agriculturists, without considerable capital.

The report from Pegu stated that though waste land was plentiful and the climate healthy yet except for capitalists who could command the labour of others there was no field for the occupation of the tilled land by Europeans.

Mr. Greathed, the Commissioner of the Meerut Division apprehended " that the idea of inducing British soldiers or officers to locate themselves in the plains will not be entertained. The manual part of agricultural operations could not be carried on by Europeans in this climate, and the general character and social position of the pensioners from the ranks, who are to be found about our military cantonments, do not encourage a wish to see more of that class settled in India. In the transfer of landed property from the hands of the original proprietors that is going on throughout the country, it would be desirable to find a larger proportion passing under the proprietorship of Englishmen, but the successful management of an estate by an Englishman in India demands, besides capital, much strength of constitution and elasticity of spirit; and these qualifications are not likely to be found among officers who have passed the better part of their lives in the Indian service. Moreover, failure in management, and consequent default, would be visited by

the revenue laws by transfer or sale of the property, and the defaulter, if a Government settler, would find himself deprived, by the act of Government, of the property he had been encouraged to acquire. In Dehra Doon there is still a large portion of unappropriated land at the disposal of Government, and the climate is, in part of the valley, more suitable to the English constitution for out-door work. The eastern Doon, however, is so insalubrious that the idea of reclaiming it through the agency of natives of the country, except by gradual encroachments on its borders, has been abandoned. In the western Doon a colony of Portuguese and Anglo-Indians, discharged from Scindiah's military service, was planted at Herbunswala, and received much encouragement, but it languished and failed. The Englishmen who took grants of lands have, with one exception, either been compelled as public servants to give up, under orders of Government, or have seceded from the speculation; and at present the only thriving property in the Doon, under English management, is the tea plantation of Colonel Elwall, a retired officer, who has rented zemindaree lands, and carried on his operations without any assistance from Government. The grant terms might be altered to admit of the bestowal of the pecuniary advantage afforded to military settlers in Her Majesty's colonies, or a fee-simple title to plots of unappropriated land in the Doon, or rent-free tenure might be conferred on English settlers; but even under such conditions I do not anticipate that any real benefit would be conferred on the settlers or on the country, and I would recommend that colonization be left to private enterprise, unaided by special immunities."

The Commissioner of Kumaon, Mr. Ramsay reported that in his province there was no available land. The lands at the disposal of the Government were all covered with heavy forest and the waste land of the low valleys was unhealthy.

Captain James, the Officiating Superintendent of Darjeeling speaks in very high terms of the advantages to be gained by such a military colonisation as was proposed. He says:—"Looking, then, to the climate, the productions, and the facility of access to a ready market from these hills, there is little doubt as to the success of an attempt to introduce European settlers; their broken health will be speedily restored; they will see their children with rosy cheeks, rivalling those of the most favoured parts of Europe; they will be able to cultivate in their gardens those plants which are associated with home in their childhood; and they will find in the abundant crops around their dwellings, ample reward for the toil expended in their cultivation." Captain James also forwarded a paper with his report from Mr. Hodgson. Mr. Hodgson considered the Himalayas to be very



well calculated for the settlement of Europeans and was convinced that the encouragement of colonization therein was one of the highest and most important duties of the Government. He says:—"In the long gradation of heights, from the plains to the snows, every variety of climate is found, with correspondent capabilities for the successful culture of various products suited to the wants of Europeans; for their own consumption or for profitable sale. And in this extraordinary gradation of heights, the high and low are juxtaposed in a manner alike favourable to the labours of the healthful, and to the relief of the ailing. A healthy cultivator of our race could have his dwelling at 4 to 6,000 feet, and his farms both there and at various higher and lower elevations, yet still close to his abode, so that quasi-tropical and quasi-European products might be raised by him with the greatest facility, and in defect of health and strength the colonist, like the visitor, would enjoy the vast advantage of entirely changing his climate without cost and fatigue of journeying, besides having the additional resource of easy access to medicinal waters of universal diffusion, and of proved efficacy in many kinds of ailments."

The colonist might thus locate himself on any elevation he found conducive to his health, on the verge of the lower regions he would command the greatest resources for traffic in timber, drugs, dyes, hides, horns, ghee and textile materials. If the colonist settled further from the plains he might devote himself to agriculture and sheepbreeding. Mr. Hodgson however does not hold out to the colonist the prospect of growing rich "but would rather fix his attention, primarily at least, upon the certain prospect of comfort, of a full belly, a warm back, and a decent domicile; or, in other words, of food, clothes, and shelter for himself, his wife, and children, unfailling with the most ordinary prudence and toil, and such, as to quantity and quality, as would be a perfect godsend to the starving peasantry of Ireland and of the Scotch Highlands. These are the settlers Mr. Hodgson would, not discouraging the others, primarily encourage by free grants for the first five years, and by a very light rent upon long and fixed leases; then, after looking to compensation in the general prestige of their known forthcomingness on the spot, and assured that, with the actual backing upon occasions of political stress and difficulty of some 50,000 to 1,00,000 loyal hearts and stalwart bodies of Saxon mould, our empire in India might safely defy the world in arms against it."

Colonel Jenkins reports on the Cossyah and Jynteah Hills in the north east Frontier Agency, that these ranges afford most eligible retreats for retired officers of moderate circumstances who would employ themselves in farming the land.

Mr. Allen, the Commissioner of Chota Nagpore, states that under his superintendency, there is no locality adapted for the settlement of Europeans.

In the Madras Presidency reports were sent in from the Ceded Districts, Mysore, the Southern Division, the Neilgherries, Malabar and Canara, and the Northern and Centre Divisions. The places regarded as eligible for European settlers are the Neilgherries, the Pullaney, the Sillimalley and Shevroy hills, the Mungerabad gorge in Coorg, Manantoddy and the Western Ghats, Coortallum in the Tinnevely district and Palmanair. The Madras Board of Revenue in transmitting these local reports to Government remark that to encourage colonization besides a remission of the purchase money, it would be necessary to give the fee simple of land or at least to grant long leases. As regards European soldiers it would be desirable to locate such settlers in the neighbourhood of places like Ootacamund and Coonoor where they could readily obtain a market for their produce, medical aid, and generally, means of providing in comfort for their families.

Lord Elphinstone in transmitting the reports of the local officers of the Bombay Presidency states his own opinion on the subject of colonization. He says:—"There are no tracts suitable for colonization by Europeans under this Presidency, and that the expediency of encouraging Europeans to occupy land as cultivating colonists is very doubtful; but at the same time we consider that European capitalists, or houses of agency scattered through the Presidency, would tend greatly to ameliorate the condition of the country by becoming purchasers of agricultural produce, and giving the cultivators the advantage of a more equitable system of dealing than they can now command from native capitalists."

Lieutenant Colonel Jacob, Acting Commissioner in Sind reports the climate so hostile to the European physical constitution as to preclude the possibility of Europeans dwelling permanently in Sind without wholly degenerating.

The late Collector of Broach, Mr. Inverarity observes that where the climate would admit of the settling of Europeans they should not be tolerated until the settlers were made amenable to the same jurisdiction as the natives in all civil and criminal matters.

Mr. Reeves, the Revenue Commissioner of the Southern Division, transmits a somewhat lengthy memorandum. He admits that settlers would succeed, but as merchants rather than as farmers and would expect as the first fruits of European colonization a great amount of evil to the natives from the vicious example and tyranny of the settlers, and that European pau-

perism would have to be contended against. Mr. Reeves too thinks that the natives of India should be left alone, and that it is better that natives rather than Europeans should possess the land.

Mr. Seton Karr reports that in the Belgaum Collectorate, there is not a sufficiency of good waste land. As this disposes so far as Belgaum is concerned of the question, Mr. Seton Karr merely observes that generally speaking he thinks "the country would derive a good deal more advantages than the colonists" from any settlement.

The Commander-in-Chief of the Bombay Army considers that all reason is against the transformation of worn-out officers and soldiers into successful agriculturists, but His Excellency imagines that the hill stations of India would meet the wishes of those discharged officers and soldiers who would be satisfied to dream away their days in mere existence without aim or interest. The Commander-in-Chief supports his opinions by the observation that "emigration to Australia, whose climate is more congenial to the constitutions of Europeans than that of India, having proved a failure, and labour, while compared with the prices of the necessaries of life, being now as valuable in England as in the colonies, it is probable that the same system and failure would prevail were the hilly parts of India thrown open to the European officers or soldiers."

Colonel Melville, the Military Secretary to Government expresses generally the same opinions as the Commander-in-Chief and in addition thinks that it would be very prejudicial to the interests of every regiment to have temptations freely offered to the best men serving in its ranks to take their discharge and leave it. The opening of a settlement in India would inflict very grave injury both to the discipline and efficiency of all European regiments in India. If it is determined to establish a system of colonization then it will require to be placed on a larger basis than the proposition under review. Discharged soldiers and their officers might be induced to assist and join such colonies, but the initiative should be taken rather by the Civilian than the Military classes.

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## FURTHER PAPERS ON THE DESPATCH OF TROOPS TO INDIA.

*Parliamentary Papers.*

On the 7th of August, 1857, a letter was received by Sir George Grey, Governor and Commander-in-Chief, Cape of Good

Hope, from Lord Elphinstone, the Governor of Bombay. The letter was dated the 29th June, 1857. It placed his Excellency in the possession of the principal events connected with the insurrection in India, and requested that two regiments of infantry should be sent to Bombay. Lord Elphinstone did not ask for more troops, though had four regiments of infantry and three companies of artillery been sent to Bombay, the ordinary peace establishment would only have been completed, because had the Cape Government more men to spare it would be advisable that they should be sent to Calcutta direct. In accordance with Lord Elphinstone's letter, the Governor at the Cape transmitted two regiments to Bombay, one regiment with some artillery to Calcutta and one regiment to Ceylon. The artillery was sent fully horsed and £60,000, the whole of the specie in the Colonial chest was forwarded to the Supreme Government of India. After the despatch of these troops, on the 26th of August, a despatch dated 29th June, 1857, was received from the Colonial Secretary, directing that one regiment of infantry should be sent from the Cape to Calcutta. But this had already been done, and therefore at that time no more troops were sent, especially as on the 21st September, a despatch was received from the Governor General of India, dated the 21st of July, which did not even allude to the disturbances prevailing in India, and merely requested aid in the matter of purchasing horses. The Government of India required 1,000 horses, and to furnish these Sir George Grey had received instructions from the Home Government. Meanwhile, the Government of Bombay had written to the Governor of the Cape requesting a supply of horses, and sent two ships, the *Persia* and *Ocean Monarch* for their reception. It was impossible to comply with this request without failing to send a sufficient number to Calcutta, but as there was a demurrage of £38 a day on the *Persia* from the time she arrived, and a demurrage of £15 a day on the *Ocean Monarch* from the tenth day of her arrival, Sir G. Grey determined to embark two hundred and eighty of the Calcutta horses for Bombay. This was accordingly done and then there were 400 horses wanted to complete the Calcutta demand.

Thus matters stood in the beginning of October, the Bombay Government had asked for two regiments and had received them, the Supreme Government had asked for no aid save in the matter of the purchase of horses and had received one regiment and some artillery. A despatch had been received from the Home Government directing that a regiment should be sent to Calcutta and another to Ceylon, this letter, however, had already been anticipated. But about the middle of October a despatch arrived from the Home Government dated the 26th August "trusting

that His Excellency had been able to spare six regiments." In answer to this despatch Sir George Grey pointed out on the 2nd of November that there were but 6,265 rank and file including Natal under his command, but expressed his determination to send if possible larger reinforcements to India than he had already unauthorisedly sent. Again on the 5th of November in reference to this despatch of the 26th August from Mr. Labouchere, Sir G. Grey stated that he did not consider the instructions so applicable as those contained in the despatch from the Colonial Secretary of the 1st August, he therefore proposed to send at present no more regiments to India than those he had already despatched, namely the 89th, 95th, 13th, 80th and 60th with a detachment of royal artillery.

On the 11th of November Sir G. Grey notified to Mr. Labouchere the arrival of the *Himalayah* from Calcutta for the purpose of carrying between three and four hundred horses and on the 14th November he mentioned that the Supreme Government had not put on board either groom, Veterinary Surgeon or other persons to take charge of the horses. Fortunately the steamer *Hydaspes* with a strong detachment of royal artillery for Point de Galle was then lying in Simon's Bay and Lieutenant Colonel Riddell, R. A., transferred to the *Himalayah* a complete battery including a Veterinary Surgeon to take charge of the horses. The *Himalayah* was thus enabled to sail by the 6th of December, she carried however only 250 horses.

On the 19th August, Colonel Birch, the Military Secretary to the Government of India, requested that 200,000 lbs. of kiln dried flour should, immediately after the receipt of his letter, be sent to Calcutta for the use of the Commissariat Department, and a further supply after the interval of six months. The letter was received in November, and Sir G. Grey stated in a despatch, dated the 11th of that month, that he intended to forward the whole quantity at once. On the 26th November, 160,000 lbs. of biscuit were despatched to Calcutta in the *Oceanic*.

On the 28th December, Sir George Grey reports that since the intelligence of the outbreak in India had reached the Cape, fourteen transports conveying troops, horses, and mules had been sent or were fitting out, and that in addition eight transports sent by the Indian Government to the Cape had received both troops and horses, and had returned.

In reference to these despatches from Sir G. Grey, Mr. Labouchere in a letter to the former, dated the 5th February, 1858 said:—"I am not insensible to the weight of the reasons which you allege for not having fully carried into effect the instructions of Her Majesty's Government in regard to the number of

regiments which you were to send from the Cape; and I am unwilling to urge you to weaken the military defences of the colony beyond what in your deliberate judgment you may consider indispensable to its security. You will, however, bear in mind that any troops that you can spare will assuredly be readily provided for and usefully employed in India; and Her Majesty's Government rely with confidence on your assurance that you will afford to the utmost extent of your power such assistance to the Government of India as circumstances will admit of."

On the 5th March, the Right Honorable Lord Stanley informed the Governor Sir G. Grey that the reserve battalion of the 12th Foot would be withdrawn from the Cape without relief. On the 13th March, Lord Stanley intimated that the Court of Directors of the East India Company had expressed their approbation of the proposed arrangements for the despatch of horses to India, and on the 23rd March, Lord Stanley signified the approval of Her Majesty's Government.

On the 14th December, the Governor of Ceylon informed Mr. Labouchere that arrangements had been made to forward from Ceylon H. M.'s 80th regiment then expected from the Cape to Calcutta. Sir Henry Ward mentioned that he had made this arrangement contrary to the wishes of the Major General Commanding. The correspondence with the Major General is enclosed with the despatch. Sir H. Ward received the following acknowledgment from Mr. Labouchere:—"I have to acknowledge the receipt of your despatch, with enclosures, reporting that you had made arrangements for the immediate departure of the 80th regiment for Calcutta on its arrival at Ceylon from the Cape of Good Hope. In fully approving the course you have adopted in this instance, I have to express the cordial acknowledgments of Her Majesty's Government of the steps taken by you, as reported in your present and previous despatches, for strengthening the hands of the military authorities in India during the late pressure of events in that country."

Governor Stevenson of the Mauritius forwarded on the 5th of October to the Colonial Secretary a letter received from the Governor of the Isle de la Réunion with the reply of Major General Hay in command of the troops at Mauritius. The letter from the French Government proposed to place certain troops at the disposal of the Government of the Mauritius to prevent any rise in that island. The offer was declined, but Mr. Labouchere directed the Earl of Clarendon to convey to the French Court a suitable acknowledgment of the favour. Amongst the enclosures forwarded by the Governor of Mauritius to the Colonial

Secretary is a brief statement of the partial burning of the *Sarah Sands* conveying the Head Quarters of H. M.'s 54th regiment.

## CIVIL DISPENSARIES OF THE MADRAS PRESIDENCY.

*Madras Records, No. XLVI.*

THE report is for the year 1856 and details the general operations of the medical officers in charge of the several dispensaries and their beneficial results. In forwarding the report Dr. Lorimer, the Secretary to the Military Board remarks:—"During almost the entire year, scarcity of food continued to be felt more or less throughout almost all the provinces, as in the preceding year; but notwithstanding, it is consoling to observe, that with the exception of Trichinopoly, Cuddapah, and Nagpore, where rather severe outbreaks of cholera were experienced, and Honore and Madura, where epidemic fever, peculiarly fatal, existed for two or three months, the various other Collectorates and districts have been unusually healthy and free from epidemic disease. At Trichinopoly, cholera has for several years made its appearance at a certain season of the year, apparently connected with the large concourse of people who assemble about the month of January for the feast at Seringham. In most of the districts very extensive public works continue to be carried on with great activity, and their beneficial influence in diminishing sickness by giving continuous employment to thousands has been noticed by many of the medical officers in their reports. Yet notwithstanding the healthy state of the presidency generally, and the comparative freedom from epidemic disease, the number of applicants for aid and advice at the civil dispensaries has very greatly exceeded those of the preceding year; the total number treated has amounted to 2,10,566, *viz.*, 11,276 in-patients, and 1,99,290 out-patients; an increase of 26,497 over the number in 1855." The accompanying table gives a general view of the state and working of the several dispensaries with their cost:—

COMPARATIVE VIEW of the number of sick treated in the Civil Dispensaries for the undermentioned years:—

	1844.	1850.	1856.	Expenses incurred in 1856.	
				Rs.	P.
Bellary, ...	{ In-Patients. 40 Out do... 802	188 1,385	106 3,687	1,585	6
Black Town, North of...	{ In do... Out do... 8,890	11,098	12,184	714	0
Calicut, ...	{ In do... Out do... 126	1,462	305 4,800	2,311	0
Chicacole, ...	{ In do... Out do... 63	826	246 3,284	2,004	13
Chingleput, ...	{ In do... Out do... 50	855	225 8,573	1,789	6
Chintadrepeta, ...	{ In do... Out do... 6,276	11,431	12,216	1,116	0
Chittoor, ...	{ In do... Out do... 99	1,612	166 7,483	1,906	6
Cochin, ...	{ In do... Out do... 8	90	405 4,449	2,118	0
Coimbatore, ...	{ In do... Out do... 5	284	212 5,456	1,291	5
Combacorum, ...	{ In do... Out do... 121	186	354 4,023	1,453	13
Coonoor, ...	{ In do... Out do... 3,241	2,693	78 1,370	745	5



Cuddalore, ... ..	{ In do. ... ..	78	204	1,889	11	2
	{ Out do. ... ..	1,167	8,431			
Cuddapah, ... ..	{ In do. ... ..	137	178	1,589	4	6
	{ Out do. ... ..	520	2,614			
Guntoor, ... ..	{ In do. ... ..	90	332	2,328	7	10
	{ Out do. ... ..	1,146	3,748			
Honore, ... ..	{ In do. ... ..	.....	145	1,481	9	2
	{ Out do. ... ..	.....	4,628			
Kamptee, ... ..	{ In do. ... ..	64	437	1,554	1	6
	{ Out do. ... ..	158	1,879			
Kurnool, ... ..	{ In do. ... ..	115	165	1,702	5	4
	{ Out do. ... ..	3,720	12,636			
Lying-in-Hospital (Government),	{ In do. ... ..	.....	574	604	8	0
	{ Out do. ... ..	.....	5,049			
Do. (Dr. Scott's), ... ..	{ In do. ... ..	196	.....	0	0	0
	{ Out do. ... ..	7,914	.....	0	0	0
Madura, ... ..	{ In do. ... ..	134	488	1,835	1	8
	{ Out do. ... ..	434	4,984			
Malliapooram, ... ..	{ In do. ... ..	.....	124	316	1	10
	{ Out do. ... ..	.....	563			
Mangalore, ... ..	{ In do. ... ..	54	205	1,488	11	10
	{ Out do. ... ..	1,938	5,601			
Masulipatam, ... ..	{ In do. ... ..	54	197	2,135	6	5
	{ Out do. ... ..	413	8,544			
Mercara, ... ..	{ In do. ... ..	.....	31	1,029	0	8
	{ Out do. ... ..	.....	2,544			
Carried forward, ... ..	{ In-Patients.	1911	5177	34,935	0	3
	{ Out do. ... ..	54,117	1,28,691			

COMPARATIVE VIEW of the number of sick treated in the Civil Dispensaries for the undermentioned years:—

	1844.		1850.		1856.		Expenses incurred in 1856.		P.
	In-Patients.				Rs.	As.			
Brought forward, ...	{ In-Patients.	486	1911	5177					3
	{ Out do. ...	20,636	54,117	1,28,691			34,593	0	
Nellore, ...	{ In do. ...	66	198	287			2,547	0	11
	{ Out do. ...	739	1,447	6,067					
Ootacamund, ...	{ In do. ...	...	62	656			2,799	10	7
	{ Out do. ...	...	227	2,381					
Palamcottah, Friend in need Society at,	{ In do. ...	...	...	93			0	0	0
	{ Out do. ...	...	...	576					
Rajahmundry, ...	{ In do. ...	...	22	400			3,063	13	5
	{ Out do. ...	...	79	1,154					
Raneepett, ...	{ In do. ...	...	...	222			2,865	8	2
	{ Out do. ...	...	...	3,268					
Salem, ...	{ In do. ...	...	86	128			1,304	5	6
	{ Out do. ...	...	2,044	2,702					
Secunderabad, ...	{ In do. ...	...	...	1,464			4,952	11	9
	{ Out do. ...	...	...	7,137					
Tellicherry, ...	{ In do. ...	...	24	...			0	0	0
	{ Out do. ...	...	424	957					
Tinnevely, ...	{ In do. ...	...	37	231			2,088	0	0
	{ Out do. ...	...	393	4,691					
Trichinopoly, ...	{ In do. ...	254	511	421			- 247	12	5
	{ Out do. ...	1,148	2,645	10,741					
Triplicane, ...	{ In do. ...	68	393	986			4,248	15	7
	{ Out do. ...	3,091	8,134	18,054					



Of those treated during the year as out-patients 1298 were Europeans; 10,035 were Eurasians; 1,47,433 were Hindoos; and 33,546 were Mahomedans. Of the in-patients 42 were Europeans; 70 were Eurasians; 8677 were Hindoos and 1446 were Mussulmans. Amongst the European in-patients 5 per cent. were females; of the Eurasians 48.9 per cent. were females; of the Hindoos 52.1 per cent. were females and of the Mussulmans 59.3 per cent. were females. The percentage of females to males in the European out-patients was 38.9; in the Eurasian out-patients was 62.2; in the Hindoo out-patients was 37.008 and in the Mussulman was 34.2. On the whole there were 38.3 females out of every hundred males treated either as in-patients or out-patients during the year under review. The foregoing returns do not of course include those from the Lying-in-Hospital.

In the General Hospital 1,331 patients were treated, of which 94 cases ended fatally, or a little more than 7 per cent.; there were only sixteen admissions for cholera, ten of which were fatal. It is remarked in the report "that 'the hospital continues to be of great service to the poor of all classes; the cases are furnished from a wide circumference of the surrounding neighbourhood, and not particularly by the adjacent parts of Black Town.'"

One hundred and seventeen patients were under treatment during the year in the Leper Hospital. Of this number 35 were discharged greatly relieved, 14 died and 68 remained at the close of the year under treatment.

On the Native Infirmary, "the medical officer in charge observes: 'though pauperism has been painfully rife, yet the year just closed has not been a sickly one.' Small pox and cholera shewed themselves at the end of January and throughout February in some parts of the district, but not to such extent as to call for notice; 16 cases of small pox only are recorded, *six* of them in persons *unprotected* by vaccination; two ended fatally, three of the six were confluent. Of cholera, 20 admissions appear, of which number 15 died, or 75 per cent. Many of the cases were picked up in the streets in a dying state. From all diseases 1,083 have been treated during the year, of which 217 died; both the sickness and mortality have been somewhat less than usual. The mortality has resulted chiefly from chronic ailments of long standing, and often complicated; phthisis 16, bowel complaints 39, dropsies 16, atrophy 30, from these diseases alone 101 casualties;—under the head old age 56 deaths appear."

In the Idiot Asylum attached to the Native Infirmary 163 individuals were accommodated, 114 males and 49 females. Seven were discharged as sane, thirty-five taken out by their friends,

32 died and at the close of the year, 78 remained. The report observes:—"An increased allowance of animal food has been issued to the inmates of the asylum during the year, the effect of which has been very beneficial. The mortality, however, is still high, 19 per cent.; last year it was 22; general atrophy, diarrhoea, epilepsy and apoplexy, have been the most frequent and fatal forms of disease amongst them."

The aggregate strength of the House of Industry was 314, of which number 105 were admitted to the sick ward and ten died.

In the Male Asylum from an average strength of 224 boys, the admissions from all complaints were 463, of these only one died.

In the Female Asylum there was not a single casualty throughout the year from a strength of 211. The average daily sick was eight.

Mr. Lovell reports of the Bellary Dispensary:—"I have reason to believe, that the natives of this district, as well as in the zillah of Cuddapah, are fully alive to the great benefits, which these institutions are capable of conferring on suffering humanity; and more especially to the poor classes of the community, and in surgical cases in particular; in proof of which, independent of my experience in this zillah, during the past six months, I may here mention the fact, of my having established an hospital in my own compound, capable of accommodating a good number of applicants for aid in surgical cases, who came to me from far and near, and some from Bellary, for the purpose of undergoing surgical operations, whilst I was zillah Surgeon of Cuddapah, during the years 1835 to '38 inclusive: proving, without doubt, that distance deterred them not. Since I have held medical charge, the diseases generally, which came under observation and treatment, were such as are incidental to, and very common amongst, the poorer classes; and but too often arising from vice and debauchery, and aggravated by neglect and starvation, or ill-feeding, destitution, and deficient clothing; and many of the poor seek relief as much from the latter cause, destitution, as for the relief of bodily ailments."

A table shewing the number of surgical operations and their results is appended.

Assistant Surgeon J. Paul of the Black Town dispensary says that very great improvement has been effected in the health of the locality by filling up an open ditch on the west side of the Fort but reports that much remains to be done as far as the drainage of Black Town is concerned. The report contains a list of the surgical operations performed during the year. One portion of the duties of the medical officer consists in attendance on Coroner's inquests. During the year "24 inquests were held on sud-

den deaths from accidents, such as the falling of houses, sheds, walls, carriage accidents, bites of animals and the like, and 15 were cases of suicide, for which object drowning seems the favorite mode of death; 2 cases of murder occurred by stabbing, one culprit paid the penalty of his crime with his life, and the other was transported. Four of the inquests were on new born infants exposed in drains and heaps of rubbish, but in none of the cases could the crime be brought home to the guilty parties."

Mr. E. S. Cleveland of Calicut reports a steady progressive increase in the attendance at the dispensary since its establishment in 1845. On first taking charge Mr. Cleveland was perplexed "at the number of hopeless cases, especially of anasarca, that were presented for admission. During the inclemency of the monsoon weather, victims of starvation and disease, beyond all hopes of recovery or relief, were daily picked up by the police and others in the public thoroughfares, and brought to the dispensary for shelter and treatment (of many of whom no account could be furnished), these, under the circumstances, were indiscriminately received, and very generally died a few days after admission."

The report contains a table of the surgical operations and the treatment and diagnosis of several cases.

Assistant Surgeon Windus reports the satisfactory working of the Chicacolè dispensary and annexes a table of the surgical operations.

The dispensary at Chintadrepettah has no accommodation for in-patients, this Mr. J. McKenna, M. D. states in his report greatly limits the usefulness of the institution.

Assistant Surgeon Harper in his report states the number of surgical operations performed, the expenditure and the patients treated at the dispensary of Chittoor. He gives the history of some interesting cases which shew the quackery sometimes resorted to by the native practitioners. Amongst others one "is recorded under the head of "ulcus grave" of an unfortunate young woman, who had been run over 12 days previous to her coming to the dispensary. The bones of the leg had been fractured a little below the knee, and the village potter had been called in, mortification followed, and as the pain she suffered was great, she had been kept for four days perpetually drunk. Arrack had been given without measurement, when she was not in a state of insensibility—she came to hospital labouring under incipient delirium tremens—a rapid pulse and dry tongue. A sloughing sore from about the lower third of the thigh to below the knee. Morphia was administered with partial success in soothing her, and the second night after her admission she slept two or three hours and was

tolerably quiet during the day. The dresser reported that in the afternoon, whilst he was applying a poultice to the stump, she raised herself with a sudden shriek, and fell back dead."

At Cochin Mr. Pringle reports the dispensary buildings to be substantial and in good repair. "The building is completely divided into 2 wards, for males and females respectively, with separate privies and bath-rooms attached to each, securing the privacy of the sexes."

Since the establishment of the dispensary there has been a steady increase in the number of applicants for relief. The native physicians pretend to a great skill in rheumatism, fever, anasarca, female complaints and eye diseases, but when they find the sick have no money to spend they recommend them to go to the dispensary.

The report of Assistant Surgeon Joseph on the Combaconum dispensary contains nothing of interest. The number of patients and the cost of the institution can be found in the table given at the beginning of this analysis.

Mr. Maitland of Coonoor appends no remarks to his bare statement of the number of patients and expense incurred at the Coonoor dispensary.

Mr. Crawford regards the working of the Cuddalore dispensary as satisfactory. He considers that this result is partially due to having printed notices explaining the nature and object of the institution circulated amongst the people. At present however it is only the poor and destitute who seek the hospital, but a hopeful change "is going on in the minds of the people regarding these institutions."

Assistant Surgeon Peterkin of the Cuddapah dispensary mentions that during the year there has been a much larger admission than under any similar period of time. Two applicants for amputation were subjected to the operation in the course of the year. One was a middle aged "Hindoo woman, who had suffered much of inconvenience for some years from 'elephant leg,' which she found so much to interfere with her activity of movements, that she begged to have it removed; the disease had invaded the leg so high up, that it was deemed advisable to amputate in the lower third of the thigh. The lateral double flap operation was very satisfactorily performed by Assistant Surgeon J. A. Cox, M. D. then attached to the regiment stationed here (37th Grenadiers), and succeeded very well. The poor woman went out quite well and happy, evidently grateful too, for having been relieved of a troublesome burden, thirty-five days after the operation."

There were several other very interesting cases, but a table shewing surgical operations is appended.

Assistant Surgeon Fletcher remarks that the health of the people in the Guntoor district is improving. This he attributes to the fact that dry cultivation is rapidly giving way to the cultivation of rice now rendered possible by the opening of channels for irrigation from the Kistnah anicut.

Several amputations were performed, amongst others recorded is the following :—“ A girl, aged 12 years, was admitted on the 13th December, with mortification of right forearm, consequent on native mal-treatment of a simple fracture of lower end of humerus, which was caused by a fall three weeks before; the hand was black and shrivelled, and a large sloughing wound extended to some distance above the fracture, through which the bone projected, chloroform was administered, and amputation of the arm performed, union by the first intention took place, and patient is now nearly recovered.”

Assistant Surgeon H. Montgomery reports on the dispensary at Honore that the progressive number both of in and out-patients is highly satisfactory. During the year an entry was made of the village where each patient habitually dwelt and it was found that for a circle of 40 miles round scarcely one village of importance failed to supply cases of epidemic fever.

At Kamptee the Surgeon Mr. J. Maillardet reports that the principal diseases treated at the dispensary throughout the year were of the stomach and bowels, fever and epidemic cholera. Only two capital operations were performed, the left mamma of a woman being removed for cancer and the removal of the leg below the knee in a woman who some days after the operation was prematurely confined. Both cases recovered. On one case the Surgeon remarks :—“ Death was the result of a sloughing ulcer in the chest of a male patient, a villager of middle age. On admission he had lost the greater part of one side of the face, which presented a horrible aspect, and phagedæna went on unchecked by nitric acid, the hot wire, charcoal, &c. He finally died from exhaustion, and extension of the sloughing backwards to the gullet and air passages. The cause of affection was stated to have been the application of some corrosive substance to a common boil in the cheek by some native practitioner, so that this patient may be added to the number of victims who perish annually through the gross ignorance and incapacity of this class of men; with regard to whose dealings both in the administration of medicines, and I fear of poisons, a greater amount of surveillance than now exists ought certainly to be exercised.”

It is recommended that Lock Hospitals should be established at all large stations of the army “ as numbers of cases of syphilis, gonorrhœa, and other diseases of venereal origin in females” fell under treatment during the year.



Mr. Rogers has much gratification in reporting the prosperity of the Kurnool dispensary. Admissions for ophthalmia were very frequent during the year and another Dresser was urgently required. To the report is appended a table of surgical cases.

Surgeon Shaw, F. R. C. S., reports that the expenses of the Lying-in-Hospital during the year were Rs. 604-8. Of in-patients 574 were treated and of out-patients there were 5049.

Mr. Colebrook accounts for the decrease of the in-patients at the Madura dispensary by the very great extent of cultivation throughout the district in the year under review. There were nine cases of the Madura foot admitted all of which required amputation. In every instance those who suffered from "the foot" lived on black cotton soil. Under the head of morsus anguinum the case of a girl aged 18 is reported. When she was admitted "the whole of the left foot was found to have sloughed away, leaving the tibia and fibula exposed to about the middle, and she had trismus which supervened the day prior to admission. This horrible condition was caused by the native doctor having applied some violent remedies to her foot for a snake bite recently received, she died the following day, a victim, amongst the many it is to be feared, to native quackery."

A list of surgical operations is appended.

Assistant Surgeon W. Furnell makes no remarks on the working of the dispensary at Malliaporam.

Mr. John Brett reports that the applications for medical aid at the Mangalore dispensary shew an increase over those of the preceding year. Amongst the cases brought for treatment were eight cases of poisonings. The poison taken was camphor dissolved in cocoanut oil. None of these cases proved fatal, they were cured by brisk sulphate of zinc emetics, cold water douche applied to the head and afterwards a purgative.

At Masulipatam, the principal diseases treated in the dispensary were fevers, diseases of the lungs, and bowels, skin diseases, diseases of the ear and rheumatic affections. Of the latter a great many were complicated with secondary syphilitic affections.

The Assistant Surgeons at Mercara and Nellore report the satisfactory working of the dispensaries under their care.

Dr. Lloyd reports that at the Ootacamund dispensary the principal diseases were dysentery, diarrhoea, catarrhus, rheumatism and common fever. The people at Ootacamund especially at monsoon time "suffer intensely from the cold and wet, and numbers of them are brought into hospital half dead from starvation and deficiency of clothing and food, which, as may be expected, lays the foundation of serious and tedious abdominal as well as pectoral complaints."

On the dispensaries at Palamcottah and Rajahmundry no very interesting remarks are made by the medical officers in charge. There is a marked prejudice against the latter dispensary by the higher classes in the district.

At Raneepett, Apothecary King reports that the applications for admission have increased. A list of surgical cases is annexed.

Surgeon H. R. D. Marrett reports on the dispensary at Salem and appends a list of surgical operations.

At Secunderabad, Mr. Cornish reports that during the cold season admissions from rheumatism were very common. Fish liver oil was found to be a valuable remedy in this class of diseases. A large number of cases of venereal affection were treated with marked success as also were abscesses and ulcers. "The dispensary continues to be regarded by the natives as a popular institution."

Mr. West, the Assistant Surgeon at Tellicherry appends no remarks to his report.

Mr. Clementson reports the following case as being treated at the Tinnevely dispensary:—"A boy aged 14 upon admission had the phalanges and metacarpal bones, the greater portion of the radius and ulna and a considerable portion of the lower end of the humerus of the left side, exposed from sloughing of the soft parts. The patient a poor emaciated little boy in very feeble health, had, it appeared some ten days before admission, sustained a fracture of the left humerus, the fracture having been tightly bound up by a native doctor, led to the lamentable result above detailed. The soft parts which remained, were in a sloughy state, but retaining their vitality; after having been for some time, upon generous diet with wine and gained flesh and strength, the arm was amputated by Assistant Surgeon McDonald, the patient being under the influence of chloroform, very little blood was lost and he made a rapid recovery."

A list of surgical operations is given in this report.

The dispensary at Trichinopoly is reported by Mr. W. G. Davidson as being a great blessing to the neighbourhood, especially in surgical cases. The report contains a list of the surgical operations performed.

Mr. Cleghorn thinks that the benefits of the Triplicane dispensary are more and more appreciated by the natives. There were many sanitary improvements in the year reported on but others were gently required. The surgical operations at the dispensary are given in the report. It is noteworthy that for some time several natives attended the dispensary at their own request to acquire some knowledge of surgery.

Dr. Morrogh reports favourably on the Vellore dispensary and enumerates the surgical operations,

Mr. Blackwell remarks on the dispensary at Vizagapatam :—  
 “There can be no doubt of the high estimation in which this institution is held by the inhabitants of the town and surrounding district, many come from great distances for medicine and advice, and I am often surprised to see mere children applying for medical aid, and returning again and again to take medicine, a fact I should have hardly expected, and certainly should not in an English dispensary. I never remark the slightest objection to follow any treatment suggested and am often struck with observing a determination to persevere with remedies for diseases which are plainly incurable, many considering European treatment infallible.”

The following tables shew the diseases most prevalent amongst Europeans and natives as treated at the dispensaries of the Madras Presidency in 1856 :—

*Return of European sick at the Civil Institutions.*

Europeans.	Diseases.													Total.	Average Daily number of sick for the year.			
	Fever.	Eruptive fevers.	Diseases of the lungs.	Diseases of the liver.	Diseases of the stomach and bowels.	Diseases of the brain.	Epidemic cholera.	Dropsies.	Rheumatic affections.	Veneral affections and diseases of the genital organs.	Abscesses and ulcers.	Wounds and injuries.	Punished.			Diseases of the eye.	Diseases of the skin.	Other diseases.
Remained 31st December, 1855, ...	3	0	2	0	1	3	0	0	0	3	5	1	0	1	17	5	41	77
Admitted since, ...	323	21	73	3	188	33	6	4	44	115	117	85	1	195	133	216	1557	
Discharged, ...	322	20	68	3	170	34	3	3	43	111	115	80	1	185	128	204	1490	
Died, ...	4	1	3	0	14	1	3	1	0	2	3	2	0	0	3	11	48	
Remaining 31st December, 1856, ...	0	0	4	0	5	1	0	0	1	5	4	4	0	11	19	6	60	

Fort St. George, Medical Board Office, }  
6th June, 1857.

(By order,) A. LORIMER, M. D.,  
Secretary, Medical Board.

*Return of Native Sick.*

Natives.	Diseases.														Total.	Average daily number of sick for the year.		
	Fever.	Eruptive Fevers.	Diseases of the lungs.	Diseases of the liver.	Diseases of the stomach and bowels.	Diseases of the brain.	Epidemic cholera.	Dropsies.	Rheumatic affections.	Veneral affections and diseases of the genital organs.	Abscesses and ulcers.	Wounds and injuries.	Punished.	Diseases of the eye.			Diseases of the skin.	Other diseases.
Remained 31st December, 1855, ...	4	2	2	0	4	3	0	2	4	22	13	12	1	1	36	22	127	129
Admitted since, ...	80	30	60	4	193	165	32	41	69	252	161	144	4	4	90	339	1,664	
Discharged, ...	74	29	36	2	142	152	8	20	71	252	139	132	5	5	65	243	1,370	
Died, ...	9	3	22	2	48	18	24	20	1	4	10	17	0	0	11	104	288	
Remaining 31st December, 1855, ...	1	0	4	0	7	3	0	3	1	18	25	7	0	0	50	14	133	

Fort St. George, Medical Board Office, }  
6th June, 1857.

(By order) A. LORIMER, M. D.,  
Secretary, Medical Board.

The statement contains other tables and an extract from the minutes of consultation.

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## MADRAS MEDICAL COLLEGE.

*Madras Records, No. XLVIII.*

THE report is for the Session of 1856-57. A Committee of medical officers had been appointed to examine the students and to report on their proficiency. The examination was carried on by the Professors, the Committee being present and occasionally putting questions. The examination was considered generally satisfactory excepting that of the senior class in Practical Medicine and Chemistry. The Committee in their report on the state of the College, "consider the course of study prescribed for the native medical pupils and medical apprentices unnecessarily high and unsuitable to their future position and prospects in the service. They observe that the pay which the subordinate grades of the medical service receive, and their prospects in the service, are not such as to satisfy and make contented men who acquire such an education and so large an amount of professional qualifications; that they are neither in position, pay, or general knowledge equal to a higher grade in the service, while in simply professional attainments they are above their position and pay." They therefore recommend that the examination for Assistant Apothecaries and Second Dressers should be conducted on a more limited scale. They also suggest that the Council should be remodelled and should in future consist of three lay or non-professional members with one of the Professors as Secretary and a President invested with authority and influence. With regard to any alteration in the government of the College, Mr. Arbuthnot, the Director of Public Instruction, thinks that the rules for the management of the Calcutta College should be introduced at Madras. "They secure to the President or Principal that authority which is essential to the efficient discharge of the duties which ought, but which on the present system do not, devolve on the President of the Madras Medical College Council, and at the same time they secure to the Professors the right of recording their views on every subject affecting the interests of the institution, or their respective branches of instruction."

Mr. Arbuthnot further annexes a draft of the rules he proposes for the substitution of those now in force.

The expense of the Madras Medical College for 1856-57 was

Rs. 42,442-10-8, of this sum Rs. 12,532,-4-1 was given as salaries to the principal Professors and Rs. 4,437-8 to their Assistants. The following is an abstract statement of the expenses :—

*Abstract Statement of the Expenses.*

	<i>Rs.</i>	<i>As.</i>	<i>P.</i>
Salaries of Professors and Secretary, .. ..	12,532	4	1
"          "          Assistants, .. ..	4,437	8	0
"          "          Servants, .. ..	1,910	1	10
Contingent expenses, .. ..	797	14	4
Annual supplies, &c., .. ..	800	3	5
<i>Salaries of Students.</i>			
Stipendiary students, .. ..	1,133	8	6
Military students, .. ..	20,831	2	6
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Total Co.'s Rs. .. ..	42,442	10	8

The Professor of Anatomy observes that the course included sixty-eight lectures and nineteen examinations. He complains of the shortness of the Session, only seven months and a half exclusive of holidays, and suggests that in future it should continue from 1st August to 8th April.

The Professor of Physiology states that his lectures during the Session were in all sixty-five and the examinations were eighteen in number. The course was very incomplete and the Professor suggests that in future the Session should always last for eight full months and ten days.

The Professor of Chemistry mentions that during the Session there were 108 lectures and 16 examinations given to the class of inorganic Chemistry and 61 lectures and 7 examinations to the class of organic Chemistry. This Professor does not complain of the shortness of the Session but regrets the "lamentable want of accommodation for laboratory students."

The Professor of Botany delivered 71 lectures, held 12 examinations and took with his pupils two excursions during the Session. He reports the intelligence of the botanical class as good and their industry as satisfactory.

The Professor of Materia Medica delivered 91 lectures and held 9 examinations.

The Professor of Midwifery gave 76 lectures on Midwifery and diseases of women and children and 24 lectures on diseases of the eye.

The course of the Professor of Surgery consisted of 57 lectures and 29 examinations. The students are reported to have made fair progress and conducted themselves satisfactory.

The Professor of Clinical Surgery delivered only 27 lectures in consequence of the shortness of the Session.

Every student in the class of Military Surgery is reported by the Professor to have conducted himself in a most satisfactory manner. The course comprised 42 lectures and 11 examinations.

The Professor of Medicine delivered eighty-three lectures and the Professor of Clinical Medicine gave 25 lectures.

The Professor remarks:—"The conduct of the lads in hospital, with one or two exceptions, has been highly praiseworthy, and it is impossible not to feel an interest in students whose general demeanour has been marked by so much propriety, and who to intelligence have added regularity and zeal in the performance of their duties, with kindness towards the sick. The spirit of the students was strikingly shewn in the instance of a recent sudden and alarming outbreak of cholera in the wing of H. M. 43rd Regiment L. I. on its arrival at Madras, and when the hospital of that corps was crowded with the sick. Nothing could exceed the zeal and devotion of the students when their services were temporarily called for upon that occasion; a fact which, I conceive, reflects credit not only upon themselves, but upon the College where they were trained."

The course of Medical Jurisprudence consisted of 23 lectures and 9 examinations by Dr. Blacklock, and 16 lectures and 4 examinations by the Professor. The report here contains the result of the final examination, and list of cases treated and operations performed by the students.

In 1856-57, only one student passed for diploma.

The report here contains a list of donors to the library and the curriculum of study.

With regard to the report of the Committee of Examiners, already analysed, the College Council say, "its unusual tenor has awakened deep regret not unmingled with surprise." The Council object entirely to the proposed alterations which place the management of the College in the hands of an individual and consider the charge brought against the Professor of Chemistry, of not being able to communicate instruction in a satisfactory manner, as perfectly groundless. The Council forward to the Director of Public Instruction, a letter from Professor Mayer in vindication of his powers as a teacher.

On the 5th May, 1857, the whole subject of the examination was discussed in the *Athenæum*, which called forth the following remarks from Mr. Arbuthnot, Director of Public Instruction, addressed to the President and Members of the Medical College Council:—"It is hardly necessary for me to inform you that the unauthorized publication of official documents or of comments on such documents in the public newspapers by officers of Government is strictly forbidden, and that every officer in



the service of Government is bound not only to abstain from communication with the public press regarding papers which have come before him in his official capacity, but to take due precautions that such papers while in his official custody are not tampered with by others. I am constrained to infer that the communication in question must have emanated from the Medical College, and I consider it my duty to request that you will take such steps as may prevent the occurrence of a similar violation of the order of the Honorable Court of Directors on any future occasion."

In answer to these remarks the Members of the Council stated that they were not aware of the authorship of "the communication which appeared in the *Ateneum*."

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### THE EASTERN NARRA.

*Bombay Records, No. XLV.—New Series.*

CAPTAIN Baker, the Superintendent of the Canals in Sind reports that on the east bank of the Sutlej from Rooper to near Bhawalpoor there is a raised central channel with a depression on either side. Such a channel would be caused by the passage of a river over an alluvial plain. The depression extends in this instance in a course parallel to that of the Garra and Indus to Subzulcote, from the vicinity of which it has been traced to the head of the Eastern Narra about eleven miles east of Roree. It receives water from the river by direct overflow and its drainage is the source of the Narra's supply. The supply is however now very precarious, but it is reported by native writers that the supply of water was once constant until the head of the Narra on the banks of the Indus was obstructed by a bund, which Captain Baker has been unable to identify. The slope of the Narra channel is nearly parallel to that of the Indus and about 20 feet lower than its cold weather level. It is therefore practicable to fill the channel of the Narra with a stream of water from the Indus. There would however be reason for apprehension lest the channel of supply should be so much deepened and widened by the action of the torrent that more water might be drained from the Indus than could be spared; or perhaps the main stream of the river would be transferred to its ancient channels. This danger might be obviated by a masonry head, but the nature of the banks of the Indus is unfavourable to the construction of such a work. "The line of the proposed supply channel would pass between some of the detached rocks near Roree, and thence skirt the foot of the sand-hills which have collected against the

rocks as far as the opening through the latter at Alore; through this it would follow the line of the Alore Canal till clear of the hills and would then be carried by a more direct course into the Narra opposite Trigadee. The total length of this line is  $16\frac{1}{2}$  miles."

With regard to the benefit likely to accrue to the British possessions in Sind from the restoration of the Narra, Captain Baker thinks it would be confined to the Hyderabad Collectorate. As the territories of Ali Morad and the Rao of Cutch would be advantaged by the opening of the Narra, Captain Baker anticipated that those Chiefs might contribute to the opening of the river.

With reference to this report, Captain Rathborne, Collector of Hyderabad observes in 1850—"It is quite clear that Captain Baker himself was misled, or, at any rate, that the bund, he wrote regarding was a perfectly different one from that contemplated by myself, and the advisability of cutting through which I had reported so early as November, 1843: this latter bund he most erroneously supposed to have no existence. On this point, however, I was sure that he was wrong, for one of the very first things impressed upon me, after taking charge of this Collectorate, was the advisability of bringing to a conclusion the negotiations which had for some time been in progress regarding this bund's destruction; and it was impossible to suppose that, that could have been the subject of angry discussion between this and the neighbouring state, which, in point of fact, had no existence. I therefore again sent for the person, whom, from his having seen the bund, I had found able to give me the best information about it, and who had also held an important Revenue office under Meer Sobdar, the Meer to whose share of the division of Sind among the Ameers the chief part of the land on the Narra fell. He was ill at the time and for some months subsequently, but he has since been able to go to Subzulcote and has traced the Narra down to Lower Sind and made a sketch of its course." The sketch is contained in the report. It appears from this, that the Narra branches off from the Indus near the village of Ghosepoor, which is built on the site of an ancient city and lies on the territory of Bhawul Khan.

The bed of the Narra is said there to be in places a hundred and twenty miles\* broad and bears the name of Toorkaree, it is called Narra at a spot much lower down named Jerrur Doree. At the spot where the bund is erected, not far from Jerrur Doree, the river is one coss broad and the bund is made of earth and brushwood rammed well together producing an almost impenetrable wall right across the whole bed of the Narra and of the average thickness of fifty yards. "This bund

\* Sic.

is said to rise far above the banks on each side, and as these are, at that spot, of an earth particularly tenacious and almost as hard as stone, the result is obviated, which, at almost any other part, might be anticipated from such a work, viz. the cutting away by the stream of the banks round each end of the bund, until a new channel was cleared equal in size to that which had been blocked up. This bund was made by Futteh Mahomed Ghoree, a man whose name will be familiar to every one who has read the papers connected with our early negotiations and subsequent taking of Sind. His object was to give an additional supply of water to his Jaghire of Birha, situated on the western bank of it. The bund was erected in Khurreef, 1249, corresponding to the year\* of our Lord 1838, and its pernicious effects were immediately felt in Lower Sind. The water in the lower part of the Narra, which had afforded a supply often great, always considerable, was cut off; no less than three hundred and sixty Colabs, or lakes, fed by it in Lower Sind were dried up; fisheries which had brought, in good years, some thousands of rupees of revenue to the Ameers were destroyed, and lands which had yielded as the Government share some hundreds of Kurwars became waste. But the mischief did not end here: more important matters than revenue were concerned. There was a considerable Belooch and Jhutt and Hindoo population along the Narra, and the important towns of Kippra, Loondra, Mitta Khan, Choteearee, Sirenwaree, Mittrow, Syed Gholam Nubbee-ka-gote, and Oomerkote lie along its banks; and as the natural fertility of the soil along the whole valley is unrivalled, it may be imagined what distress the cutting off this, the main supply of water, must have occasioned. Numbers were in point of fact deprived of their means of subsistence, and many who had gained a sufficient support from the fish and wild fowl on the Narra, and from the grain and vegetables grown along its banks, were reduced to the alternative of leaving the country or taking to those illegal methods to obtain a livelihood which the neighbourhood of every desert holds out alike such great temptations to and such great facilities for. Meer Sobdar, whose lands were chiefly affected, immediately despatched a Vukeel, named Ghoolam Hoosein Juttohee, to Khyrpoor, who was instructed to remonstrate with Meer Roostum and obtain an order from him for the instant destruction of the bund. This he succeeded in getting from the Meer, but Meer Nusseer Khan of Khyrpoor afterwards induced Meer Roostum to suspend the operation of it, and Meer Sobdar's Vukeel himself, having been handsomely treated by the Khyrpoor Durbar, neglected to press the matter very strongly, and so the

bund remained. Meer Sobdar on this decided on turning Ghoolam Hoosain out of his service, and renewed the negotiation through other channels; while, in order to give weight to his remonstrances, he ordered the several Kurriahts running through his dominions to the Jaghires of Meer Roostum in this Collectorate (Koheera, Kotara, &c.) to be bunded up, and all supply of water to them to be thus cut off: the grain growing there he also had impounded, and these active measures appear to have been calculated to produce the required effect. But at this juncture war between the British and the Khyrpoor State broke out; other more important matters had to be attended to; the conquest of Sind was effected; and the bund remained." If the bund were destroyed Captain Rathborne estimates that the revenue of the Hyderabad Collectorate would be increased five lakhs. Moreover "it would remove a standing violation of all natural justice, for what can be more inequitable than that the supply of water which God sends the people should be thus cut off? it would do much towards restoring to prosperity the now almost ruined towns and villages along the Narra's banks; and the lakes refilled would afford a comfortable means of subsistence to thousands, where nothing now but the Peloo and Tamarisk grow. These are advantages which, in the eyes of a civilized Government, will always outweigh those of mere money, however necessary to be looked to, as the world is constituted, these may be."

On the foregoing report, Mr. Pringle, Commissioner in Sind remarks that it is scarcely probable that Captain Baker should have been mistaken. Lieutenant Colonel Scott thinks that "the question cannot be settled without some person be sent to inspect the place." In accordance with this suggestion, Mr. Inverarity, Acting Collector, Upper Sind went to inspect the site of the supposed bund. His report was generally unfavourable to the views of Captain Rathborne and Mr. Frere thus sums up the whole correspondence:—"1st. That Captain Baker, with whose high merits as an Engineer officer your Lordship is well acquainted, considered it probable that the obstruction of the Narra was not any single artificial work. 2nd. That he did not ascertain conclusively, and in a manner to remove all doubt on the subject, whether or not he was correct in this supposition. 3rd. He sketched out a plan for opening, at no great cost, a new mouth, which would give the required supply, under the restrictions necessary, for the security of other important objects. 4th. That Captain Baker's project lay over during the troubled times which succeeded 1844, the year in which it was sent in. 5th. That Captain Rathborne, Collector of Hyderabad,

has since obtained, what he considers strong evidence, to show that the obstruction is an artificial work of recent erection, the removal of which would at once restore the ancient supply. 6th. That Mr. Inverarity has visited the spot indicated by Captain Rathborne, and sees reason to agree rather with Captain Baker, that the artificial obstruction there existing is not the sole, even if it be the principal cause, of the deficiency of supply, and that this view is confirmed by the opinion of Colonel Scott. Finally. That while all are agreed as to the great benefits which would follow the restoration to the Eastern Narra of an abundant supply of water, it is still doubtful whether the obstruction to such a supply is an artificial bund, or a change in the course of the main Indus, and, if the latter, what would be the cost of the measures proposed by Captain Baker for providing a supply."

Mr. Frere himself thought that the benefits promised by a restoration of a full supply of water to the Narra were such as to justify the employment of an officer on this special duty. Accordingly after some correspondence and an intimation from the Bombay Government "that no trivial obstacle should be allowed to interfere with the survey." Lieutenant Fife was deputed. Lieutenant Fife reported:—"The Narra is fed by two floods, one of which comes from near Subzulcote, the other from the low ground between Alleewan and Kashimpoor, a few miles above Roree. The two floods meet above the bunds at Birha, Syed Ali Acbar, and Fukeerabad, and then flow across the country into the Narra, filling the artificial bunds on their way. Now it is perfectly plain that had these bunds really the effect ascribed, the floods being prevented from escaping south by the Arore range of hills, would *return to the Indus above Roree*. But this is not the case, they flow over the country between and beyond the bunds into the Narra. From the Arore hills to the village of Fukeerabad, a distance of eight miles, the country is flooded, the whole of the water flowing steadily to the south-east. Thus, then, the question about these bunds is set at rest."

In December, 1851 Lieutenant Fife was directed to make a survey of the Narra southwards to see if the project recommended by Colonel Baker for refilling the Narra or any modified scheme were practicable.

On the 16th September, 1852 Lieutenant Fife transmitted his final report on the eastern Narra. In this report three projects are transmitted to Government for the supply of the Narra with water:—"The line for the first project leaves the Indus below the town of Roree; thence it runs close past the village of Ubbcejano, and through the opening in

the hills at Arore, and from that place goes direct to the nearest point of the Narra below the village of Kharee. The line for the second project leaves the Indus immediately above Roree, and then skirts the range of hills as far as Arore; from Arore it runs direct to the nearest point of the Narra, corresponding in this respect with the first project. The third project coincides with the second as far as the village of Kumbra, but from that point it takes a more southerly direction, and joins the Narra below Lehra, following in the three last miles of its course the direction of one of the natural feeding channels of the Narra.

“The line for the first project very nearly corresponds with a line of levels taken by Major Baker to demonstrate the feasibility of supplying the Narra from the Indus. It differs from it only in being rather shorter, going inside instead of outside the village of Ubbeejano, and running into the Narra at its nearest bend somewhat below the point where Major Baker entered it, instead of opposite the village of Trigadee.

“The head of this channel passes between two detached rocks below Roree. At 620 yards from its head it is cut through the rock. Embankments of stone connect the detached rocks with the bank of the river. These would be constructed with the material removed in cutting the rock further on. They are necessary to prevent the water entering the head of the supply channel from two or three different points, in which case, there would be a likelihood of their all failing on the subsiding of the river. There is no clay between the rocks; there is nothing but loose sand, which is swept away during the height of the inundation, a fresh accumulation taking place as the river subsides. A great deal of the remainder of the material removed in the rock-cutting would be used in facing the earthen slopes, above and below where the channel passes through the rocks, to preserve them, as the channel makes rather an abrupt turn, and the stream would otherwise act injuriously on the banks.

“The bottom of the channel is carried on a uniform slope from the cold weather level of the Indus, to within five feet of the bottom of the Narra, the fall being at the rate of about one foot per mile. This fall is sufficient to secure a good stream, and five feet would probably be the extent to which the bed of the Narra would rise were an artificial supply regularly thrown into it. If the bed of the Narra were to assume a uniform slope at the rate of about nine inches per mile, or the same slope as the Indus, upwards from Janoojee, the depth were the supply channel enters it would be reduced from twenty to twelve feet. This would make it three feet above the bottom of the supply channel; as, however, the occasional heavy floods to which the Narra is liable would tend to keep down the accumu-

lation of silt, the probable reduction in the depth of the channel has been taken at five feet, or up to the bottom of the supply channel. In this project the supply channel has a width at bottom of 183 feet, the depth of the water being eleven feet; when the Indus is at that height.

“The peculiar recommendation of this project is, that in case of a large supply of water being required during the cold weather, the head of the channel which lays between the rocks forming the banks of the Indus is not liable to be masked by an extensive accumulation of silt and the supply thus rendered uncertain.

“The objections to it, however, are great; the circuitous course greatly increases the expense, both from making the channel longer, and, by reason of the fall being disseminated over a greater base, larger in section than would be required in a more direct route. But there is a greater objection than the increase of cost. From the addition of nearly four miles to the length, there is a serious waste of fall. If a body of water sufficient to be of any practical use were thrown into the Narra during the cold season, there would be but little difference of level between the two rivers; the fall would be insufficient. It would be almost impossible to keep the channel open, or to get anything like an ample supply through it. Another disadvantage in the project is, that the channel would not enter the Narra at an advantageous point, the capacity being less near Kharee than it is lower down. The channel would, moreover, cross the country from Arore to the Narra in a direction oblique to the course of the floods, which, as indicated by the various feeding channels, run in a more southerly direction than the line of the channel. This is a serious objection; a strong stream would be created outside the embankment of the supply channel from Kotree to the Narra, a distance of about four miles. This would result either in the formation of a large channel, or in the embankment being cut away and the flood water forcing its way into the supply channel, which might then be enlarged to a serious extent, and by an agency over which we should have no control. Both the last objections might be alleviated by taking the supply channel into the river below Lehra, but this would increase the already large estimate to about Rs. 6,40,000.

“In the second project the supply channel leaves the Indus immediately above Roree and at a point where the channel of the river is subject to but very little variation. At 1,130 yards from its head it is cut through rock at the end of a spur, and between this point and Arore it passes through three other spurs at distances of about a mile apart. At each of the points where it passes through rock the material removed would be used for

facing the slopes of the channel both above and below the rock-cutting, to prevent the stream, which might be thrown out of its true direction on suddenly meeting the rock, acting injuriously on the earthen slopes. The bottom of the channel, like that in the first project, is carried on a uniform slope from the cold weather level of the Indus to within five feet of the bottom of the Narra; the fall obtained being about one foot four inches per mile. This will ensure a good stream, at the same time that any tendency the supply channel may have to enlarge would be most effectually controlled by the rock-cuttings at regular intervals. The channel is 155 feet wide at bottom, the depth of the water being eleven feet. In respect to the slope of the bed in this project, it is rather less than that of the Ganges Canal at its head. The channel is, however, somewhat larger than the Ganges Canal, and the discharge is about one-sixth greater. The channel in this project is only eleven miles in length. The estimate amounts to Rs. 4,49,875.

“The advantages of this project are, that from the route being direct a great reduction in the cost of affording the supply is effected, and that, while there is no waste of fall, there is perfect security, by means of the rock-cuttings, against any undue enlargement of the supply channel.

“The objections to the project are, that an accumulation of silt might take place in front of the head of the channel, rendering the cold weather supply, should it ever be required, at times uncertain, and that, like the first project, the channel, as it approaches the Narra, crosses the direction of the floods obliquely. The first objection is not so serious as it at first sight appears. It is impossible to prevent the mouth of a channel, filled from the Indus, silting up to a certain extent as the river subsides after the inundation. Under any circumstances, therefore, it would be necessary, in order to ensure a good supply during the cold season, to close for a time and clear out the channel at its head, and, while that clearance was being effected, a passage through the accumulation of silt in front of the head, should any have taken place, might also be cleared. The channel least liable to have its supply cut off by a deposit of silt inside it, is that which provides the most ready escape for the water from the river, and this evidently depends on the slope of the bed, in which respect this project possesses an advantage over the former one.

“The third project differs from the second only in the direction of the channel between Kumbra and the Narra. The channel is of the same dimensions, has exactly the same fall per mile, and has the same security against undue enlargement. But it has the additional recommendation of running parallel



to the direction of the floods instead of obliquely across, and of entering the Narra nearly three miles further south, where the capacity is greater. Whether considered in respect to the present purpose of affording an ample supply during the inundation, or in respect to any future plan for increasing that supply, or of making it perennial, this project possesses great advantages over the two preceding ones. And those advantages are obtained at no great expense; for though, from entering the Narra further south, the length of the line is increased, the cutting below Kotree is lighter than in the other projects, while from following in the three last miles the course of a channel already in existence, a still further saving is effected. The length of the line is thirteen miles. The estimate amounts to Rs. 4,77,805.

“The only works which would be necessary, besides those connected with the supply channel; are some earthen bunds across the dund-feeding channels in the Hyderabad districts, to prevent the water running into them when not required. Some of the largest dunds would not require re-filling oftener than once in three or four years, and even then some of these would not require to be completely filled, for at a high level their shores are steep, consequently during the first season after being filled but little land would, on the sinking of the water, be left exposed for cultivation. It would therefore merely waste the water filling them to a high level. Many of the smaller dunds would require a fresh supply of water every season. These bunds will not entail any great expenditure; their number and position, and the arrangements for filling the dunds, will be decided during the approaching season, and when it has been seen in actual practice what arrangement would give the greatest revenue with the least expenditure of water. The detail accounts of the revenue obtained from the dunds during the past season will contain a great deal of the information required.”

The Superintending Engineer of Sind, Major Turner recommends the Government to adopt the third project as detailed by Lieutenant Fife in which he proves:—“1st. That at an expense of Rs. 4,77,805 a quantity of water may be annually, and with certainty, thrown into the Eastern Narra, as great as that which now reaches it only in the extraordinary inundations which take place at intervals of twenty-five years or longer. 2nd. That there is no reason to fear that the obstruction of this quantity of water will in any way affect the supply of water in the Indus lower down. 3rd. That the plan proposed will, in no way, risk a diversion of the main stream into any new channel. 4th. That there exist, within the Hyderabad Collectorate, rich lands capable of being watered from the Eastern Narra to an extent more than commensurate with any possible supply of water

5th. That there is within reach a sufficient population, able and willing to take advantage of these facilities for cultivation, without permanently withdrawing cultivators from the banks of the Indus. 6th. That a permanent supply of water would probably ensure a permanent population on the Narra, such as evidently, at a remote period, found a living there, but such as has not existed there for several centuries past. 7th. That the return, from simply admitting the water into the old channel, allowing it to flow over the low lands and fill hollows, to be cultivated as they dry up, may, at the lowest, be reckoned at Rs. 52,500 per annum, which is capable of being greatly increased."

The reports and correspondence were in 1852 submitted to the Governor General in Council who sanctioned the proposed outlay of Rs. 50,000 pending a reference to the Honorable Court of Directors. Accordingly the works were begun, and in October, 1853, an additional expenditure was sanctioned.

A report was then made to Government on the best means of economising the water supplied by the Narra. The report was based on a survey undertaken by Lieutenant Fife, and the means proposed required an outlay of Rs. 26,204.

Mr. Frere, when at Roree visited the works there being carried on under Lieutenant Fife and reported:—"The channel is 16 feet deep and nearly 206 feet wide at top, the sides standing at a slope of 1 in  $1\frac{1}{2}$ . There is a berm, or towing path, 15 feet wide, on each side; instead of the excavated soil being piled in irregular and unsightly heaps, as is the mischievous practice on every other canal in Sind, so that the sides continually fall in and a large portion of the best ground is wasted, the excavated earth is distributed in two uniform platforms, or terraces, on either bank, generally about 8 feet above the natural soil. These form efficient barriers against the highest inundation, which occasionally lays the whole country above Roree under water, bursting the banks of the canals which run through low ground and washing vast quantities of silt into them. These terraces will also, in consequence of their security from submersion, and the vicinity of water, form admirable garden ground, for which there is a great demand near Roree; and the revenue from them will form a considerable addition to the returns originally calculated on. The method of carrying on the excavation is also new to the country, and a decided improvement on that heretofore in use in such wide and deep excavations. The usual mode of excavation in Upper Sind is either by 'Cherh' or Statute labour, or by contract. Under the former system every cultivator interested, or supposed to be interested in the work, is obliged to contribute a quota of labourers in proportion to the extent of

his cultivation, and all hands work till the task is finished, receiving, if the Government be liberal, a ration of grain sufficient to feed the workman, but not sufficient to induce him to delay the completion of his task. Contract work is taken by guessing or roughly measuring the task. In either case there are innumerable devices to make the work done seem more than it really is, and to palm off as finished an incomplete task. In both modes of working the excavated soil is sometimes moved in baskets or by a machine called a 'Keen,' a board drawn by oxen, which, like a gigantic hoe trailed over the ground, scrapes up the loose earth before it, and moves it after the oxen, as far as may be required, when it is lifted, so as to leave the earth behind it, and returns for a fresh load. But more commonly the only implement used is the 'poura,' a hoe with a blade as large as a good size shovel and a short handle. The labourer fills the blade by striking it into the soft soil, and then, by a jerk, throws the shovelful upwards and behind him to the distance of several feet. If the soil is to be moved far, one man stands behind the other, and each pitches the earth from his poura so as to fall at the feet of the man in his rear, who, in like manner, passes it on to the next man behind him; in this way a string of fifty men may sometimes be seen moving earth, from the bottom of a deep and wide canal, up the sides and over the high spoil-banks, which rise above the edges of the canal. So expert are the Upper Sind labourers at the use of the poura, that where the distances to which earth is moved are short, the method above described is an economical way of applying their labour; but for distances such as are required in the Narra excavation, such a mode of working becomes very wasteful. The method adopted by Lieutenant Fife is as follows:—The channel is divided into portions or lots of 100 feet in length; at the extremity of each lot a ramp or slope 10 feet wide is left for ascent and descent; the earth between the ramps is then removed in regular layers or 'floors'  $1\frac{1}{2}$  foot thick, till the requisite depth is attained, when the sides of the channel are cut to a slope of 1 in  $1\frac{1}{2}$  and the ramps are removed. By this method sufficient room is allowed between the ramps to measure out the work, while the ramps occurring at convenient intervals, and being kept at an easy slope, the soil is got out of the excavation with great facility. The men are divided into gangs of ten each, and the work is marked out in daily tasks for each gang, and then, if necessary, subdivided into individual tasks. The quantity in each task, of course, varies according to the depth of the excavation and the distance to which the earth has to be carried. The men work when and how they

please; no restriction being placed on them, provided the task be done by a fixed hour in the evening. The work accomplished is then so measured, by means of ropes and gauges, that any fraud in the excavation is all but impossible, and a tin ticket, marked to denote the overseer or measuring Moonshee who issues it, is given to every man who has completed his task. If the task be incomplete no ticket is given, nor can another day's work be assigned to the defaulter till his unfinished task is completed. The tickets are cashed for wages on presentation to the Shroffs, and in this way the troublesome muster rolls of many hundreds of workmen who are constantly changing are dispensed with. The most remarkable feature in the system is, however, the introduction of wheeled carriage for the removal of the excavated soil. The small two-bullock cart made entirely of wood, peculiar to Upper Sind, is used to remove the layers near the surface, and from its lightness, lowness, and extreme simplicity of make, is found to answer better than our larger, more expensive, and more cumbrous carts. As the excavation deepens the carts cease to work to advantage, and wheel barrows are employed. They are made and repaired on the spot by Native workmen, principally Marwarrees, and cost about Rs. 4½ each. At first it was difficult to persuade the men to use them, but when they had once learnt their utility, they positively refused to work without them, even after the daily task assigned to a barrow man had been increased by one-sixth above that of a man working in any other way. Though their tasks vary from 65 to 85 cubic feet per man, and the average is 75 cubic feet, still a man can earn 2½ annas per diem, good wages where the finest wheat flour is considered dear at a rupee per 80 lbs. Many get meat, of which all Sindees are very fond, and a cast cart bullock is generally converted into beef, and devoured by the workmen. It is difficult to get the labourers to remain long steadily at work canal-digging, which lasts from December to April. Ploughing, seed time, and harvest of both the autumn and winter crops, carry off hundreds at a time, who return when the work which took them away is over; and even without such inducement, when a man has earned a few rupees, he goes away and idles till it is spent. Singularly enough, the greatest numbers attend, and most work is done in the hottest weather. There is then but little fieldwork going on, and farmwork is scarce. But the fiery hot wind, coming over the white limestone range of the Alore hills, renders it almost death to an European to be long exposed to the sun. Even the Sindees cannot stand it; so they sleep all day, and work in the excavation at night and during the long twilight; and, by the excel-

lent arrangement of his task-work, Lieutenant Fife is able to superintend them, and get even more work than at the best working season."

In 1854, the consent of the Court of Directors was obtained for the work at an estimate of Rs. 4,77,805. This estimate has since been modified by Lieutenant Fife, so that the cost will be Rs. 1,399 less than that calculated. The Superintending Engineer of Sind has expressed his entire approval of the modification. The report contains maps and plans.

### BRITISH RULE IN HOOSHEEARPORE.

*Selections from the Correspondence of the Punjab Administration, Vol. III., No. IV.*

THIS record is by Mr. S. A. Abbott, Deputy Commissioner, and embraces the History of Hooshearpore, from its annexation in 1846-47 to the close of 1853-54.

The Jullunder Doab was declared British consequent on the Seikh invasion, the war resulting therefrom, and the treaty of the 9th March, 1846. It was the richest portion of the Seikh territory, and known by the name of Bisht Jullunder. Bisht being derived from the first letters of the Beas and Sutlej, and Jullunder, supposed to be the name of a demon, who falling from heaven covered the Doab. In reality the word Jullunder is probably derived from jal, water.

Hooshearpore forms the base of the triangle resting on the hills from Hajeeopore to Roopur, the remaining portion of the triangle, formed by the Beas and the Sutlej, being occupied by the Jullundur district.

The town of Hooshearpore which contains 10,369 inhabitants, Mussulmans and Hindoos being about equally represented, is only remarkable for its cloths. Its trade is not very great and consists in grain, sugar, tobacco, and cloths. The people are litigious, dirty and untruthful. The report here contains a table of meteorological observations and a price current.

The products of the district are wheat, barley, sugar, tobacco and Indian corn. The imports are valued at Rs. 1,97,775 and the exports at Rs. 1,20,000. The trade might be much increased were a route opened to Kurrachee. Cotton and woollen cloths, ironmongery, manufactured articles of tin and brass, glass and crockeryware would find a ready sale and be transmitted to the hills of Kangra and Jummo where they could be exchanged for borax and bees wax.

The settlement operations were commenced in the Doab by Mr. Christian, and continued by Messrs. Scott, Barnes, Temple and Melvill. The result was an immediate decrease in the collections of 5.24 per cent. Since the annexation, the demand has increased from Rs. 7,37,291 in 1846-47 to Rs. 12,17,152 in 1853-54. The revenue has been realised without difficulty and annoyance to the people, without a balance worthy of notice, or a sale of an estate, or duress of a Zemindar during the whole seven and a half years under review. The cost of the fiscal administration has been what the Zemindars pay their village accountants. The report contains the rent roll for 1854-55, statement of collections and cost of establishments for seven years.

The treasury business is represented as not very heavy, but the establishment perform the duties of the Judge's, Magistrate's, and Collector's offices, and are heavily taxed by the numerous returns required from the Deputy Commissioner. A memorandum of treasury business is appended to the report.

The table of the general statistical returns of the district of Hooshearpore represents the population to number 7,50,566 persons, of whom only 1,11,958 are females. The district of Saharunpore is the only one of the North-west provinces that exhibits this paucity of females. The number of persons to each square mile is 333. The number of mouzahs is 2,202, and the area of the district is 2,203 square miles. Education is represented as being at a very low standard. In 1851, besides the Government school which educated forty-five boys there were "sixty-four Persian schools of 563 boys, and eighteen Hindee schools of 470 boys; making a total of eighty-three schools and 1,078 boys. Many of the above could hardly be designated schools."

Recently ten new schools have been established by the Zemindars and according to the last returns these educated 455 scholars. It was computed that each scholar cost about six annas a month.

With regard to the judicial administration, Mr. Abbott remarks:—"In no country in the world is justice more easily obtained at a cheaper rate, or with less tedious delay, and especially in the Punjab. Yet there is still room for improvement. Law and technicalities are studiously avoided; common sense and equity, at a moderate cost of cash and time, are aimed at."

As has been before remarked the population are excessively litigious as will be seen from the annexed memorandum:—

Year.	Cases instituted.	Cases disposed of.	Value.		
			0	0	0
1846,	0	0	0	0	0
1847,	1,515	1,394	1,64,212	5	6.
1848,	1,376	1,368	1,55,593	5	2
1849,	1,397	1,540	1,37,148	0	4
1850,	2,211	2,285	2,19,136	3	6.
1851,	1,786	1,841	1,80,965	10	9.
1852,	2,705	2,640	1,67,335	10	3.
1853,	3,421	3,588	2,09,787	2	3.
<b>Total,</b>	<b>14,411</b>	<b>14,656</b>	<b>12,34,178</b>	<b>5</b>	<b>9</b>

The cost of litigation is not very great, in 1852 the average cost per case was Rupees 6-3-2 and in 1853 it was Rupees 4-2-7. In 1849 the average duration of cases was two months and twenty-four days, in 1853 it was twenty-eight days. "The popularity, expedition, and cheapness of Civil Justice are attributable in a great measure to the investment of the Tehsildars with powers to decide cases, which they had, during the year 1853, for the first time, up to Rupees fifty; and it is beyond doubt that their decisions give greater satisfaction than those of the European officers. Fewer appeals lie from them, and a larger proportion are upheld in appeal." There has been a vast increase of appeals instituted in the Deputy Commissioner's Court, in the years 1848-49 the appeals were only two, whereas in 1853 they amounted to six per cent. In 1852 the cost of issuing processes was made equal, formerly it was regulated by the distance. A uniform rate of 12 annas for the Sudder Courts and six annas for the Tehsil Courts was adopted. A fruitful source of litigation is early betrothal, breaches of promise are very frequent.

The report contains a tabular statement of the cases instituted and pending in 1852-53.

On the Criminal Justice of Hoosheerpoor, Mr. Abbott reports:—"Considering the means at disposal, the result of the Police Administration would appear to have been tolerably good. There are few very heinous crimes, considering the vast population and the absence of moral education."

On an average there are seven cases of murder a year, since the British rule there have been only three dacoities, cattle lifting is not very extensive, in 1849 there were 114 cases, in 1850, 109 cases, and in 1852, '53, '54 there were only 50, 56 and 50 cases respectively. Burglary has been rather more common, the proportion of acquitted to summoned was in 1853, thirty-four per cent. In theft the proportion was 32 per cent. and in cattle stealing 45 per cent.

Abduction is very common and the seducer and seduced are according to the rules in the Punjab criminally punishable by fine and imprisonment. The amount of property stolen in the seven years reported on was Rs. 1,80,239 and that recovered Rs. 56,004 or 31 per cent. Child-stealing is not uncommon and female infanticide is prevalent. On the whole the proportion of "murders to population was one to every 1,02,218 persons; of burglaries, one to every 893; of miscellaneous offences, one to every 636, and casualties by accident, suicide, &c. one to every 3,745 persons." The report gives the salaries of the Police and Judicial establishments and a statement of the chowkeedaree tax.

"The Jail is a fine open Court, 512 feet by 312, enclosed by a mud wall, twelve feet high, within which are the different wards: twelve of which are calculated to contain thirty-two prisoners each at 360 cubic feet of space. Solitary cells give 960 cubic feet; the hospital 600, and female wards 400 cubic feet." Sickness has been very prevalent in the gaol and the number of deaths to the daily average number of prisoners was on an average of seven years 7.9 per cent. The cost of the convicts is at an average Rs. 38-6-11 per man per annum of which the diet is Re. 1-3 a month. The cost does not include military guards. The system of working prisoners on the roads has been abandoned and industrial labour inside the gaols substituted. The direct profits in the work of the convicts has been inconsiderable, but the saving of guards is great. There is a plan both of Jail, and Treasury Cutcherry in the report, and also plans of thannahs and seraies erected in the Hooshearpore district.

In the town of Hooshearpore a church has been erected, Saint Mark's, at a cost of Rupees 7219-1-2 of which Rs. 5238-2, was realised by subscription. In 1854 a dispensary was erected and the plan and estimate for a school had been sanctioned.

Since the annexation of the district Rupees 73,302-12-6 have been laid out on public buildings.

On the subject of roads Mr. Abbott remarks:—"The Government in India is frequently reproached by those not cognizant of the subject for taking from the agriculturists a tax of one per cent. on their revenue to form a fund for the construction of roads, and secondly, for allowing it to accumulate, and not spending it to the advantage of the people who furnish the funds. Nothing more forcibly refutes such reproaches, perhaps than the comparison of the past and present condition of a territory recently reclaimed from native rule. During the Seikh rule the Government never interested itself in the welfare or comfort of the people. No public spirit existed amongst the people to supply the deficiency. The consequence was, that



roads were unknown, trifling nullahs obstructed the tracks made by hackeries, winding a corkscrew like way round the edges of cultivation: the Ferries of their rivers were frequently unapproachable." All this has been altered. The roads that have been opened and repaired since the British rule have amounted to 498 miles and the total cost of their construction has been Rupees 1,47,844-9-9.

The dispensary has been tolerably successful, in 1853 the average daily attendance of out-door patients was 37 and the daily number of in-door patients treated 10. The cost in 1853 was Rupees 838-11-6, of which Government paid Rupees 684.

The recent results of vaccine operation are reported to be successful. From 24th November, 1853, to 31st March, 1854, there were 6,593 vaccinated.

The report concludes with a description of the fort of Brijwara and a list of plans, and sketches.

### MADRAS COURT OF SMALL CAUSES.

THE report is for the year 1857 and was submitted to the Government by the 1st Judge in February, 1858. No remarks are appended to the returns.

The Court sat two hundred and seventy-nine days, during which time 17,674 cases were instituted. Of these 3,251 cases were instituted by Europeans and 14,423 cases by natives. The amount litigated in the suits instituted was Rs. 2,73,235-15-8 and the fees received out of which portions were returned to suitors who compromised their cases before hearing amounted to Rs. 42,701-0-3. The net amount of fees carried to credit of the Government was Rs. 36,894-10-6; and the amount repaid to suitors was Rs. 7,722-7.

The following is a comparative table of the cases heard and decided in 1856 and in 1857: —

	1856.	1857.
Judgment for Plaintiffs, ... ..	10,582	7,855
„ for Defendants, .. ..	912	771
Nonsuited and struck off, .. ..	1,281	865
Compromised, ... ..	9,164	6,996
Undecided, ... ..	46	59
	21,985	16,546
Total, ... ..	21,985	16,546

The total expense of the establishment including the salaries of the three Judges was per mensem Rs. 6,274-8 or for the year Rs. 75,294, a sum nearly double the amount of the receipts.

The unrecovered costs during the year amounted to Rs. 191-2.

*Statement shewing the number of Suits instituted in the Madras Court of Small Causes and the amount of Fees realized thereon during the years 1851, 1852, 1853, 1854, 1855, 1856, 1857, together with the progressive increase and decrease in each year.*

Year.	Number of causes instituted.	Increase of causes in each year.	Decrease of causes in each year.	Fees realized.		Increase of Fees in each year.		Decrease of Fees in each year.	
				Rs.	A.P.	Rs.	A.P.	Rs.	A.P.
1851,	23,668	...	...	37,417	7 0	...	...	...	...
1852,	24,392	724	...	43,349	2 3	5,931	11 3	...	...
1853,	25,192	800	...	46,479	10 0	3,130	7 9	...	...
1854,	26,483	1,291	...	49,281	10 0	2,802	0 0	...	...
1855,	26,199	...	284	51,754	12 0	2,473	2 0	...	...
1856,	22,869	...	3,380	43,682	14 6	...	...	8,071	13 6
1857,	17,674	...	5,195	36,909	10 6	...	...	6,773	4 0

Madras Court of Small Causes, }  
The 30th day of January, 1858. }

G. E. COWER,  
Clerk.

THE SUPREME COURT OF MADRAS.  
(SMALL CAUSE SIDE.)

THE report for 1857 was submitted to Government by the Prothonotary in January, 1858. The causes instituted were 322 in number, of these in 132 cases judgment was given for the plaintiffs, in 23 cases there was judgment for the defendants, 25 plaintiffs were nonsuited, 126 cases were compromised, 11 were struck out and 5 were undecided at the end of the year. Of the five undecided, two had been pending since May. The pauper cases instituted were ten, in four of these cases judgment was given for the plaintiffs.

The receipts during the year amounted to Rs. 10,215-13, and the expenses to Rs. 11,258-5-5, exclusive of Rs. 1,000 paid into the Government treasury.

THE MUTINIES.

*Parliamentary Papers.*

Two large Blue Books on the Mutinies, Appendices A and B to Report No. 5, contain only enclosures detailing facts previously condensed from the narratives. They consist chiefly of official reports, telegrams and orders on affairs in Patna, Julpigoree and Calcutta.

THE SALT DEPARTMENT .

*For 1856-57.*

ON 9th January, 1858, Mr. E. T. Trevor, Secretary to the Board of Revenue, reports on the operations of the year. The quantity of salt in store on 1st October, 1856 was:—

IN STORE ON	1st October, 1855.			1st October, 1856.		
	<i>Mds.</i>	<i>S.</i>	<i>C.</i>	<i>Mds.</i>	<i>S.</i>	<i>C.</i>
In the Wholesale Government Depots of Bengal and Kyook Phyoo, } In the Government Retail Golahs } of Bengal, ... .. }	16,68,906	32	11	26,51,175	1	4
Imported private Salt in bond in Golahs at Sulkea, ... .. }	3,42,574	35	4	93,276	0	0
Excise Salt (estimated,) ... .. }	10,574	2	11	1,263	14	8
	20,69,864	0	3	27,93,151	28	5

The quantity of Government salt brought into store, and of private salt was:—

	1855-56.			1856-57-		
	<i>Mds.</i>	<i>S.</i>	<i>C.</i>	<i>Mds.</i>	<i>S.</i>	<i>C.</i>
In the Wholesale Depots of Bengal and Kyook Phyoo, ...	36,26,099	32	0	35,03,323	28	0
Private Salt imported by Sea, ...	34,89,771	0	0	37,99,917	0	0
Ditto made under Excise License estimated, ...	38,847	15	8	26,021	5	12
	71,54,718	7	8	78,29,261	33	12

The sales were:—

SOLD.	1855-56.			1856-57.		
	<i>Mds.</i>	<i>S.</i>	<i>C.</i>	<i>Mds.</i>	<i>S.</i>	<i>C.</i>
By Wholesale under Rowannahs, ...	24,93,428	0	0	31,46,694	5	0
By Retail at reduced prices, ...	3,05,887	24	4½	3,07,305	98	6½
Imported Salt paying duty, ...	38,34,730	33	9½	34,54,320	24	15
Excise Salt ditto, ...	53,033	0	0	31,763	0	0
	66,87,079	17	13½	69,40,033	28	5½

The following are the outturns of the agencies:—

	TAIDAD.	OUT-TURN.	EXCESS.	DEFICIENCY.
	<i>Mds.</i>	<i>Mds.</i>	<i>Mds.</i>	<i>Mds.</i>
Hidgellee, ...	11 lacs	10,75,951	.....	24,049
Tumlook, ...	9 ditto	7,41,501½	.....	1,58,493½
Chittagong, ...	8 ditto	4,39,369	.....	3,60,631
24-Pergunnahs, ...	5½ ditto	2,55,503	.....	3,19,497
Balsore, ...	7 ditto	6,35,058	.....	64,942
Cuttack, ...	4½ ditto	2,98,655	.....	1,51,345
Pooree, ...	7 ditto	12,63,518	5,63,518	.....
	52½ lacs	47,09,555½	5,63,518	10,78,962½
			Net Deficiency, ...	5,15,444½

“The only manufacture under the new Excise rules was on Saugor Island, where 102 khalaries were worked, and 29,763 maunds of Salt made by Mr. Fraser. The Salt sold during the

past year, for consumption within the limits of the chowkeys under the Controller, shows a net increase of maunds 21,241 over that sold in the preceding year." In Chittagong only has there been a falling off and this is to be attributed to the new mode of calculating the sales. -In Balasore the sale has increased 12,694 maunds, while in Cuttack it has decreased 35,452 and in Pooree 26,566. This is not satisfactorily accounted for, but the increased price of grain may have something to do with the matter. Salt to the extent of 5,559 maunds has been confiscated during the year, the largest seizure being in Midnapore. The cases undebited have been 1,157 against 1,357 in the preceding year, a fact which taken in connection with the increase of sales, indicate a decrease of the illicit consumption.

The following table shews the prospect of supply for the year:—

	Maunds.
Salt in store on 1st October, 1857, .. ..	32,56,000
Expected out-turn of Bengal Agencies, ... ..	22,00,000
„ imports from Orissa, .. ..	12,00,000
Imported by Sea during 1st Quarter, ... ..	15,00,000
Expected imports, ... ..	14,73,000
Total, ... ..	96,29,000

The usual demand is about sixty-six lakhs of maunds.

The Appendices contain certain statistics which may be thus condensed:—

	Mds.	Rs.
Sales in 1855-56, .. ..	24,93,428	77,37,285
„ in 1856-57, .. ..	31,46,694	96,88,018
„ of imported salt in 1856-57, ..	34,54,320	
Duty on import salt in 1856-57, .. ..	.. ..	81,76,199
Sale of private salt in 1855-56, .. ..	53,033	
„ of private salt in 1856-57, .. ..	31,763	
„ of N. W. salt, 1856-57, .. ..	6,00,964	

Salt is imported chiefly by Sea, from different Countries in 1856-57 it was:—

NAMES OF PLACES.	1856-57.
1st October to 30th September.	Maunds.
Great Britain, .. ..	25,89,823
France, .. ..	82,804
Spain, .. ..	.....
Portugal, .. ..	.....
Sardinia, .. ..	16,851
Carried forward, ... ..	26,89,478

					<i>Maunds.</i>
Brought forward,	...	...	...	...	26,89,478
Cape de Verd Islands,	..	..	...	...	.....
„ of Good Hope,	..	..	...	...	.....
Mauritius,	..	...	...	..	.....
Red Sea and Arabian Sea,	...	...	...	...	4,20,780
Bombay, ...	..	...	..	...	4,21,637
Ceylon, ..	...	...	..	...	16,333
Madras, ..	...	..	...	..	2,46,567
Arracan, ..	...	..	..	...	.....
Tenasserim,	...	...	...	...	.....
South America,	...	..	...	..	5,172
Total Maunds, ... ..					37,99,917

SHIPPING IN RANGOON AND DALHOUSIE.

*In 1856-57.*

THE total value of imports from ports not in Bengal into Rangoon for the year was 22,35,257. The total value of exports to ports not in Bengal was Rs. 18,79,488. The total amount of duty levied on these imports was Rs. 1,22,276, and on exports 52,604. The value of merchandize free imported besides was Rs. 5,17,205, and total value of free exported merchandize Rs. 2,93,924. The total number of square rigged vessels which arrived was 160 with a tonnage of 66,085½ tons, while 158 departed with a tonnage of 64,017½ tons. Besides 16 native vessels arrived and 21 departed.

The total value of imports into Dalhousie from foreign ports not in the Bengal Presidency was 18,237 and of free imported merchandize 1,49,084. The exports subject to duty were Rs. 3,27,805, and of free exported merchandize to foreign and Indian ports 63,263. 39 square rigged vessels arrived with a tonnage of 12,498, and 38 square rigged vessels left with a tonnage of 11,923 tons. 15 native crafts arrived and 37 left.

COMMERCE AND SHIPPING OF SINGAPORE.

FOR 1855-56.

*Prince of Wales Island.*

Value of imports from foreign ports,	Rs.	86,74,480
„ treasure, „ „ „ „	..	17,56,694

Re-exported imports, .. .. .	Rs.	83,56,817
„ treasure, .. .. .	..	27,26,266
Exports by sea, .. .. .	..	1,80,69,499
Imports from Calcutta, .. .. .	..	11,57,376
Re-exported imports from Calcutta, .. .. .	..	7,09,614
Total number of square rigged ships arrived,	432	
„ „ „ „ departed,	399	
Tonnage of square rigged ships arrived, ..	98,875	
„ „ „ „ departed,	1,33,521	
Native tonnage arrived, .. .. .	34,646	
„ departed, .. .. .	43,630	

	<i>Singapore.</i>	Rs.
Imports from all ports, .. .. .	.. .. .	4,05,37,114
„ treasure, .. .. .	.. .. .	1,08,82,109
Exports, .. .. .	.. .. .	3,12,27,961
Treasure, .. .. .	.. .. .	1,29,93,555

	<i>Malacca.</i>	Rs.
Imports, ... .. .	... .. .	24,45,433
Treasure, .. .. .	.. .. .	11,91,845
Exports, ... .. .	... .. .	19,45,225
Treasure, .. .. .	... .. .	7,58,832
Tonnage of square rigged arrivals, ..	37,744	
„ „ „ „ departures, ..	37,138	
Native arrivals, ... .. .	24,574	
„ departures, ... .. .	52,803	

## IRRIGATION IN THE MADRAS PROVINCES.

IN 1853, Lieutenant Colonel Baird Smith having obtained the permission of the Court of Directors, visited all the great works of irrigation either constructed or in the course of construction in the Madras Presidency. The information thus collected was afterwards published by order of Lord Dalhousie, and is in effect a complete account of the works constructed on the Cauvery, Kistnah and Godavery for the irrigation of the tracts of land adjacent to these rivers.

The works in the Delta of the Cauvery were those first visited by Lieutenant Colonel Smith, who considers the gradual development of the system of irrigation in that Delta to be of so interesting a character as to merit account. He traces the first marked development of the native system to one Rajah Veeranam. This monarch invaded Tanjore from the Teligoo country,

at once appreciated the system of irrigation even then practised by the subject race and cut the great irrigation channels in Tanjore. The following is the general outline of the system pursued by the natives of that and subsequent ages:—“Channels of supply, proportioned in dimensions to the area of the tract dependent upon them for irrigation, were cut from the river bank, and supplied sometimes with head-slucices of masonry, but very often wanting in these necessary works. The levels of the heads were so arranged as to command a full supply in moderate floods, and the water was led to the fields by infinite numbers of smaller channels of distribution. When the level of the river surface was too low for the supply of the channels, the construction of a permanent masonry, or a temporary earthen dam, was had recourse to, and the water was thus raised to the requisite height. Of the masonry dams, several still remain; and one, bearing the name of the ‘Grand Annicut,’ (the latter being the local term for this class of works), continues to this day to play an important part in the irrigation of the Delta. Not only was the main stream thus laid under contribution, but those minor channels diverging from it as it approached the sea were also taken possession of, and hand-in-hand, so to speak, with this process of utilising the waters in moderate floods, there advanced a system of embankment whereby the waters in extreme floods were held under general control. Thus, in progress of time, there grew up over the whole surface of the Delta an extremely artificial condition of things, the cardinal points of which were, 1st, the supplying of agriculture with its first necessity, abundance of water; and, 2ndly, the protection of the property thus created on the soil from the destructive effects of an excess of water.”

But in all native schemes there was one great object entirely lost sight of. No heed was paid to the means of inter-communication. Thus while the soil was fertilized by irrigation, its produce could either not at all or with great difficulty find its way to market. “As subsidiary to the general plan of river irrigation, tanks were largely employed, and were formed on such a scale as fairly to be denominated gigantic. The embankment of the Poonary Tank, in the Trichinopoly district, for example, was 30 miles in length; that of the Veeranum Tank about 10; and numerous others, of scarcely inferior dimensions, are scattered over the face of the country. These great reservoirs were variously supplied; some by channels cut direct from the Cauvery, or its main branch the Coleroon, so adjusted in level as to take advantage of the waters in moderate or high freshes, as might be most convenient; others were dependent upon minor streams across whose valleys the embankments were thrown;



while others, again, were filled by the escape waters of tanks on higher ground. All were provided with sluices for distributing the water to the fields, with escape weirs for regulating the surface level of the water, and with such other works of detail as were necessary."

In 1801 the Tanjore country was ceded to the British and the task of maintaining and improving the system of native irrigation pursued in those provinces devolved upon the Supreme Government.

The most important works of irrigation were those connected with the Cauvery, a map of whose Delta, shewing the system of irrigation pursued is appended to the report. That river rises in the Western Ghats and drains a basin estimated at nearly 32,000 square miles. Its supplying streams are fed by both monsoons, so that from June to December inclusive its volume is abundant. The discharge of the river at its head was in December, 1833, 16,875 cubic feet per second, and as the rise of the river in high flood is proportioned to its condition at the time of measurement as 19 to 1 the discharge then must be 3,20,625 cubic feet per second. It is not until the river reaches the western part of Trichinopoly that its capacity for irrigation becomes fully developed. Here at Seringham the main river divides into two channels, the southern of which retains the name Cauvery, while the northern is called the Coleroon. The fall of the river above the point of separation is three and a half feet per mile, but this rapidly decreases till about seventy miles below Seringham the fall of the Coleroon is only two feet per mile and towards the sea the average fall is only one foot per mile. The fall of the Cauvery branch is about  $4\frac{1}{2}$  inches less than that of the Coleroon. The Coleroon besides having a greater fall differs from the Cauvery "in having a much more direct course to the sea and in having its volume of water but little diminished for purposes of irrigation." The natural result of such a combination is the progressive deterioration of that branch which is least favourably circumstanced and the consequent diversion of the main body of the stream into the superior channel. This fact was ascertained about 1804 by Captain Caldwell of the Engineers and in consequence "the old native work called the Grand Annicut, of which there is a plan in the report, at the lower extremity of Seringham, was raised considerably, so as to retain a larger quantity of water in the Cauvery below it."

The remedy was but partial, the river channel continued to deteriorate till in 1829-30 a crisis was reached, and at that time began a series of operations of which the final issue has been

the establishment of the relative conditions of the Cauvery and Coleroon on an entirely satisfactory basis.

It had been discovered by Captain Caldwell that the great native Dam, which had effectively withstood the floods of 1600 years was composed merely of rough stones and clay without any kind of cement. It was therefore "clearly possible to construct another in which the resources of European skill could be employed to reduce the dimensions by the use of superior materials, and thus to bring the cost within such limits as would fully justify the Government in undertaking it."

Prior to the construction of any permanent works in the beds of the Cauvery and Coleroon the area of irrigation dependent on these streams was as follows:—

1. ON THE CAUVERY.		2. ON THE COLEROON.	
	<i>Acres.</i>		<i>Acres.</i>
In the Trichinopoly Districts, ...	16,500	In Trichinopoly, ...	36,300
In the Tanjore Ditto, ...	488,400	In Tanjore, ...	69,300
		In South Arcot, ...	59,400
Total, ...	504,900	Total, ...	165,000

Therefore a supply of water sufficient for the complete irrigation of 6,69,900 acres had to be provided. The constant of irrigation for rice is, during the period of the crop, 3 cubic yards of water per hour per acre, or according to the standard measure of the North West Provinces 0.025 cubic feet per second per acre. The total volume therefore required for the irrigation of 6,69,900 acres was 16,747.5 cubic feet per second.

The quantity of water required for the areas of irrigation of each branch were as follows:—

Coleroon, 165,000 acres at .025 cubic feet per second, ..	} 4,125 cubic feet per second.
Cauvery, 504,900, ,, ,,	
Total, .. ..	16,747 ,, "

The distribution was in December, 1853 as follows:—

In the Coleroon Branch, .. ..	7,500 cubic feet per second.
In the Cauvery ditto, .. ..	9,375 ,, "
Total, .. ..	16,875 ,, "

Thus the volume of the Coleroon was just so much too great for the area of irrigation as that of the Cauvery was too small. To adjust matters, the excess in one branch had to be thrown into the other. This task devolved upon Colonel Cotton. And the method he proposed was "to throw a Dam (or Anicut) of masonry across the bed of the Coleroon, the crown of which

should be fixed at such a height as would ensure about half the supply of that branch in the average state of the river, during December and January, passing into the Cauvery." A plan of the annicut eventually constructed is to be found in the report.

The height of the Coleroon Dam was determined by trial, but at first Colonel Cotton gave such a height to the annicut that when the water was even with the top of the one he proposed to construct, it would be even with that of the grand annicut. "In its original form, the Coleroon Dam consisted of a simple bar of masonry 750 yards in length, divided into three parts by the interposition of two small islands formed in the bed of the stream. The thickness throughout was 6 feet. This bar, forming the obstructive portion of the Dam, rested on a foundation of masonry 3 feet deep, built on three lines of wells 6 feet in exterior diameter, and sunk to a depth of 6 feet in the sandy bed of the river. In rear of the bar, there was an apron of masonry 21 feet broad, and covered with cut stone 1 foot in thickness, carefully laid in hydraulic cement. Below the apron, a mass of rough stone, from 9 to 12 feet broad and 4 feet deep, was formed to protect the junction of the apron and river bed. Twenty-two openings or sluices, originally 2 feet in width by  $3\frac{1}{2}$  in height, were distributed throughout the length of the Dam, their sills being on the same level as the apron or the bed of the stream: The object of this arrangement was to afford free passage to the sand, and, if possible, to prevent the bed of the Coleroon above the Dam being raised by deposits. We shall find hereafter how ineffective it has proved."

The effects that were produced by the Coleroon Dam on the stream were three-fold:—"First it raised the bed of the Coleroon itself, by the slow but certain progress of deposit above the Dam. This was a contingency clearly foreseen by Colonel Cotton, and provided against by the two and twenty sluices through the body of the work to which I have already alluded. These, however, proved to be wholly inadequate to produce the effect expected from them; they furnished a water way for scouring out the bed of only (22 by 2) 44 feet in width of a channel very nearly 2,200 feet broad."

In 1843 at the suggestion of Colonel Sim complete cuts in the annicut ten or twelve feet in width were made, but they produced but little result.

"The second effect of the Coleroon Dam was to throw a very largely increased volume of water into the Cauvery during freshes. This too was, of course, foreseen, and provided for by six grand outlets of which there are plans in the report."

These means of regulating the Cauvery were not sufficient, the Coleroon branch was obstructed by heavy deposits and sand

banks above the Dam, whilst the bed of the Cauvery was deepened and its banks eroded. It seemed probable that the condition of the streams would be reversed from that which they held before the construction of the Coleroon Dam. As a remedy the Coleroon Dam was lowered two feet, this was found however to be insufficient and eventually a masonry regulating Dam was constructed across the mouth of the Cauvery. The report contains a plate shewing plan elevation and section of the regulating Dam. The regulating Dam was perfectly successful, the regulation of the beds of the streams and the distribution of the water is now as perfect as could be desired.

“The third and last effect of the Coleroon Dam to which it is necessary to advert, is the influence of the work on the volume of the branch across which it is thrown, and on the irrigation dependent upon this. The principle on which the division of the water in the main stream was based being, that none should flow over the Coleroon Dam until the wants of the Tanjore district had been provided for, it is clear that, in average conditions of the river, the practical effect of this arrangement would be to divert nearly the entire volume of the main stream into the Cauvery branch, and thus to leave the channel from the Coleroon dependent on the drainage, escape water, springs in the bed of the river, or other minor sources of supply. These combined had been found to furnish a volume sufficient for the irrigation on the lower Coleroon; but, as the abstraction of so large a portion of the former supply of the river, by means of the Dam, would of course very much lower its surface level, all the old channels in South Arcot would have been thrown out of use, and the levels of the village watercourses wholly deranged. A Dam across the Coleroon at the head of the irrigated district of South Arcot of such height as to restore the old surface level of the water, became, therefore, absolutely necessary.” The Dam was therefore constructed and has effected its purpose “in maintaining the irrigation of South Arcot, and a small portion of Tanjore, in a very satisfactory manner.”

Both Dams interfere considerably with the navigation of the Coleroon. At the upper Dam the Cauvery is open for navigation, but at the lower Dam so late as 1851 then were heavy “complaints of the inefficiency of the means of navigation.”

The following is an estimate of the financial results:—

“Total expenditure for original works		
between 1836 and 1850, ... ..	Rs. 9,18,740 or	£91,874
Ditto ditto ordinary repairs ditto, ... ..	8,93,720 „	89,372
Totals, .. ..	Rs. 18,12,460 „	£181,246

“Now the gross returns for the same period amounted to Rs. 48,00,000 or 480,000*l.*, and the net returns (obtained by deducting the amounts for ordinary repairs and 5 per cent. per annum interest on the total capital invested in the works) are Rs. 32,17,255, or 321,725*l.*, 10*s.*, being a clear annual return of Rs. 2,14,483, or 21,448*l.*, 6*s.*, on a capital of Rs. 9,18,740, or 91,874*l.*, being nearly 23½ per cent.”

The report on the Cauvery concludes by the following summary of those points of professional interest which the works in Tanjore seem to establish:—

“1st. That the waters of large rivers may be distributed between their branches in proportions sufficiently exact for practical purposes, by the use of Dams at the points of separation, having their crowns at such heights as experience in each case may prove to be necessary. No general rule regulating these heights seems as yet to be possible; but as the field of observation extends, it may be arrived at hereafter.

“2nd. That the influence of such Dams, judiciously established on the beds of the rivers, in regulating the currents, in equalizing the distribution of deposits, and in maintaining the permanency of the sections of the beds, may be very beneficial.

“3rd. That in rivers with beds of pure sand, and having slopes of 3½ feet per mile, such Dams may be constructed and maintained at a moderate expense.

“4th. That the elevation of the beds of the rivers above the Dams to the full height of the crowns of these works is an inevitable consequence of their construction, and that no arrangement of under-sluices has, as yet, been effective to prevent this result.

“5th. But, that where effective escapes are provided in the banks of irrigating rivers (like the Cauvery), the entire volumes of which are absorbed in irrigation, it is possible to prevent any injurious elevation of the bed by sand deposits.

“6th. That in pure sand acted on by the current due to a fall in the river-bed of 3½ feet per mile, and exposed farther to the action of floods from 12 to 15 feet deep, well foundations, in front and rear, of 6 feet in depth, have been proved by an experience of 15 years to be safe.

“7th. That with a vertical fall in rear of the Dam from 5 to 7 feet in height, a thickness of 2 feet of brick masonry, and 1 foot of cut stone, with a breadth of from 21 to 24 feet for the apron, have proved sufficient to insure stability, the only farther protection required being a mass of rough loose stones about 9 feet in width and 4 in depth. As a rough general rule, it would seem that the masonry apron should have a thickness equal to half, and a breadth between three and four times the

vertical height of the bar forming the obstructive part of the Dam. The loose stone apron should at first have a breadth equal to  $1\frac{1}{2}$  times, and a depth equal to two-thirds the height of the Dam. The action at the tail of the work leading to constant additions to the loose stone soon deranges these proportions, and they are given only as guides in the first instance.

"8th. That the main security of the Dam depends upon the efficient construction and careful maintenance of the apron.

"9th. That in freshes the Dam speedily receives the protecting effect of a backwater on the apron; the surface level of the down stream side being level with the crown of the work when the floods rise to 8 feet above ordinary low water, while beyond that depth the fall over the Dam gradually diminishes till in 16 feet floods it has wholly disappeared, and scarcely even a ripple on the surface indicates the existence of the mass of masonry below.

"10th. That looking to the cost of the works executed between 1836 and 1853, and the increased area of irrigation due to them, the capital sunk amounts only to Rs.  $6\frac{1}{2}$ , or about 13s. per acre.

"11th. That after deducting every expense which the irrigation works of the Cauvery have entailed on Government, the net returns may fairly be estimated at not less than  $23\frac{1}{4}$  per cent on the invested capital."

The next works of irrigation visited were those on the Kistnah, a map of whose delta "is appended to the report." The Kistnah rising a little to the north of Sattara in the Bombay Presidency "flows for about half its course in a direction from north-west to south-east; then turning abruptly to nearly due east it pursues its course for about 180 miles on this bearing, generally, though with local changes; and finally, making a third sweep to the southward, it enters the sea about 35 miles to the south-westward of the port and station of Masulipatam. Its total length may be estimated approximately at about 600 miles, and the area of its drainage basin at from 25,000 to 30,000 square miles. It enters the low flat country between the high land and the sea coast at a distance of about 80 miles from its mouth, and both its banks below Bezwarah spread out in rich alluvial plains forming part of the Madras districts of Guntoor and Masulipatam."

In its progress towards the sea the Kistnah bed falls at about the rate of 11 to 13 inches per mile and the supply of water is perennial, increasing enormously in the rains. It is only after the stream has debouched into the plains that it becomes useful for irrigation. Its course in the plains is about 70 or 80 miles in length and its bed varies from about  $1\frac{3}{4}$  to  $2\frac{3}{4}$  miles in breadth, Its depth from crest of banks ranges between 20 and 40 feet,

Bezwarah is the site selected for the Dam and the report contains a plate shewing plan, sections, and elevations of the Kistnah annicut and works then established. "The Kistnah, therefore, like the majority, if not the whole, of the Deltaic Rivers, runs on the crest of an elevated ridge formed by its own deposits during a long series of years; this ridge slopes rapidly from the channel, less and less rapidly as we recede from this on either side, and to the eastward the long slope terminates in the basin of the Colair Lake. The facilities offered by this natural arrangement for the introduction of a system of artificial irrigation, are self-evident. By establishing channel heads on the river banks at the apex of the Delta, and by securing there such a height of water as the levels of the lands to be irrigated may require, we have it in our power to place the whole tract under command, and to secure the products of its culture to an extent only limited by the volume of water at our command."

Notwithstanding these natural advantages no attempt was made to regulate the supply of water until very recently, and for eighty years the history of the country on the Kistnah is but a dreary waste varied only by the occurrence of famine or pestilence. In 1833 the failure of the rains affected all the country below the Ghauts. In Guntoor the results were terrible and it is calculated that not fewer than 200,000 people perished either from hunger, or under the virulent fever that followed in the train of famine. At this moment the population of Guntoor have not recovered the effects of that "black year." The Government revenue suffered too, and the loss may be estimated at ninety lakhs of rupees. "It is to prevent the recurrence of such sacrifices of life, and the means of life, on the part of the native community, and of revenue on that of the State, that the works on the river Kistnah are designed. They embrace both banks of the river, affecting on the right the Guntoor, and on the left the Masulipatam districts, containing an aggregate population of 1,100,000 souls, and an area of nearly 10,000 square miles, of which one half, or rather more than three millions of acres, may be regarded, within reasonable limits of error, as the culturable portion."

The report here contains a general description of the Dam at Bezwarah in process of construction when Lieutenant Colonel Baird Smith visited the works and a plan of the annicut is appended. He reported the Dam as likely to effect the object for which it was intended. Generally, "the Kistnah Annicut or Dam is designed to supply nearly 290 miles of channel, judiciously distributed on both banks of the river. It is perhaps below its capabilities to say that it secures, during the season of cultivation, not less than 7,000 cubic feet

of water per second, which is sufficient to bring to maturity 2,80,000 acres of rice cultivation, and probably 350,000 of mixed rice, sugar and possibly cotton. A moderate estimate of the ultimate returns from this increased area of irrigation is Rupees 6 lakhs, or 60,000*l.*, per annum, to the Government, and 9 lakhs or 90,000*l.*, to the agricultural community. Failure of the monsoons will, hereafter, cease to be a fearful calamity and where neither man nor beast can now exist from the want of water for the common purposes of life, there will, in all time to come, be an abundant supply for every want, domestic and agricultural. The whole of these results, which, after all, are only a portion of the benefits to be anticipated from the works under review, will be executed without strain on the resources of the State, the total estimated outlay amounting only to 15½, though it may possibly rise to 20 lakhs of Rupees or 200,000*l.*”

With regard to the facilities of internal navigation afforded by the existence of so many miles of canal, Lieutenant Colonel Baird Smith observes:—“ Every irrigation channel may become a highway for boats and the whole produce of the Delta be conveyed by such means from the interior to the sea coast, or from one mart in the interior to another. To maintain the freedom of circulation between the river and the channels, masonry locks have been provided near both flanks of the Dam at Bezwarah. These works are substantial structures of stone masonry, with chambers 150 feet in length and 16 in width, fitted with all the requisite machinery in gates, sluices, &c., for passing craft from the level above the Dam to that below it, and *vice versa*. They appear to be open to but one objection, due to their being placed in too close a proximity to the head-sluyces of the channels and the under-sluyces of the Dam. On the right bank, the lock is only about 250 feet from the former of these works, and 800 feet from the latter; while on the left—the most important of these distances—that from the under-sluyces is diminished by nearly one-half. Now there is always action, more or less violent, in the current near the Dam, and this becomes exaggerated when the sluices are in operation. Judging from observations made on similar works in similar positions elsewhere, I fear that craft entering the locks will do so with considerable inconvenience, and occasionally with serious risk. Farther, the works themselves are much exposed to accidents; and this evil is far from being an imaginary one. I admit at once the inconvenience of detaching these works from the general series—they then require separate supervision, the cost is higher, and the compactness of the design is interfered with; but allowing their full force to all such



objections, they cannot equal the inconvenience and injury consequent on the partial or total destruction of the locks, or even their prolonged inefficiency, while under frequent repair. The result inevitably is, that native confidence in the works is impaired, and men are unwilling to risk their boats or their goods under circumstances where both are exposed, if not to utter loss, certainly to detention and the injury consequent upon it. Locks directly connected with Annicuts have not hitherto been successful works: they have failed entirely on the Cauvery, they are constantly being damaged on the Godavery, and I have no doubt that one cause of these accidents has been the unfavorable positions in which the locks have been placed with reference to the action of the current. I would therefore have been disposed, myself, to have carried the heads of the navigable channels considerably farther away from the flanks of the Annicut than they now are, and to have borne the additional expense caused by the greater length of channel thus rendered necessary, which, however, after all, would have been very immaterial, if security and efficiency beyond what now exist, could thereby have been insured for the internal navigation."

The next irrigation works visited by Lieutenant Colonel Baird Smith were those connected with the Godavery. The report on these commences with the general observation that the periodic famines of India have been the precursors of all great irrigating works. "To the famine of 1837-38, Northern India owes the magnificent project of the Ganges Canal; to the like visitation of 1833-34 Southern India is indebted for the extensive works on the Kistnah already described; and to the same source, the yet more extensive operations in the Delta of the Godavery may be proximately traced."

It was not until 1844 that any attempt was made to banish famine from the delta of the Godavery. There was then a yearly deficit of five lakhs of rupees from the Rajahmundry district alone and a steady decrease in the number of the population throughout the delta. The works sanctioned by the Government in 1846 were designed to effect great permanent improvement. To the report is appended a map of the delta of the Godavery shewing the position of annicut, channels, and embankments, and the proposed new channels.

The Godavery with its heads situated about the parallel of 20 degrees north latitude and between 72 and 73 degrees east longitude has a "course in rude parallelism to that of the Kistnah, which may be roughly estimated at about 650 miles in length. Its basin of drainage has, however, fully twice the capacity of that of the Kistnah, and its stream is swollen by a series of

great feeders on both sides, collecting the waters of a tract of country not less than 60,000 square miles in extent, and consisting of mixed mountain and plain surfaces. Its whole valley is under the full influence of both monsoons, and its supply is perennial; being comparatively small, of course, during the dry season, but enormously increased during the rains. It is calculated that, at the minimum height of the stream during the year, a volume equal to somewhat more than 3,000 cubic feet per second may always be reckoned upon, while during the rains the available supply for agricultural purposes may be estimated at not less than four times this quantity, or 12,000 cubic feet per second. There are, of course, periods when the volume of the river is far greater than this latter amount; but for practical ends, and as measures of the capacity of the stream for irrigation, 3,000 and 12,000 cubic feet per second may safely be assumed as the constants of discharge during the dry and wet seasons respectively."

The fall of the river bed is very irregularly distributed. There are fords at various points in which the summer water stands from 3 to 4 feet deep and between these shallow spots are extensive pools, from 26 to 36 feet in depth. Taking the entire length of the river channel into account from Palaveram to the ocean the effective fall is not more than from 5 to 6 inches a mile. The high flood surface level of the river falls toward the sea at an average rate of from 15 to 18 inches per mile.

The fall of the country on the right bank towards the east and on the left bank towards the west is much more rapid than towards the sea.

Hence the river runs on the crest of a natural embankment ranging from a minimum of 3 feet to a maximum of 24 feet in height above the level of the country two miles distant on each bank. It is scarcely possible to conceive an arrangement better adapted for facilitating artificial irrigation works.

The best site for a Dam is the head of the delta proper at Dowlaisweram. There it was found that a Dam 12 feet in height would give an efficient command over the whole irrigable surface of the country, about 2,000 square miles, and that 10½ miles of channels, in which the mere depth of digging did not exceed 10 feet would be sufficient to deliver the water of irrigation on the surface of the land.

The report contains plans of the Godavery and Dowlaisweram annicuts with head and under sluices.

There are four classes of works "required to raise the Delta of the Godavery to the highest degree of productiveness of which it is capable. They are—

"First.—Works of irrigation proper, being Dams and at-

"

tached channels whereby the water would be delivered on the surface of the country at efficient levels.

“Second.—Works of drainage, being channels of escape for the surplus water of floods or irrigation thrown over the surface of the country at inappropriate seasons, or likely to stagnate for excessive periods.

“Third.—Works of protection, being embankments to the river channel sufficiently high to prevent the monsoon floods swamping the crops, and generally devastating the low tracts by annual inundation.

“Fourth.—Works of communication, being navigable channels wherever they can be obtained, and roads sufficiently embanked and bridged to preserve the cross communication during the rainy season.”

“At this present time none of these series are perfected, but the three first are in active progress, and have already led to satisfactory results. As regards the fourth, a large extent of navigable channels fitted with locks exists, but no raised roads have yet been commenced, and till they are carried to such an extent as to make transit practicable during the rains, the Godavery Delta will continue to be inferior to that of the Cauvery, the latter being abundantly supplied in this particular way.”

The report here contains a minute account of the Godavery anicut. Viewed as a whole it “consists of a masonry Dam in separate portions, the united length of which is 11,866½ feet, or 3,955½ yards, being very nearly 2½ miles of river channel blocked up by a solid, substantial, well protected mass of stone in lime cement, or without it, according to position, having a total breadth of base equal to very nearly 130 feet, and height of crest or sill equal to 12 feet. The three main objects of the Dam—clearance, irrigation, and transit—are provided for by three separate sets of works, one on each mainland flank, and one at the head of the central tract. The under sluices discharge the necessary functions for the first object, the head sluices those for the second, and the navigable canal and locks those for the third. Along the entire length of the masonry Dam is carried a line of cast iron uprights about 6 inches square, and 8 or 10 feet apart, having grooves on each side for the reception of 2½ feet of planking, whereby the water can be retained to that height above the sill during the dry season, and a larger volume be thus thrown into the irrigation heads.”

To the last arrangement serious objections have been expressed.

The report goes on to describe minutely the local details of the distribution channels and plans and sections of the Purimillu

Double Lock, the Mookamala Lock, the Chettypett Calingulah and the Gunnarum Aqueduct.

Considering the subject comprehensively, the irrigation system of the Godavery consists:—"First, of the river itself, furnishing a supply for the rice crop of 12,000, and for the sugar crop of 3,000 cubic feet per second. Second, of the great Dam or Anicut at Dowlaisweram, whereby the above volumes of water are raised to a level sufficiently high to command the entire surface of the Delta, and of its attached works, whereby the passage of the supply is facilitated. Third, of 840 miles in all of main channels, whereby the water is distributed far and near over the irrigable area, and brought within command of every village in the Delta. The work which will ultimately be done by the machinery thus briefly described will be the perfect irrigation of 780,000, or considerably more than three-fourths of a million of acres of the richest alluvial soil. No one will question the noble proportions of such a project as this; and if it be carried on with earnestness and vigour, the most cheering anticipations may be indulged in regarding its results."

It is still however far from complete. No provision has yet been made for high floods, though they do not rise more than from 2 to 4 feet above the crest of the banks. It appears that for this purpose about 200 miles of embankment will be required. General drainage is being actively carried on, but with regard to roads and bridges nothing whatever has been undertaken.

With regard to the channels of the Godavery Delta irrigation, Lieutenant Colonel Baird Smith noticed their exceeding irregularity of alignment. He doubts the ultimate economy of the adoption of these old and tortuous lines. More especially as the Home Authorities have already sanctioned an outlay of £15,000 on the construction of 25 miles of new channel for the Eastern Jumna Canal expressly to get rid of those twists and low levels which the adoption of the old line entailed.

Finally Lieutenant Colonel Baird Smith reviews the financial history of the Godavery irrigation. The cost of the works was at first estimated at twelve lakhs of rupees, but this sum was expended before half the works were complete. A supplemental estimate was afterwards submitted, which with the amount already expended in excess of the estimate amounted to Rupees 9,76,951. Still there remained works of distribution, embankment, drainage and communication. For these new provisions had to be made and the Supreme Government expressed in strong terms its dissatisfaction. Up to the spring of 1853 the

total expenditure had been fifteen lakhs, leaving nine lakhs for the work remaining to be done. This sum would not however complete the whole scheme.

With regard to the anticipated return from these works, the report estimates it at from 50 to between 62 and 63 per cent. on the invested capital.

The report concludes with the following general summary:—  
 “It has been shown that the projects either actually executed or in progress of execution, affect tracts of country containing in the aggregate a total area of fully 20,000 square miles, or  $12\frac{1}{2}$  millions of acres, whereof one-half may be considered as either cultivated or culturable. This aggregate area is inhabited at present by a population numbering rather more than 4 millions of souls, whose material condition ranges from that of the utmost comfort in Tanjore to that of the utmost depression in Guntoor; but among whom one standard, and that the highest, will ultimately prevail. Of the 6 millions of acres adapted to irrigation, not less than 2 millions will have a full supply provided for them, at a cost which, in its utmost extent, cannot exceed half a crore of rupees, or half a million sterling, in the aggregate; and the annual revenue obtained by the State, on which this powerful stimulus will operate, reaches at this moment to  $1\frac{1}{4}$  millions of pounds, and may be expected to advance progressively to rather more than 2 millions per annum. The million and three-quarters of people forming the population of Tanjore pay, on the average, very nearly  $2\frac{1}{2}$  rupees, or 5 shillings each per annum to the State. The 2 millions forming the population of Rajahmundry, Masulipatam, and Guntoor, pay similarly an equal sum. In the first case, the area of taxation amounts to 3,900 square miles; in the other it rises to nearly 17,000 miles; the sum is in the one case paid by a population amounting to 430 in the square mile, occupying a fertile, well cultivated, and well watered region, productive in the highest degree, and the payment is therefore made cheerfully, and balances in arrears are practically unknown; in the other it is paid by a population averaging not more than 130 on the square mile, poor, scattered, depressed, and the payment is therefore reluctantly made, and is a heavy burden evaded whenever practicable, and hence much in arrears. As the population of the Kistnah and Godavery Deltas rises to the standard of Tanjore, under the operation of the same causes to which this standard is due, we shall have these two regions inhabited by upwards of 7 millions of souls, instead of only 2, as at present, and as they will be far more able than now to pay their  $2\frac{1}{2}$  rupees each, as their annual contribution to the expenses of the Government, we shall have a total revenue of

a crore and three-quarters, or  $1\frac{3}{4}$  millions of pounds, instead of the 60 lakhs or 600,000*l.* a year we now derive from them. The ultimate income from the three Deltas, may therefore be expected, in course of time (which will be shorter or longer according to the liberality and earnestness of the Government in pressing forward the works to completion), to become  $2\frac{1}{4}$  crores of rupees, or to  $2\frac{1}{4}$  millions of pounds per annum."

As a termination to the report on the irrigation works of the Madras Presidency, Lieutenant Colonel Baird Smith makes a brief reference to the examples of the tank irrigation system in Madras and appends in illustration of his remarks the following plates :—

" I. Sketch of the Chumbrumbaukum Tank.

" II. Plan of part of Chumbrumbaukum Tank, showing the breach made in the bank on the 3rd January, 1818, at the Mannapaukum Sluice.

" III. Plan and Section of the alteration proposed to the Coonatoor Sluice.

" IV. Plan, Elevation and Sections of the Mannapaukum New Sluice.

" V. Survey of the Palar Channel Supply to the Cauvcrypauk Tank.

" VI. Plan and Section of the proposed Sluice for the Cauvery-pauk Tank."

The tank system of Madras is essentially native in its origin and is destined to grow up in connection with our local canal system.

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THE  
ANNALS  
OF  
INDIAN ADMINISTRATION.

TEA CULTIVATION.

*India Records, No. XXIII.*

BHURTPUR, one of the Kumaon Plantations is situated "eight or ten miles to the Eastward of Nainee Tal, and is at an elevation of about 4,500 feet above the level of the Sea. It consists of a succession of terraces reaching from the bottom to the top of a small Hill; the soil is composed of light loam mixed with small pieces of clay-slate and trap or green stone, of which the adjacent rocks are chiefly composed." It is about six acres in extent and in high condition. A large tract of land has been set apart in the adjoining hills for its extension, a portion of which has been already cleared. Generally in Mr. Fortune's opinion the land on the estate is unequal, and he would propose that the more favourable spots should be selected at first for the cultivation. The Plantations of Lutchmesir and Kuppeena "are on a Hill side near Almorah, about 5,000 feet above the level of the Sea, and together cover about seven acres of land." The soil is well adapted for Tea, and the bushes in good condition. Kuppeena is perhaps the best, as many of the plants in Lutchmesir appear to be getting old. Hawulbaugh and Chullar "are situated about six miles North-West from Almorah, at an elevation of 4,500 feet above the Sea. In 1854, Dr. Jameson states that Hawulbaugh covered fifteen acres, and Chullar thirty." The former has some excellent land, but the forest and fruit trees though they look pretty injure the Tea. They should be cleared away. The young plants moreover appear to have been planted somewhat carelessly. The mode of gathering the leaves also requires improvement. At present too many leaves are taken away from the plants, which has the effect of stunting them. The Kutvoor estate is a large tract of land which "has been

taken up near the head of the Byznath Valley, about thirty-five miles Northward from Almorah." A considerable portion of the tract is well adapted for Tea, but some of it is much too wet.

The Gurhwal Plantation "is in Eastern Gurhwal, near the village of Paorie, in Latitude 30° 8' North, and Longitude 78° 45' East. It consists of a large tract of terraced land extending from a ravine in the bottom of a valley to more than 1,000 feet up the sides of the mountain. The lower portion of this land is said to be about 4,300 feet above the Sea, while the top of the surrounding mountains are from 7,000 to 8,000 feet." Part of this Plantation only is well adapted to the cultivation, and some thin stony land appears to have been planted within the last few years. On the good land the plants are succeeding very well, but on the whole Mr. Fortune was disappointed in the Plantation. The expediency of carrying the Plantation higher up the mountain seems very doubtful. The bushes look as if they wanted more heat.

The Deyrah Dhoon Farm. In 1850 Mr. Fortune found this Farm anything but flourishing. In consequence of his suggestions the system of cultivation was changed, the trenches were filled up, irrigation was discontinued, and more judgment was exercised in gathering leaves from young plants. The result has been most satisfactory. The supply of labour is deficient, and only a portion can be said to be under cultivation. Mr. Fortune has seen no finer Plantations in China. The plants are in high health, large and bushy, and yield annually large crops of leaves. It is not, however, expedient to plant on land but half ready.

The Punjaub Plantations. The Nagrowta Farm "is situated in the Kangra Valley about nine miles from the Old Fort, and covers apparently about five acres of land. It was planted in 1817, and consequently has been in full bearing for several years. In 1855 it produced 1427 lbs. of Tea, or about 330 lbs. per acre. The soil is a brownish loam, moderately rich in vegetable matter, and well suited for Tea cultivation. The plants are healthy and vigorous." The Bowarnah Farm "is another small experimental Plantation further to the Eastward in the same valley, and about twenty miles from Kangra. It appears to be five or six acres in extent, and was planted about the same time as the former." It yields upwards of 300 lbs. per acre. The soil is a brown loam very well suited for the cultivation. The Holta Farm "is about 26 miles North-East from Kangra, at the foot of the high mountain range, and nearly 1,000 feet above the level of the Sea. Here snow falls annually and covers the ground for several days at one time. The high



mountains behind are white with snow for the greater part of the year.

“The extent of this Plantation is stated to be about 1,200 acres, and of these 700 are already under cultivation. About 20 acres were planted in January, 1852, 300 in 1853-54, and 350 in 1855-56.” The soil is a yellow clay with a surface rich in vegetable matter. It is admirably adapted for Tea cultivation. The plants are healthy, vigorous, and full-bearing, and irrigation has been avoided with most satisfactory results. Too many leaves however are plucked off, young as well as old, a matter of considerable importance.

Mr. Fortune considers that the Himalayas are excellently adapted to the cultivation of Tea, but some knowledge of the plant and of horticulture is required to make success certain. It is a great mistake to suppose that Tea will grow on land too poor for anything else. Tea in order to be profitable requires a good sound soil, a light loam well mixed with sand and vegetable matter, moderately moist, and yet not stagnant or sour. There is no scarcity of such land in the Himalayas. The leaves even from full grown plants should not be plucked too freely, a point to be carefully impressed upon the natives. The natives “instead of nipping off the upper part of the young shoot with its leaves, as the Chinese do, strip the leaves from it and leave the bare stems. These bare stems generally die down to the nearest leaves, and then the plants get covered with dead stems and present a sickly appearance. About an inch and a half, and sometimes more of the top of the young shoots is soft and succulent, and makes just as good Tea as the leaves themselves. The Chinese know this well, and hence they always nip off this portion with the leaves.” Very few of the old tough leaves should be plucked. They are worthless for the market, and invaluable for the health of the plant. The Chinese tea-growers on the Plantations should instruct the natives in the art of Tea plucking. The Tea originally procured had an “Ankoy” flavour which was objectionable. Mr. Fortune however had sent round twenty-five makers from the best districts in China, and already a marked improvement has taken place in the appearance of the Himalayan Teas. The thousands of Tea plants sent round should not be mixed up with the original plants, in order to detect whether the peculiar flavour of the Himalayan Teas is inherent, or caused by bad manipulation.

To cultivate Tea a large amount of capital is required. “It is true that a man with small capital, and having the requisite amount of knowledge—if content with a moderate, or even handsome and certain remuneration for his outlay and labour—might succeed and gain a comfortable living by the cultivation

of Tea on the Himalayas." A large public company is more likely to succeed than private capitalists "I would strongly advise Government not only to discourage but to take measures to prevent, mere adventurers from getting up a company of this kind,—men who have no other object in view than power and place, and who would probably in the end bring ruin upon the shareholders, and give a check to Tea cultivation in these Provinces, which it would take many years to recover." The size of the buildings and number of tea-makers should be immediately increased. The Zemindars who it was hoped would take to the cultivation have not done so. In one instance two small Farms of eight acres together were given to a Zemindar about thirty-five miles from Almorah. A Government factory where his leaves were purchased at Rs. 8 a maund was within three miles of his Farm. "The circumstances in which this man was placed were altogether most favourable. Supposing the land to have been yielding annually 800 lbs. of raw leaves per acre, which is a very low average, he would have been realizing Rupees 80 an acre for his land, or Rupees 640 for the 8 acres under Tea—a sum I should imagine twice as large as he would make from any other crop and with less trouble." The man when Mr. Fortune visited the place was cultivating rice above the Tea. Another Plantation in Hawulbaugh belonging to Captain Ramsay is in good order, and in two years will produce large quantities of Tea and keep on producing for many years. The Zemindars, however, must ultimately take to the cultivation, and the quantities of foreign capital thus introduced must be of material benefit to the cultivators. Another great benefit of the cultivation is that even in the driest weather there is always a crop. On one occasion when nearly every other crop had failed the Tea seemed quite uninjured.

The following is Mr. Fortune's estimate of the return to be expected from a great Tea estate. A little one will not be profitable in the same proportion, while in a larger one the proportion of profit will again increase :—

**ROUGH SKETCH of the Quantity of Land which could be brought under Tea Cultivation, with a Capital of Rupees 2,00,000, and also intended to show the probable amount of Expenditure and Profits spread over a space of six and eight years.**

<i>Expenditure from the 1st to the 6th year inclusive.</i>		<i>Income from the 3rd to the 8th year inclusive.</i>	
	Rupees		Rupees
Factory and houses for Tea-makers, .....	6,000	Tea manufactured in the 3rd year, say 10 lbs. per acre, at 8 as. per lb. {	9,000
Bangalow for Overseer, .....	1,400	ditto in the 4th year " 30 lbs. " at ditto, ...	27,000
Pay of Overseer, at 100 Rupees per month, for 6 years, .....	7,200	ditto in the 5th year " 80 lbs. " at ditto, ...	72,000
Ditto of 500 men, at 4 Rupees per month, for 6 years, .....	1,44,000	ditto in the 6th year " 120 lbs. " at ditto, ...	1,08,000
Ditto of 10 Chowdries, at 8 Rupees per month, for 6 years, .....	5,760	ditto in the 7th year " 150 lbs. " at ditto, ...	1,35,000
Ditto of 1 Moonshiee, at 12 Rupees per month, and 2 Chup-rassies, at 5 Rupees per month, for 6 years, .....	1,584	ditto in the 8th year " 200 lbs. " at ditto, ...	1,80,000
Rent of Land for 6 years, at 1,350 Rupees per annum, .....	8,100		
Expense of preparing Tea, in 3rd, 4th, 5th and 6th years, say 20 men, at 5 Rupees per month, .....	4,800	Total in the 8th year, ...	5,31,000
Four Chinese Tea manufacturers, at 34 Rupees per month, for 4 years, .....	6,528	Deduct amount supposed to be expended in 8 years,	2,68,612
Implements, passage money for manufacturers, carriage, &c., say, .....	8,628	* Profits, ... .. .	Rupees 2,62,388
Contingencies for 6 years, say 1,000 Rupees per annum, ...	6,000		

*Working Expenses in the 7th and 8th year.*

Overseer's pay for 2 years, .....	2,400
500 men for ditto, .....	48,000
10 Chowdries for ditto, .....	1,920
1 Moonshiee and 2 Chup-rassies for ditto, .....	628
Rent of Land for ditto, .....	2,700
Expense of preparing Tea doubled, say, .....	4,800
Wages of 4 Chinere for 2 years, .....	3,264
Contingencies for wear and tear of implements, boxes, &c., in 2 years, .....	5,000
	Rupees 68,612

Total .. Rupees 2,68,612

\* There would be sundry expenses deducted from this sum, such, for example, as interest of capital for the first 6 years, auctioneers fees, carriage, &c., if the Teas were sold in India; and carriage, freight, and other shipping charges if exported to Europe and America, or the Colonies. I have put down the pay of the Overseer at Rupees 100 per mensem, as that is the sum at present paid by Government; but it would probably be necessary to raise that to Rupees 300 if a good man could be procured. I have supposed the whole of the 1,800 acres to be planted in one year; but this would probably be impossible, as it would take some time to select the land, and the requisite number of plants might not be procurable at once. In this case, however, the expense for labour would be proportionably less.

R. FORTUNE.

On 17th November, 1856, Dr. Jameson reports that Mr. Fortune's suggestions are not original, and have long since been carried out. They will all be found in the Notes prepared for the benefit of Overseers:

1. On suitable ground. "Care must be taken to chose only well drained land, not dry, stiff clayey land, in which nothing will grow, but land rather moist, in which the soil is light or free. All low places, where rain water rests, must be avoided such as the lowest part of valleys, &c." Tea can be mixed with dry crops, but not with rice, as the water necessary for the rice spoils the Tea.

2. On preparation of the ground. "Before sowing Tea seeds let the land be well ploughed or trenched with the phaorah to the depth of 18 or 24 inches, and all the weeds removed; and let it be well manured to the extent of 60 to 70 maunds per acre if manure be plentiful. If not, a much smaller quantity will do. Let it then be smoothed and thrown into beds, it will then be ready for seeds and plants."

3. On the method of sowing seeds and on the treatment of young plants. Tea seeds ripen in October and should be sown soon after. Sow them very close to a depth of one inch in drills 8 inches apart. Water them sparingly, "which need not be again repeated until the seedlings begin to show themselves above ground, after which time let them be watered every six or seven days." The seed beds ought to be weeded three or four times during the season.

4. Method of transplanting. "As soon as the seedling plants are 8 inches in height, they are fit for transplanting, and in doing so they ought to be planted  $4\frac{1}{2}$  feet apart. Let holes be dug to the depth of  $1\frac{1}{2}$  feet or more if necessary. In lifting, therefore, the plants to be transplanted, the ground ought to be well opened up, and if possible each plant lifted with a small ball of earth attached to the roots. Let the earth be then well pressed down with the foot at the roots, and watered. If manure be available, a small quantity ought to be put into each hole." Transplanting should begin with the rains and continue through them.

5. On plucking. The season for gathering leaves commences in April and continues till October. The leaves should not be pulled till the plants are three years old. Only the fresh and young leaves should be plucked. During the season four gatherings may be taken from the same plant. In the second year the terminal shoots ought to be pinched off to induce the plant to take a bushy form. This should be done two or three times during the season. "To Zemindars desirous of undertaking Tea cultivation, plants and seeds in any number

and quantity will be issued from the Government Plantations at Hawulbaugh, Bhicemtah in Kumaon, and at Born in Gurhwal. All Tea leaves brought to the factories in good order will be purchased at the rate of 8 Rupees per maund and to the first party who brings leaves the following rewards will be given.

“The first party who brings pukka 100 maunds of good fresh leaves will receive Rupees 300. The first party who brings 50 maunds, Rupees 100. The first party who brings 25 maunds Rupees 50. The first five parties who bring 12 maunds Rupees 30 each. The first ten parties who bring 10 maunds Rupees 20 each. Each party must show that the leaves brought have been gathered from different Plantations.”

Dr. Jameson enters into a defence of the coarse Teas said by Mr. Fortune to be too largely produced at the factories. It is his object to reduce the quantity, but the price though low is remunerative, and the coarse Tea eagerly purchased by the natives. Dr. Jameson proves that Plantations formerly condemned by Mr. Fortune now satisfy him, and adds that the extra room required has been given, while the stunted look of the plant of some Plantations is owing to the drought for three successive years. The Chullar land said to be thin and stony was only taken because there was no other, and the Tea plants from China are most carefully kept distinct. Two native Plantations are in good order, and the Zemindar specially mentioned in Mr. Fortune's report is aware of his blunder in suffering rice to be grown above the Tea, and means to repair it. The proprietor however did receive Rs. 152 for his Tea last season, while the rent of his entire estate, covering many square miles, is only Rs. 40. Several Europeans moreover have opened Plantations. Col. Elwall and Capt. Thulwell opened a large Plantation in Deyrah Dhoon with complete success. “In the Simla District, Mr. Purkely has commenced Tea planting, and has been liberally supplied with plants and seeds. In Assam Mr. Carnegie has established himself as a Tea-planter in a Government grant, and been liberally supplied with seeds. The Assam Company, anxious to improve their Tea Plantations by introducing Kumaon seeds, have also been liberally supplied. In Cachar several Calcutta firms have taken up Government grants for the purpose of cultivating Tea, represented by Mr. Bugby, Mr. Saunders, Mr. Schiller, all, of whom have been or are being supplied with seeds. At Darjeeling several parties have taken up grants and have there commenced Tea cultivation, and I believe there are upwards of 10,000 acres of good land available for the purpose. Into the Cashmere valley the Tea plant is being introduced by the Maharajah Golaub Sing, I, at the request of His Highness, through the Commissioner

of Lahore, having sent him thirty coolie loads of plants and twelve loads of seeds." Finally, Dr. Jameson while in justice to himself and his Overseers he answers Mr. Fortune's report willingly acknowledges that Mr. Fortune's services have been invaluable to the Plantations.

On 10th February, 1857, Mr. Ramsay, Commissioner of Kumaon reports on the prospects of Tea cultivation in that district. He does not agree that the small capitalist will be unable to succeed, he himself having looked after three Plantations. Mr. Ramsay would not recommend any capitalist to take a Government grant of land at first, because clearing it hurriedly is expensive, and the probability is there would not be much bad and indifferent land mixed with the good portions in such a tract. With a little patience and enquiry it is always possible to purchase a village at a distance from Almorah in the less cultivated parts of the Province." A village with 50 acres of cleared land and two or three hundred of forest land would cost Rs. 500 with a jumma of Rs. 30 a year. He is "surprised that so few have settled as Tea planters. There is no risk as in Indigo. Drought or storms of hail may diminish the supply of leaves for a time, but failure is impossible. No animals destroy the plant. There is no chance of good Tea becoming unsaleable. The occupation is a healthy one, the climate delightful, and the superintendence of such a nature that the Plantation may be left from time to time without risk." He would not yet sell the Government Plantations, as it is too soon. The cultivation is not yet popular enough. On 17th March the Superintendent of the Kumaon Gardens reports that it is a mistake to believe that land fitted for Tea cultivation is limited. There are in Kumaon alone 3,50,000 acres of such land, yielding 100 lbs. to the acre. This territory with the land equally fit in Hazarah, Cashmere, Junmoo and the Protected Sikh States could produce 100 million pounds of Tea, or as much as the whole China export. "But let British capital and enterprise be embarked in proportion to the importance of the cultivation and the support it merits, and thus give employment to thousands of poor but able-bodied and excellent workmen, when their labours are properly directed, and these hills will soon become as important to the State as any Province of the plains. Labour is cheap, the climate is admirably fitted to the European constitution, the people are docile and easily guided, provided that they are properly treated and their prejudices respected."

Dr. Jameson adds directions for the cultivation and preparation of Tea, the value of which consists in their minuteness, and descriptions of instruments and buildings valueless without plates. He says that labour in Kumaon is abundant and cheap,

and the market as yet is not sufficiently full. The Thibetans will buy any quantity of cheap Tea. Cashmere requires 2,00,000 lbs. a year. Natives are very fond of Tea but want it cheap.

The prices fetched at Almorah are	per lb.
Guupowder, .. .. .	4 8 2
Young Hyson,.. .. .	2 14 5
Hyson skin, .. .. .	0 5 10
Souchong, ... .. .	2 9 11
Pouchong,... .. .	1 2 10
Bohea, .. .. .	0 7 10

Building materials abound, supplies are cheap; and lands are granted on the following terms. :—

“Each grant will be of not less than 200 or more than 2000 acres. More than one grant may be taken by one person or Company on the applicants satisfying the Local Authorities acting under the usual control in the Revenue Department, of their possessing sufficient means and capital to undertake an extended cultivation and manufacture of Tea.

“One-fourth of the land in the grant will be given free from assessment in perpetuity, on fulfilment of the conditions below stated.

“The term of the first lease will be for four and twenty years, the grant will be rent free; in the fifth year one anna per acre will be charged on three-fourths, or the assessable portion of the grant; two annas per acre in the sixth year; three annas in the seventh year, and so on, one more anna being added in each year, till in the last the maximum rate is reached of one Rupee per acre. The full assessment on a grant of 200 acres will thus not exceed 1500 Rs. per annum.

“The following are the prescribed conditions of clearance :—

“At the close of the fifth year from the date of grant, a twentieth part of the assessable area; at the close of the tenth year one-fifth of the assessable area; at the close of the fifteenth year, half of the assessable area; and at the last year, three-quarters of the assessable area is to be cleared and well stocked with Tea plants.

“In the twenty-first year, on the fulfilment of the above conditions, the proprietary right in the grant, and the right of engagement with Government, shall vest in the grantee, his heirs, executors or assigns, under the conditions generally applicable to the owners of estates in Kumaon, and the rate of assessment on the lands in the grant, in whatever manner cultivated, shall never exceed the average rate on grain crop lands in the same locality.

“On failure of payment of the prescribed assessment in

any year, or of any of the above conditions (the fact of which failure shall, after local enquiry, conducted by the Senior Assistant Commissioner, be finally determined by the Sudder Board of Revenue) the entire grant shall be liable to resumption at the discretion of Government, with exception of the assessable area which may be *bona fide* under cultivation with Tea, and to a further portion of land which shall be allowed in perpetuity, free of assessment to the extent of one-fourth of such cultivated area. The portions so exempted will remain in the possession of the grantee subject to the usual rates and rules of assessment in the District.

“Grantees shall be bound to erect boundary pillars at convenient points round the circuit of a grant, within six months from its date, failing which such pillars will be put up by the Government Officers, and the cost thereof shall be recoverable from the grantee in the same manner as the regulated rate of assessment.

“No claim to the right and interest in a grant on any transfer by the original grantee will be recognized as valid, unless on registry of the name of the transferee in the office of the Senior Assistant Commissioner.

“So long as Government establishments for the experimental growth and manufacture of Tea shall be maintained in the Province, supplies of seeds and plants will be given gratis to grantees, on application to the Superintendent, Botanical Gardens, North-Western Provinces, as far as may be in his power.” Thermometric tables are appended. It is added that the Tea planter must be continually among his men, and the peculiar diseases of the spot are few. Small-pox rages occasionally, and goitre is very common, but yields to iodine.

The cost of a factory will depend on its size but the land required for a Plantation of 1,500 acres will cost about Rs. 2,500 in the hills or 3,500 in Deyrah. The expense of a thousand acres for eight years would be Rs. 2,75,000, the profit Rs. 1,67,972.

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## STATISTICS OF 24-PERGUNNAHS.

THE 24-Pergunnahs lie between 22° and 23° of North Latitude and 88° and 89° of East Longitude. The name arises from the fact that the territory originally ceded to the Company really contained twenty four pergunnahs. The estate was made over to Col. Clive by Jaffier Ali, in 1759, and the rent Rs. 2,22,000 was paid to him till his death in 1774. It then reverted to the Company. The area was then supposed to be 1882 square miles. In 1759



the Company sold them by auction for Sa. Rs. 7,65,700 a year, reserving the royalties worth Rs. 1,50,000 more. In 1820, 23 the pergunnahs now forming the Baraset district were incorporated with the 24 Pergunnahs, which is now bounded on the North by Nuddeah, on the East by Jessore, on the South by the Sunderbunds and on the West by the Hooghly. Its extreme breadth from North to South is 71 miles, and its extreme breadth 78 miles, the superficial area being 2277 miles. The whole district is flat, full of Jheels one of which the Boyrah covers 40 square miles, and intersected by innumerable khals or tidal creeks. "In the Western and Southern portions, an embankment has been raised by the Government, commencing from the Muneekhalee Khal, a little below Akra Farm, and extending along the bank of the River Hooghly as far South as the Cheeta-mooree Telegraph, thence along the borders of the Soonderbund jungle, till it meets the Biddiaduree River, running along its right bank and terminating about four miles to the East of the Dhaupa Toll House." The Northern portion is very rich, but the Southern is spoiled by the Salt water. In the North-East immense numbers of date trees flourish without any cultivation.

The principal rivers are "the Hooghly, the Biddiaduree, the Piale, the Jaboonah or Echamuttee, the Khalindee, the Culpulooa, and the Cobbaduk." The Hooghly is navigable up to Calcutta, a distance of 100 miles, for ships of large tonnage. There is one passage which under various names connects several streams leading through the whole district in an easterly direction. There is also another passage from Joynuggur in Pergunnah Boreedhattee.

The principal roads are the Grand Trunk Road running through Barrackpore to the North-West, the road from Calcutta to Diamond Harbour, from Calcutta to Midnapore, from Calcutta to Joyepore, from Calcutta to Baraset. These roads are metalled. The principal secondary roads are "the road leading from Barrackpore to Baraset, and continuing on to Basserhaut, Soladanah, with a branch to Hurwa and Takee on the Jaboonah River.

"The road from Nychatee, nearly opposite Chinsurah and Hooghly, leading partly through the Nuddeah District and leading to Badoorah (where a branch joins No. 1 to Basserhaut) on the Jaboonah River, which it crosses by a ferry continued on through Poora Boikari, joined at Ootur Pranshulur, by a road coming from Kullarahaut in District Nuddeah and from thence branches off into three roads, one leading to Boyrah and Paroolah, another to Shatkira, Dhoolihaut, Chaudpoor and Paithullee, and the third to Shoroolcer and Sakduh on the Cobbaduk River." Many of these are mere tracks, and there

are points of the district in which there are no means of communication except the tidal khals. The South of Calcutta indeed during the rainy season is a vast lake, traversed by "Saltees," boats made of the trunk of a sal tree. "The climate is that of Bengal generally, healthy and unhealthy according to the season. The year is divided into three seasons—the hot, rainy and cold. The hot season commences from the middle of March and ends about the middle of June, or as soon as the first rains set in. The rainy season continues till the end of September and sometimes runs into October. The remainder of the year constitutes the cold weather." The hot season begins with the change of the monsoon. In the latter part of March, April and part of May the heat is relieved by the North-Westers, storms of wind accompanied by lightning and rain. Though the heat by day is excessive the nights are comparatively cool. In July and August heavy rains fall and it is not till October that the rain gradually ceases, and the weather becomes cool and agreeable. "The population of this District is 9,47,204 souls, the details of which are:—

Men, ...	3,50,466	} Exclusive of the City of Calcutta and suburbs.
Women, ..	3,12,578	
Boys, ...	1,61,026	
Girls, ...	1,23,134	
Total, ...	<u>9,47,204</u>	

"Of these, in the Allipoor Division of the District, the Hindoos are about 3 to 1 of the Mussulmen. In the Baraset Division the Mussulmen are about equal, or a fraction more than the Hindoos. The average per square mile is 121 and per house 5,40." The population of Calcutta is about 3,61,369 and Major Smyth gives the population and area of each Pergunnah. The population appears to have increased from 267 per square mile in 1822 to 421 per square mile in 1856. This indicates prosperity, but the prosperity is confined to the zemindars as rents and leases are insecure. The people are however contented with little, and their character may be summed up as Rammohun Roy summed it "the peasants or villagers, who reside at a distance from large towns and head stations and courts of law, are as innocent, temperate, and moral in their conduct as the people of any country whatsoever. The virtues of this class, however, rest at present chiefly on their primitive simplicity, and a strong religious feeling, which leads them to expect reward or punishment for their good or bad conduct, not only in the next world but, like the ancient Jews, also in this; *secondly*, the inhabitants

of the cities, towns or stations, who have much intercourse with persons employed about the courts of law, by zemindars, &c., and with foreigners and others in a different state of civilization, generally imbibe their habits and opinions—hence their religious opinions are shaken without any other principles being implanted to supply their place—consequently, a great portion of these are far inferior in point of character to the former class, and are very often even made tools of in the nefarious work of perjury and forgery; *thirdly*, a third class consists of persons who are in the employ of zemindars, or dependant for subsistence on the courts of law, as attorney's clerks, and who must rely for a livelihood on their shrewdness, not having generally sufficient means to enter into commerce or business." The want of annual food and very early marriage debilitate the Hindoo. The Mahomedan living more freely has a higher physique. Their habitations are usually of mud, sometimes of brushwood plastered with mud. These huts have no windows or apertures except the doorway, the smoke escaping through the space between the wall and the roof. The houses are shrouded in jungle usually productive, and considered by the Bengalee necessary to keep off the sun and his neighbour's eyes. Each house has a patch of ground in which a few vegetables are reared, and these with rice form the staple food. Occasionally the Bengalee eats a little putrid fish. The Mahomedan however affords himself fowl, kid or pigeon. "Their dress usually consists of a turban, a cloth fastened round the loins, and falling as low down as the knee; over this the better classes wear a long robe of cotton, with a white scarf tied round the waist, the end being thrown over the shoulder. The Mussulman wears a pair of cotton drawers, white and sometimes colored, down to the ankles—a robe of cotton, which, to distinguish him from the Hindoo, he buttons on the left shoulder, the Hindoo fastening it on the right—and a turban on the head." The ryot wears a rag for decency's sake, and sometimes a conical hat made of palm leaves. "The dress of the females is very elegant. The close part of the Hindoo female dress is a jacket with half sleeves, which fits tight to the shape, and covers, but does not conceal the bust. The remainder of the dress consists of a long piece of cotton or silk which is wrapped round the middle, and contrived to fall in graceful folds, till it be below the ankle on one leg, while it shows a part of the other. It is gathered into a bunch in front, and the upper end crosses the breast, and is thrown forward again over the shoulder or over the head like a veil. The hands and feet are usually adorned with ornaments, and sometimes a jewel is worn suspended from the nose. Even the working class of women have their anklets and armlets of brass and sometimes silver."

The Bengalee rises early, and usually eats three meals, at 9 or 10, at 12 or 1, and at 10 p. m. They employ their leisure in music, singing, dancing and various games of chance. The women do all the in-door work, cooking included. Major Smyth describes various games of chance, musical instruments, and indigent modes of conveyance, and proceeds to describe the agriculture of the district.

The agriculturists number 2,90,176 to 60,290 of the consuming class. The area includes

“ Cultivation, . . . . .	8,78,528 acres
Village sites, rivers, jungle, roads, &c., . . . . .	3,58,400 „
Culturable and fallow, . . . . .	2,00,512 „

Total, . . . . . 14,37,440 = 2,246 sq. miles.”

The staple product is rice of which there are three kinds—Aosh, Amun and Borah. “The first is sown in May and June and reaped in August and September; the second is sown in June and July and reaped in November, December, and January; the third is sown in January and February and reaped in April and May.” The Aosh and Bora paddy are thus cultivated. “In the month of ‘Vaisakha’ (April and May), when it rains, the ploughmen till a piece of high ground first, which is called ‘Khill Bhang,’ and a few days after, they till it again—this is termed ‘dochasee’ They then sow the seed in ‘Jyista’ (May and June) and plough and harrow the ground a third time. When the plants grow up, they harrow the land once more and root up the weeds. Ten or twelve ploughings are generally required for cultivating one beegah of ground, and one Rupee per beegah, more or less, is expended for the purpose.” “The ‘Amun’ paddy is cultivated by sowing and planting. In the month of ‘Vaisakha’ (April and May), after a fall of rain, they plough a piece of ‘Shalee bhoomee’ or low land, and prepare or granulate the soil after rain in ‘Jyista’ (May and June), and then scatter the seeds thereon. When seedlings shoot forth, it is called ‘caukree tula.’ In the month of ‘Asarh’ (June and July) or ‘Sravun’ (July and August), they plough and harrow the rice field and make a clayish surface; then transplant those seedlings therein in rows of about a span apart.” The rice has four distinct names. While growing it is called paddy, in the husk dhan, when shelled aman, and dressed anna. The rice is cut by men sitting instead of stooping, the grain being bent down by a bamboo pushed over the field. “The cleaning or husking of the rice is thus done. As much as can be husked during a day is put into an earthen pot, to soak in water during the night; in the morning it is half-boiled, and then spread out in the sun

to dry. This is done entirely by women. The cleaning or husking is effected by means of an instrument called a 'dhenki.'" This is a lever which is raised and depressed by the pressure of the foot, and having a pestle at the other end beats the husk off the rice. A maund of paddy usually yields 16 to 18 seers of clean rice. The thresher if he parboils the rice receives one-fourth for his labour; if not one-eighth. There are numerous modes of preparing rice, and the natives make out of it an intoxicating drink. There are small quantities of tobacco, gram, oats, wheat, and mustard and pan and sugar-cane are grown for the Calcutta market. Goor is manufactured and Indigo grown. The goor is the chief native product is thus prepared. "The date-tree, 'Khejur,' is reared from seed sown in the month of Asarh (June and July). It makes its appearance above ground in about five or six months. It comes to perfection in from four to six years. Much depends on the soil, saltish land being most favourable to its growth. The juice is thus extracted: Five or six of the lower branches on one side of the tree are cut down (to do this a man climbs to the top of the tree, supporting himself by a strong rope, which he passes round the tree and his own loins, tying the ends—he slides the rope up and down with his hands, planting his feet firmly against the tree, and throwing the weight of his body on the rope—in this manner, his hands are free for action—he cuts the tree with an instrument something like a bill-hook and very sharp), and a flat space about 9 inches in breadth cleared. The surface of this space is renewed twice, once in every ten days. At the end of this time, a longitudinal incision is made in the centre, and a small piece of bamboo, about 9 inches long, with a furrow cut in it, is driven into the incision. Below the end of this bamboo, an earthenware pot is hung at sunset, and the juice runs down the furrow into it. In the morning, before sun-rise, these pots are taken down and are generally full." A tree usually yields a maund a month. The goor is then prepared from the juice by boiling. "Sugar made from the 'goor' sells from 7 to 8 Rupees per maund. The 'goor' is sold to Sugar Factories, both European and Native, in the vicinity, who manufacture sugar from it and it is also exported to Calcutta. An intoxicating liquor called 'toddy' is made from the juice by fermentation. In November and December it requires from 8 to 10 seers of juice to make 1 seer of 'goor,' in January and February 6 to 8 seers, and in March and April 5 to 6 seers, and from 20 to 25 seers of sugar are manufactured from a maund of 'goor' of the average kind." The natives make sugar by expressing the treacle from the goor in bags. The

remainder is put into opened mouthed pots with a hole at the bottom. A little milk and water is sprinkled to clarify the sugar and in about twenty-five days all the moisture has run off. The remainder is sugar. Pan is usually cultivated on stiff land and the garden is covered in, watered and manured with oil-cake. Five cottahs covered with pan cost Rs. 86-4, and yield about Rs. 130, or deducting the expense of labour the work being done by the proprietor's family, the returns are about 500 per cent. on outlay. There are three crops a year.

Tobacco. "The tobacco grown in the District is of two kinds, *viz.* Hinglee and Mandhatha; the former is the best. Light soil is usually selected, which is ploughed weekly for eight months, from February to September. The seed is sown in a nursery and transplanted about the end of September, each plant being 18 inches apart. The tops and suckers are broken off in November and December, to prevent their running to seed, and the leaves are collected in January. The produce of a beegah is from 12 to 14 maunds. The leaves are spread out for three or four days on the ground, night and day; they are then strung on a string, and hung within the house, to get the benefit of the smoke for a month, and in March are made up into bundles of  $1\frac{1}{2}$  maunds each, and sold." Tobacco costs about Rs. 23 per beegah and yields about Rs. 35-2.

Sugar-cane. "A rich soil is selected, and high enough to be above the usual water mark of the rainy season. The field is ploughed 10 or 12 times and manured. Cuttings of the cane are planted horizontally in the ground in March, about 18 inches apart, which sprout up in a month. In July and August ('Shrabun') the plants are about 3 feet high, when they are tied up three or four together with their own leaves, to prevent their being blown over. If there is no rain in September or October, it is necessary to water them. The canes are cut in January and February and the juice is extracted by a mill." The cost of a beegah of sugar-cane is about Rs. 18 and the produce about Rs. 30.

The plough is very light, only scratching the ground. It is drawn by cattle whose tails the ploughman takes in one hand while he guides the plough with the other. The harrow "consists of a bamboo split in two and joined across by smaller pieces of 18 inches to 2 feet long, in the form of a ladder." The rake resembles the English harrow; the reaping-hook is nearly the same as in England, but large short-handled hoes called phowrah, and khoodal, and take the place of the English hoe and spade. A complete set of farming implements is worth about Rs. 4-2-6, the plough, phowrah and khoodal being worth respectively one rupee, ten annas, and twelve annas. The most

common trees are the bamboo, mango, cocoanut, palmyra, betelnut, tamarind, date, neem, bale tree, cotton tree, gab (used as a dye) babool, bur, custard-apple, plantain, and others.

The vegetables are "ginger, turmeric, onions, begun; sweet potatoe, radishes, kumrah, meeta kumrah or pumpkin, sem, sorrel, karellah, oorcha, turbooj or water melon, cucumber, peas, ole, garlick, carrots, french-beans, and an endless variety of mosalas, tarkari and sag, which are used in seasoning the food of the natives." The wild animals are the leopard, hog, deer, wild-cat, mungoose, jackal, and fox, but the tiger sometimes makes an incursion from the Sunderbunds, and the rhinoceros is found occasionally in Pergunnah Dholeapoor. The game consists of "the hare, jungle fowl on the borders of the Soonderbunds, wild ducks and teal of all kinds, snipe, and a few quail." The fish are numerous, including the mango, mullet, bhektee, hilsah, rooce and others. The domestic animals are all inferior, but include cows, sheep, goats, bullocks and buffalos. Ducks, fowls and pigeons are reared by Mussalmans. The district contains no minerals of any kind.

The commerce of the district comprises rice, goor, pan, tobacco, indigo, cloths, silk, mats, curds, vegetables, fish, and pottery. Almost all the traffic is carried by water.

Accounts are kept as in other parts of India, but the cowrie currency is thus calculated :—

4 Cowries,	=	1 Gundah.
20 Gundahs,	=	1 Pun.
4 Puus,	=	1 Anna.

The standard of weight is the tola of 180 grains. The standard seer is 80 tolas, and the standard maund lbs. 100 troy. The maund for weighing salt is  $2\frac{1}{2}$  per cent. heavier than the bazar maund. In parts of the district other weights are used. Liquids are sold everywhere by weight in seers.

The linear measure originated thus :—

5 Fingers' breadths,	=	1 Palm.
6 Palms,	=	1 Hath.

Which in square measure becomes

20 Gundahs,	=	1 Chittack.
16 Chittacks,	=	1 Cottah.
20 Cottahs,	=	1 Beggah.

The standard beggah of the district used for the survey is 1600 square yards.

The native usually tells time by the length of his shadow but he divides the day thus :—

15 Namesh,	=	1 Kastah.
15 Kastah,	=	1 Pol.
60 Pols,	=	1 Dundo.
2 Dundo,	=	1 Mohoteek.
15 Mohoteek,	=	1 Day of 12 hours.

The seasons are six—Greeshoo, Bursba, Shurut, Heymut, Scesheer and Busunto.

“The District comprizes two grand Divisions, *viz.* Allipoor and Baraset, and contains 48 Pergunnahs. Of these 37 are *Jona-fide* Pergunnahs, the remaining 11 consist of villages scattered over these 37, which, when collected together, obtain a Pergunnah name. In addition to the above, there is the City of Calcutta and the adjoining Government Estate of Punchanungram, neither of which come under this denomination.” The Alipore Division contains 1,036 square miles. The Baraset Division contains 1,241 square miles or altogether 2,277 square miles containing 4,450 village Circuits. Major Smyth describes the tenure, and observes that the Zemindar usually lets land at from 12 As. to 1 Re. 4 As. per beegah, but the ryot pays from one ruppee to five. His house at starting costs him Rs. 15, and his agricultural implements, bullocks and furniture 17-2. The cost of working his nine beegahs is Rs. 41 a year, and the profits about Rs. 26-2. The return is large as a percentage, but he pays  $37\frac{1}{2}$  per cent. on the capital absorbed in setting himself up. A yeoman however with a small capital renting 30 beegahs makes 125 rupees a year. “This farmer, notwithstanding the rent he has to pay to the Zemindar, which is nearly half of his expenditure, and having no interest to pay, clears 57 per cent. on his expenditure. The interest would have been 83 Rupees. Out of his proceeds, he has to pay his religious fees, which cannot be estimated, and his barber. Farms vary from 8 or 9 beegahs up to 150 beegahs: there may be a few above this area.”

Major Smyth proceeds to describe Calcutta. It comprises an area of 780 square miles, and the population according to Mr. Simm’s estimate is 3,61,369. There are 13,120 pukka houses, and 49,445 kutcha. There are 265 places of worship, 167 of which are Hindoo, 74 Mussalman, 1 Jewish, 1 Armenian, 1 Greek, 1 Chinese, and the remainder different denominations of Christians. “There are 1,043 tanks, 29 public buildings and offices, 9 buildings belonging to charitable institutions, 5 burial grounds, and 20 bazars or markets. The total length of the public roads is 125 miles. The highest part of the town in Clive Street, opposite Cotton Street, is 30.63 feet above the zero of the Tide Gauge at Kyd’s Dock-yard at Kidderpoor, and the lowest part in Muchoa Bazar Street is 18.01 feet above the same datum.



Calcutta has extensive, irregular, and thickly-peopled suburbs. In 1717 the Company purchased 38 villages about Calcutta, which now form these suburbs. Punchanungram, which name would lead to the supposition that 50 had been purchased, is situated North, East and South of Calcutta, and comprises an area of 23.17 square miles. They extend  $2\frac{1}{4}$  miles North,  $2\frac{3}{4}$  miles East, and  $2\frac{3}{4}$  miles South of the boundary of the town itself, and are out of the jurisdiction of the Supreme Court." Major Smyth adds facts of all kinds about each Pergunnah, and supplies the following statistics of the Survey :—

STATEMENT showing the date of commencement and final completion of the Survey of 24 Pergunnahs District, Area, Cost, and Average Rate per Square Mile.

District.	Name of Surveyor.	Date of commencement of Survey.	Date of completion of Survey.	Area in square miles.	Cost.	Average rate per sq. mile.	Remarks.
24 Pergunnahs,	Major R. Smyth, ...	22nd December, 1846, ...	30th September, 1852, ...	22.77	Rs. As. P. 1,12,625 3 4 49 7 4		The first season's work of this District, executed by Mr. Wilson, comes to about 150 Rs. per square mile. This was repeated, and consequently afforded the above average. Excluding Mr. Wilson's work the cost of the Pergunnah Survey, under Major Smyth's superintendence comes to Rs. 55-6-10 per square mile.
Punchanungram,	Ditto, ...	1st November, 1848,	30th November, 1852,	10.75	9,952 8 10		This being a minute survey of Holdings, the rate per mile is not applicable.
Soonderbund Boundary,	Ditto, ...	15th January, 1850,	30th September, 1851, ...	250.00	16,720 9 5		This being a Topographical Survey of the line of boundary, with a certain portion of the Grants in the Soonderbunds, the rate per square mile is not applicable.

REVENUE SURVEYOR GENERAL'S OFFICE;  
Calcutta.  
The 21st April, 1857.

H. L. THULLIER,  
Deputy Surveyor General.

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## THE MUTINIES.

*Parliamentary Blue Books.*

THE Governor General in Council on the 7th February, 1857 forwards to the Court of Directors a correspondence relative to a feeling of uneasiness created amongst the men attached to the depot of musketry at Dum-Dum consequent on a report having reached them that the grease used in the arsenal for preparing the cartridges for the Enfield Rifles was composed of the fat of "pigs" and of "cows." The men were appeased by an order permitting them to receive the cartridges without grease, and to apply with their own hands whatever mixture they might prefer. As service ammunition required to be greased with some substance that would be durable, experiments were ordered to be made at Meerut, where H. M.'s 60th Rifles were stationed, to ascertain the best ingredients for greasing the cartridges, with reference both to the feelings of the native soldiery and to the requirements of the service. The matter was fully explained to the men both at Barrackpore and at Dum-Dum, and they appeared perfectly satisfied; but the Governor General recommended to the Home Authorities not to send ready-made ammunition from England. The Court of Directors on the 8th April approve the proceedings, and assent to the recommendation. They send a Memorandum by the Inspector General of Stores, stating that the grease used in making up cartridges forwarded to India is composed of five parts tallow; five parts stearine; and one part wax. The composition of the tallow itself, he cannot explain, but there is no hog's lard in it.

On the 8th April, the Governor General reports that the Sepoys at Barrackpore have objected to the paper of the rifle cartridges, and that a special Court of Enquiry was held at that station to ascertain the cause of the objections. The proceedings recorded show that the unfounded suspicion of the sepoy that the cartridges were greased with the fat of pigs and cows could not be removed; and as no composition free from grease appeared to answer the required purpose, the sepoy were allowed to tear off the end of the cartridge with their left hand, instead of biting it off. This altered mode of loading was also made applicable to the ordinary percussion musket on the recommendation of the Commander-in-Chief; and the Governor General in Council recommends that if the new plan is found to be as effective as the old practice of biting the end off, the change may be introduced in Her Majesty's Regiments in India. On the same date the Governor General in Council reports to the Court of Directors the circumstances which had led to the

dismissal of the whole of the native officers, non-commissioned officers, and sepoy of the 19th Regiment of Native Infantry who were present with the Regiment at Berhampore on the 26th of February last, when that Regiment committed an act of mutiny in refusing to obey their officers, and in forcibly possessing themselves of their arms. The ill feeling showed itself at Berhampore towards the end of February. The men refused to receive the new cartridges, alleging that the paper of which they were made was of two sorts, and was said to be greased with cow's and pig's fat. The Governor General on the 27th March recorded a Minute, concurred in by the Members of Council, stating the grounds for disbanding the 19th Regiment. After narrating the principal facts connected with the conduct of the men of that Regiment when it mutinied, the Governor General says that "from the moment when the main facts of the outbreak were established, it was clear that no penalty short of disbandment would meet the case. Additional guilt might possibly, by closer enquiry, be fixed upon individuals as instigators or ring-leaders, and to these additional punishment might be found to be due; but the open refusal of the whole Regiment to obey orders, the seizure of arms with violence, and a tumultuous but combined resistance of the authority of its officers with arms loaded, is an offence for which any punishment less than dismissal from the service of the State would be inadequate: mutiny so open and defiant cannot be excused by any sensitiveness of religion or caste, by fear of coercion, or by the seductions and deceptions of others. It must be met promptly and unhesitatingly, and without the delay of a day more than may be necessary. Accordingly, it has been resolved by the Governor General in Council, that the 19th Regiment shall be disbanded immediately, and that the disbandment shall take place at Barrackpore. In accordance with this resolution, the Regiment was ordered down to Barrackpore, where, on the 31st ultimo it was disbanded. The men were disarmed, paid up and marched to Pulta Ghaut. Major General Harsey carried into effect this resolution of the Government, and is praised for the admirable manner in which he performed this most difficult and trying task entrusted to him." And the Governor General hopes, that the "severe measures, which he has been compelled to adopt will have the effect of convincing the Native Troops, that they will only bring ruin on themselves by failing in their duty to the State and in obedience to their officers." A General Order containing the decision of the Governor General upon the offence which the 19th Regiment had committed, and its disbandment in consequence, was issued and read to that corps and the other troops on parade on that occasion.

On the same day, the 8th April, the Governor General in Council further reports that on the 29th March, Mungul Pandey, a sepoy of the 34th Regiment N. I. at Barrackpore having armed himself with a sword, and loaded musket, fired at Lieutenant Baugh, the Adjutant of the corps, and shot his horse. Lieutenant Baugh fired his pistol and missed the man, who then attacked the officer with his sword, and wounded him in the hand. The Sergeant Major of the corps who went to Lieutenant Baugh's assistance, was also wounded by the sepoy. Major General Hearsey arrested the man himself; and in submitting the proceedings of a Court of Enquiry reported his own part in the transaction. He was warned on the afternoon of the 29th March, by one of his Orderlies that the sepoys were turning out on their parade. He immediately rode with his two sons to the parade, and found the mutineer walking up and down. He ordered the Guard to arrest him, which they delayed doing. He then rode towards the mutineer followed by the Guard. Mungul Pandey fired, and the Guard hearing the whistle of the bullet bent to avoid it. The mutineer then fired at himself, and fell with a superficial wound and his clothes on fire. He was secured and sent to Hospital. On the 9th April evidence was taken as to the conduct of Shaik Pultoo, a sepoy of the 34th N. I. who assisted in saving Lieutenant Baugh's life, was made a Havildar on the spot, and recommended for the order of merit. His statement contains the facts. "The sepoy Mungul Pandey, about 4 o'clock P. M. in the afternoon of the 29th March, was straggling backwards and forwards in front of the quarter guard armed with a musket and sword; he had on his red jacket and regimental cap, endeavouring to excite the men of the Regiment to mutiny; some one told the Sergeant Major of this, and he came towards the quarter guard, asking the Jemadar of that guard where Mungul Pandey was, and why he did not confine him. Mungul Pandey then fired at the Sergeant Major, but missed him; he reloaded; the Sergeant Major, being alarmed, ran into the quarter guard, and asked the Jemadar why he did not arrest Mungul Pandey who had reloaded his musket, and told him to send and let the Adjutant know what had occurred on the parade ground. Shortly after this the Adjutant, on horse back, arrived, and asked the Jemadar where the sepoy with the arms was, and why he had not secured him; the Jemadar gave no reply, but I pointed him out. Mungul Pandey was then standing in front of the quarter guard. Just as I spoke he fired at the Adjutant, and wounded his horse. The Adjutant then pulled out a pistol and said, "that man will kill me, he is loading again." I said, "you will not be allowed to be killed, for I am with you." The Adjutant then, with pistol in

his hand rushed towards Mungul Pandy, who, on seeing this did not finish loading his musket, and commenced retreating. The Sergeant Major and I followed the Adjutant as quick as we could. The Adjutant, when within twenty paces, fired at Mungul Pandy, but missed him; when the Adjutant reached him, Mungul Pandy drew his sword and wounded him severely. By this time the Sergeant Major came up, he also was wounded severely. I then came up, and stretched out my hand to stop Mungul Pandy, who was following the Adjutant, and said to him, "Take care, do not strike the Adjutant." He aimed a blow at the Adjutant's neck, which I received on my right hand; I then seized him round with my left arm; the Adjutant and Sergeant Major then got away. I then called out to the Quarter Guard to come and make Mungul Pandy a prisoner, and told the Jemadar Issurie Pandy, who commanded the Guard to send four men, and take him; that I had hold of him and would not allow him to hurt any one; they did not come, but abused me as also did the Jemadar, and said that if I did not let Mungul Pandy go they would shoot me. Being wounded, I was obliged to let him go. While I was holding Mungul Pandy, several men of the Quarter Guard followed the Adjutant and Sergeant Major, beating them with the butt-ends of their muskets."

On the 6th April the Native General Court Martial assembled for the trial of Mungul Pandy. Fourteen native officers besides the President was present. The evidence given at the trial confirmed Shaik Pultoo's story, with the addition that the accused was a man of good character. Fourteen officers found him guilty and eleven voted death. He was executed on the 8th April.

Major General Hearsey on the 6th April, in forwarding a Divisional Order issued by him, notifying the promotion of Shaik Pultoo to be Havildar, recommended that the order of merit be bestowed on him, and that the energetic and gallant conduct of Lieutenant Baugh and Sergeant Hewson be noticed in General Orders. The Governor General, on the 10th April, remarks that it is not in the power of the Major General commanding the Division to make the promotion, which can proceed only from the Government of India, and therefore should not have appeared in a Divisional Order without the sanction of Government. But as the promotion has been announced and the distinction is richly deserved by Shaik Pultoo it is confirmed. The recommendation of Shaik Pultoo for the order of merit will come before the Government in the ordinary way through the Commander-in-Chief. The proposal to publish a General Order on Lieutenant Baugh and Sergeant Major

Hewson is rejected. The Governor General in Council greatly admires the determination and courage shown by those officers, but thinks it undesirable that the sepoy should be led to think the achievement extraordinary, or that the affair should be paraded at all.

On the 14th April Government with reference to trials then going on at Barrackpore, requested the Commander-in-Chief to empower General Hearsey to confirm all sentences on native commissioned officers. On the 16th April, the Commander-in-Chief replies that he has not the power (vide Act 7th, Vic. Chap. 18.) On the 18th April Government reply the Commander-in-Chief has power under 73rd Article of War; and on the 20th April, the Commander-in-Chief confirmed the sentence passed on Issuree Pandey, Jemadar, 34th Regiment, and a warrant was despatched authorizing the General to confirm such sentences. This man was tried on the 10th April for having, at Barrackpore on the 29th March, 1857, "he being then in command of the quarter-guard of his Regiment, not used his utmost or any endeavours to suppress a mutiny begun by Mungul Pandey, sepoy of the Regiment, the said sepoy having on the afternoon of that day, gone out into the parade ground in front of and near to the quarter-guard of the Regiment armed with a sword and musket, and then and there used words to excite the men of the Regiment to come forth and join him in resistance to lawful authority; and having then and there on the parade-ground and near to the quarter-guard of the Regiment, discharged his loaded musket at Sergeant Major James Thornton Hewson and Lieutenant Bempde Henry Baugh of the 34th Regt. N. I., and then and there, with a sword, struck and severely wounded them, and to the said Jemadar not having taken any measure to arrest and confine the said sepoy throughout the aforesaid occurrences, nor to assist the said Lieutenant Baugh and Sergeant Major Hewson, and he the said Jemadar, having moreover, then and there, discouraged and interfered to prevent any sepoy of his guard from going to their assistance, and for disobedience of the lawful command of his superior officers, in not having advanced with his guard to rescue the Sergeant and capture the aforesaid sepoy, Mungul Pandey, when, shortly after the occurrences set forth in the first charge, he was ordered to do so by Brevet Colonel S. G. Wheler, Commanding the 34th Regt. N. I." It was proved in evidence reported at length that the Jemadar though commanded to assist in arresting Mungul Pandey did not, and refused to allow three sepoy who wished to go to move. He was found guilty, twelve officers out of fourteen voting for death. He was executed on the 21st April.

In a subsequent Court of Enquiry held on the 17th April with closed doors it was stated by Durriou Singh, Jemadar, 34th N. I. that on the 20th of January, there was a halt of the three Companies which went to Chittagong at Calcutta near the fort. Subadar Major Ramball of his Regiment was on guard at the Lieutenant Governor's at Allipore. On that day the Guard was renewed and returned to Barrackpore. The Subadar Major Ramball, and Subadar Muddoh Khan and Subadar Lalla Gopal and Jamadar Lalla Guncss, sent for the Moonshee of the Regiment, and had a letter written and sent off to Rajah Maun Sing. Ramball Subadar Major, came to Durriou Singh's guard, which was at the Treasury, on the day that the guards were relieved. He arrived about 10 o'clock, and remained till 12, talking in a treasonable manner, loud enough for all the men to hear, telling them what they were to do, and that he was going off to Barrackpore and could not remain there to conduct matters. The treasonable matters talked about were the cartridges and a refusal to serve any longer. The plan was with the four Regiments and three Companies going to Chittagong, to seize the fort. The King of Oude was to assist, as also the Calcutta Militia, and the sepoy's pay was to be raised to 10 Rupees a month. On the 15th April, a special Court of Enquiry was assembled at Barrackpore to receive the evidence of the European officers as to the state of feeling in the 34th N. I.

Brevet Colonel S. G. Wheeler deposed—Regarding the seven Companies at Regimental Head Quarters, he was of opinion that since the latter end of January last, the men have been more or less in an excited state on account of the new rifle cartridges, and they have shown this feeling both secretly and openly on some occasions. In the latter end of January several Bungalows were burnt down, amongst others the Electric Telegraph Bungalow. A general parade took place on the 9th February, when the subject of the cartridge paper was explained to the men by the General. That explanation seemed to quiet the men a good deal for the time. From all that has occurred, he was of opinion that it was the intention of the Regiment to coerce and resist the Government, and that the feeling in the Regiment was decidedly bad; but that now the men appeared to be very much frightened. His distrust extended only to Hindoos.

Captain W. W. Aubert, 34th N. I., deposed that between May last year, (when he returned from Furlough,) and the date of his entering upon his appointment at Barrackpore, he observed a great want of respect on the part of the men towards their European officers. For instance, he frequently noticed, when he went to the lines on duty and in uniform, that the



men did not stand up and salute him ; a mark of disrespect for which he punished the men of his own Company, and reported those of other Companies. Again when the Regiment was coming down by water in October and November last year, it encountered a severe gale in which three boats were wrecked, but not a single sepoy came forward voluntarily to assist the European officers in getting their boats out of danger. His distrust extended only to Brahmins.

Ensign F. E. A. Chamier, Interpreter and Quarter Master, deposed that the native officers and men were generally disrespectful towards their European officers. He would not trust the Hindoos.

Captain C. C. Drury deposed that with the exception of a few men, the general feeling of the Regiment was very good indeed. Had found sepoys less respectful, but believed it arose from the lax state of discipline.

Lieut. A. C. Bunbury thought the feeling of the Regiment good. The Court were of opinion that the Sikhs and Mussulmans were trustworthy, but not the Hindoos. On 17th April the Court re-assembled, and Lieut. and Adjutant B. H. Baugh deposed that he did not exactly know what might be the present feeling of the native officers and men of the Regiment, but their conduct hitherto had caused him to distrust them. About two months ago, the men were ordered to be paraded in their Hindoostance clothes, in order that the new cartridges might be shown to them ; their conduct on that occasion was most unruly and insubordinate. Moreover their conduct at the time of the attack on him was such that he had no hesitation in stating his conviction that all of them were cognizant of what was going to take place, fully prepared for what did take place, and all more or less implicated. On questioning some of the men a day or two afterwards as to where they were on the occasion referred to futile and confused answers were returned. He would rely on the Mussulmans and Sikhs. Noticed a change in the regiment from the time of the formation of Rifle Depots.

Lieut. and Brevet Capt. A. S. Allen believed that the Regiment had shewn no symptoms of disloyalty as sepoys, had tried to save him on the 29th March, and one man revealed a combination of all the Regiments at Barrackpore. Would have as much confidence in the 34th Native Infantry as in any native Regiment.

Lieut. J. T. Liscombe deposed that he considered the Regiment to be in a disaffected state as on going down to the lines on the evening of the 29th March he saw the whole of the men there looking on at the armed mutineer, and not attempting to seize him.

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The Court upon the additional evidence before them, adhere to their former opinion.

On the 29th April Major General Hearsy presented to Government a Petition from the three Companies of the 34th Regiment N. I. stationed at Chittagong, expressive of the exceeding abhorrence with which they have viewed the recent disgraceful conduct of some of their comrades at Regimental Head Quarters at Barrackpore, and at the same time begging to assure the Government of their own faithful and loyal feelings towards the State. On the 29th March there were in the 34th Regiment 335 Brahmins, 237 Chuttees, 231 Hindoos of lower caste, 12 Christians (two of them sepoy) 200 Mussulmans and 74 Sikhs.

On the 30th April the Governor General records his opinion that the Regiment must be disbanded. The disbandment to be so far tempered as that those of all ranks who were manifestly absent from the lines on the 29th of March, shall be exempted from it, as also those who upon that or any other recent occasion have shown attachment, and fidelity to their officers and to the State. But the Governor General sees no possibility of drawing a line of separation between creeds, in the spirit of the decision given by the special Court of Enquiry, and which should have the effect of relieving the Sikhs and Mussulmans who were present, from the punishment to be inflicted upon the Hindoos. It would be impolitic and dangerous to attempt it. Mr. Dorin concurs. General J. Low concurs, and while fearing some good men may be involved in the order, thinks it is in the highest degree important to avoid any act which could be supposed by the Indian community to indicate that Government is more indulgent towards certain classes of men among its native soldiers than it is to any other class on the score of their religion. Mr. Grant concurs deeming the punishment even lenient. Mr. B. Peacock concurs, but would extend the penalty to certain individuals exempted by the Governor General. In subsequent correspondence the exemptions are upheld. On the 4th May, 1857, the Governor General in Council in a General Order recapitulates the facts, and sentences the Regiment with exceptions to disbanding. The sentence was carried out on the 6th May.

On the 3d April the Military Secretary informed Major General Hearsy that Colonel S. G. Wheler, Commanding 34th N. I. had of late held language to the men of his Regiment, indicating that it was his expectation that they would, sooner or later, be converted to Christianity, and that he has lately addressed them on religious subjects, and requested information. In reply Brigadier C. Grant stated that he knew only one occasion on which Col. Wheler had addressed the men, and on that one he said the British Government never interfered with

the religion of its subjects. Lieut. Col. Wheler himself replied that he had not expressed any belief that the sepoy's would become Christians, though he much wished it, but with regard to his having addressed the sepoy's on religious subjects, he said that during the last twenty years and upwards he had been in the habit of speaking to natives of all classes, sepoy's and others, making no distinction, since there is no respect of persons with God, on the subject of our religion, in the highways, cities, bazars, and villages (not in the lines and regimental bazars). He has done this from a conviction that every converted Christian is expected or rather commanded by the Scriptures to make known the glad tidings of salvation to his lost fellow creatures, our Saviour having offered himself up as a sacrifice for the sins of the whole world; by which alone salvation can be secured. He has directed that this salvation should be freely offered to all, without exception.

On the 13th April, Government request further information, particularly as to the point whether Colonel Wheler had spoken of religion to the men of his own Regiment. In reply Colonel Wheler observes that it has been his invariable plan to act on the broad line which Scripture enforces, that is, to speak without reserve to every person; and therefore whenever he addresses natives on this subject, whether individually or collectively, it had been no question with him as to whether the person or persons he addressed belong to this or that Regiment, or whether he is a shopkeeper, merchant, or otherwise, but speak to all alike, as sinners in the sight of God; and he has no doubt that he has often, in this way (indeed, is quite certain) addressed sepoy's of his own Regiment, as also of other Regiments at this and other stations where he has been quartered.

On the 9th April, the Governor General records his opinion that Colonel Wheler's conduct on the 29th March, demands investigation. His Lordship adds that Colonel Wheler's answers to enquiries directed to him about his religious teaching are not satisfactory, but he does not propose to submit this part of his conduct to Military investigation. The Members of Council agree with His Lordship.

On the 29th March, Colonel Burney reports that the men of the 63rd N. I. stationed at Soorie object to receive their furlough, alleging that the men of the Barrackpore regiments do not intend to take theirs. Two men from Barrackpore had come up by train via Raneegunge to Soorie with a written communication. Previous to this the men agreed to take furlough. The men immediately after returned to a sense of their duty. Major General Hearsey recommends that the fourteen men conspicuous for this refusal should be dismissed the service. On

the 6th April the Governor General observes that he cannot concur in the recommendation of Major General Harsey, as the offence was accompanied by exterminating circumstances and followed by their return to duty. The men belonged to a Regiment which had resisted all overtures to shake their fidelity, and it was therefore sound policy to pass over the offence with a warning. The Members of Council concurred, Major General Low remarking that on any future occasion any sepoy who took a prominent part in such a proceeding should be summarily dismissed.

On the 2nd April Colonel Keith Young forwards to the Government of India proceedings at a Native General Court Martial held at Fort William on Boodheelall Tewarry and Bahadoor Singh, sepoy of the 2d N. I. Grenadiers for having when on duty on the Town Major's Guard at Fort William, at or about 10 o'clock on the night of the 10th of March, 1857, quitted their guard without being regularly relieved and without leave, and not returned until brought back as prisoners on the following morning. "2nd. For mutiny, in having during the absence from the guard, as set forth in the first charge, at about half past 10 o'clock at night, together gone to the Mint Guard in Calcutta, and then and there endeavoured to induce Soobadar Muddeh Khan, then Commanding the Mint Guard, to quit his post, and march on that night with his guard into Fort William, for the purpose of joining in an intended mutiny or concealed combination against the State." Subadar Muddeh Khan, Mussalman, affirmed that on the 10th March while in command of the Mint Guard at about the time of half past 10 o'clock at night, he was sitting on my charpoy, reading. "These two sepoy who are now prisoners before this Court (witness pointing to them both) came up to me. I said to them, where do you come from and who are you? The sepoy who is on the left (pointing to the prisoner Boodheelall Tewarry) said, I have come from the Fort and from the men off duty on the Reserve Guard. I said, well. The sepoy, the one who was speaking, said, At 12 o'clock the Calcutta Militia is coming into the fort, and do you also bring the Mint Guard at that time into the fort, the Governor General is going up to Barrackpore at 10 o'clock, and after taking possession of the magazine there will be some fighting. I was angry and told him to be silent, saying, Hold your tongue, you rascal! how can you say such improper things? I said, get out of this. They went to the door of the guard room and again stopped. I called out for the Naick of the guard, Allahooden, and told him to place them in confinement and place an extra sentry over them. I gave orders that no one should be allowed to come near to them, or speak to them.

They remained all night in confinement, and next morning I sent them off with a Naick and four, with the Havildar, who goes to make the daily report to the Town Major. This is what happened. When they were being taken off the guard they both joined their hands and begged to be pardoned. I said, I have no power. I cannot pardon such an act."

The evidence supported this statement, and the Court sentenced the prisoners to fourteen years' imprisonment with hard labour. The sentence was approved and confirmed by the Commander-in-Chief. General Anson, however records on 1st April an opinion that death is the appropriate punishment for such an offence, but that to some even fourteen years of disgraceful labour may be worse than death. He also promises to reward the Subadar who arrested the men.

On the 19th May the Governor General in Council reports to the Court of Directors the alarming events at Meerut and Delhi, and recommends that the six revolted Regiments be replaced by three Regiments of Europeans. Those events and the recent disclosures of bad feeling in the native army shew that the proportion of Europeans has been reduced too low. It is at present in the Bengal army as 1 to 24½, while in the Bombay army it is as 1 to 9½ and in the Madras army as 1 to 16½. If the proposed measure is adopted, the proportion in the Bengal army will be between those in the Bombay and Madras armies, viz., 1 to 11½. The financial result of the change would be:—

Cost of two Native Infantry Regiments, each of 1,160 native officers and men and two Colonels, . . . . .	Rs. 5,41,336	8
Cost of an European Regiment of 927 rank and file, one Colonel, . . . . .	5,30,985	6

Cost of European, less by the above, supposing every officer and man to be with his Regiment, 13,351 2

Further reductions might be made by allowing only one Colonel, one Lieutenant Colonel, one Surgeon, one Adjutant and one Quarter Master. On the same day a narrative was enclosed stating that some eighty-five men of the 3d Light Cavalry who had been tried by a Court Martial, for refusing to use their cartridges, the old sort, as none of the new kind had been issued, were sentenced to imprisonment, and sent to Jail on the 9th May. On the 10th, the troopers of the Regiment broke into the Jail, and released these men. Nothing is known of the further proceedings at Meerut, but that some 100 men of the 3d Cavalry left the station, and took possession of the Hindun Bridge; telegraphic communication between Delhi

and Agra, and between Meerut and Allyghur, was interrupted; a sepoy arrived, and a Cavalry trooper was apprehended at Bolundshuhur on the 11th. At Allyghur all appeared quiet; strong bodies of police were placed on the road to Meerut, to intercept all straggling sepoy and sowars. The mutineers from Meerut appear to have proceeded to Delhi, and on being joined by the native troops at that place headed by the 38th Regt. N. I., took possession of the palace, fort and town. On the 13th, five sepoy of the 11th and 20th Native Infantry were apprehended at Allyghur. These men had left Meerut and were sent to Jail. Mr. Carter, a Railway Engineer reached Allyghur, having fled from Puloa (probably Purlwal), twenty-seven miles from Delhi, on the road to Muttra. He reported that a large body of insurgents had marched from Delhi towards Agra via Ballaghur (probably Bullumghur, near Pulwal), where Mr. Roods, the Portrait Painter is said to have been killed.

In a message dated the 14th, the Lieut. Governor said that he had received authentic intelligence from the King of Delhi that the town and fort, and his own person, were in the hands of the insurgent regiments, which joined about 100 of the Meerut troops, and opened the gates. The treasury and fort at Meerut were safe on the 12th, and the troops ready to move. Mr. Colvin states that he had addressed the native troops at Agra. A deep and genuine conviction has seized the minds of the sepoy of the army generally, that the Government is steadily bent upon making them lose caste by handling impure things. Mr. Colvin urges the desirableness of issuing a proclamation to the army, pointing out that Government would in every way respect and protect their religious feelings and usages of religion and caste. On the 15th Mr. Colvin recommends that Martial Law should be proclaimed in the Meerut district, the force there being strong and fully prepared to carry out the measure; this was authorized at once. The Maharajah Scindiah had offered his own body guard and a battery of artillery. In addition, a regiment of Cavalry, and a battery of the Contingent, were to go to Agra, and two regiments of Infantry to occupy the road between Delhi and Agra. The mutineers from Meerut appear to have reached Delhi on Monday night, the 11th or Tuesday, the 12th; the Delhi troops, headed by the 3rd Light Infantry, fraternized with them, shot their officers, and put to death all the Europeans, with the exception of a few who escaped across the Jumna. Lieutenant Willoughby, the Commissary of Ordnance, blew up the magazine; the powder magazine, which is near the native lines, alone fell into the hands of the insurgents. Thirty Europeans are said to have been massacred in the city and civil lines. The rebels declared the heir apparent

King ; they are apparently organizing a plan of regular Government ; they remain in the place ; their policy is supposed to be to annex the adjoining districts to their newly founded kingdom ; they may have received fifty lakhs of Rupees. The Regiments that have joined are the 11th, 20th (Meerut Regiments) 38th, 54th and 74th (the Delhi Garrison.) The Lieutenant Governor has received aid from Gwalior and Bhurtpore. The Bhurtpore troops and Gwalior Contingent are to arrive at Muttra in a day or two to keep open the road. A message from Meerut reports the arrival of the Sappers and Miners from Roorkee. The Sirmoor Battalion (Goorkhas) has marched from Deyrah, and the 75th Foot and 1st European Regiments from the Hills. The European Infantry and Artillery Barracks form a place of safety for women and stores, guarded by European troops. The Sirmoor Battalion reached Meerut on the evening of the 16th. There is excitement at Cawnpore, Allahabad and Benares. Full power is given to Sir Henry Lawrence to raise Irregulars. Intelligence received of the Sappers at Meerut having mutinied on the 16th, shot their officers and proceeded to Delhi. They were followed, and about fifty were cut up, the men dispersing. At Lucknow all was prepared on the 17th, the troops having concentrated so as to protect the treasury and magazine. The Lieutenant Governor and Commander-in-Chief have been warned of the importance of attacking Delhi at once. All is quiet at Agra. The Syuds and Jats are entering the field on our side. A wing of the Bengal Seikh Police Battalion has been ordered to Dinapore. The powers of officers commanding troops to assemble General Courts Martial have been extended. Sir Henry Lawrence has been created Brigadier General with full military power in Oude.

A proclamation has been issued assuring the native troops and the people that Government never have and never will interfere with their religious observances or creed. A General Order has also been issued, authorizing the Commander-in-Chief, the Lieutenant Governors, Chief Commissioners, Major Generals, Brigadiers and Officers Commanding Stations at which there may be two or more corps, to promote any non-commissioned officer to a commission, and sepoy to non-commissioned officers for any conspicuous acts of loyalty and gallantry, and the Commander-in-Chief and Lieutenant Governor and Chief Commissioner are authorized to admit native officers and soldiers to the order of merit. Enclosed are telegraphic messages on which the narrative is founded, and the Act VIII. of 1857 for increasing the powers of officers Commanding Divisions and Stations for the trial and punishment of officers against the Articles of War for the native army. The most remarkable message is the follow-

ing which contains most of the facts relating to the demand for reinforcements in a few words.

The Governor General to the Lieutenant Governor, Agra, "send word as quickly as possible to Sir John Lawrence, that he is to send down such of the Punjab Regiments and European Regiments as he can safely spare.

Every exertion must be made to regain Delhi, every hour is of importance. If you find it necessary you may apply to the Rajah of Puttialla, or to the Rajah of Jhccnd, for troops. I am glad you accepted Scindia's. I have sent for an European Regiment from Madras and from Pegu, but they cannot be here for a fortnight, and until then I cannot spare a single European from here. Peace is ratified, but the troops from Persia cannot be here for many weeks, send on the following message to the Commander-in-Chief.

The Madras Fusiliers left Madras for Calcutta on Sunday. The *Oriental* has been despatched to bring up the 35th from Moulmein. An officer goes to Ceylon by to-morrow's mail, to bring European troops from there. A European Regiment has been ordered from Kurrachee by steam to Mooltan, and will be brought up from there in boats. Two European Regiments and some Artillery will come round to Calcutta from Bombay, where they are expected immediately from Persia. I hope to catch the Regiments which are on their way to China. But time is every thing, and I beg you to make short work of Delhi."

On the 4th May Sir Henry Lawrence, Chief Commissioner of Oude reports that on the 2nd May the 7th Oude Regiment refused to bite the cartridges when ordered by its own officers, and again by the Brigadier. It was ordered to parade on the 4th. On the 3rd symptoms of disaffection appeared and in the afternoon it was in a very mutinous state. A force consisting of a field battery, a wing of H. M.'s 32d, one of the 45th and 71st N. I. and of 7th Cavalry, the 2nd Oude Cavalry and 4th Oude Infantry marched against it. The Regiment was found perfectly quiet and expressed contrition; but on seeing the guns drawn up half their body fled throwing down their arms. The Cavalry pursued and brought up some of them. The Regiment was then disarmed, and was told that Government would be asked to disband the corps; but that those found guiltless might be re-enlisted. On the 10th May the Governor General records his opinion that Sir Henry Lawrence should be supported, but that the Regiment should be finally disbanded. Mr. Dorin is of opinion that a severe punishment is necessary to check the epidemic of mutiny. Mr. Grant believes it expedient to wait for further information. General Low would select a few of the most guilty for trial, as would Mr. Peacock.



The following order was dispatched on the 13th May to Lucknow: Sir Henry Lawrence is informed that the Governor General in Council approves of the prompt measures adopted by him in regard to the 7th Oude Regiment: but His Lordship is of opinion, that the disbandment to whatever length it may be carried should be real, and that the men whose innocence can be shown, and whose general character is irreproachable, or those by whom offenders have been denounced, and mutinous designs disclosed, should be retained in the ranks, the others being dismissed absolutely and finally, as there is a fiction in discharging soldiers one day to take them back the next, whatever may be their claims to mercy, which would greatly weaken the general effect of the measure of disbandment as an example. The extent to which such a measure should be carried, and the nature of further punishment in individual cases, will be considered when Government is informed of all the circumstances attendant upon the occurrences of the 4th May; and the Governor General in Council feels it necessary that he should fully understand how the refusal on the 2nd May to bite the cartridges was manifested; what passed previously on the subject, and what were the circumstances which led to the refusal; how the symptoms of disaffection, shown on the 3rd May appeared; whether in such a manner as to implicate the whole Regiment or a portion only; and if the latter how many individuals. Explanation was also necessary as to the Regiment being reported to be in a state of mutiny on the 4th, for on the same evening it was found perfectly quiet and expressed contrition. Sir Henry Lawrence was also desired to state whether subsequently the circumstance of the Regiment breaking and throwing down its arms formed a part of his grounds for disarming it, and whether the panic was attributable to any movements accidental or otherwise, threatening or seeming to threaten, the opening of fire. If these points are not embraced in the enquiry stated in Sir Henry's Telegram of the 12th to have been already made, he is requested to make a further investigation into the subject, including the conduct of the European officers of the Regiment prior to and during the occurrences in question. A book recently published by order of Government on the practice with Rifles, in which it is directed that the cartridges should be torn open, and no allusion is made to the old practice of biting it, was despatched to the Regiments of Oude Local Infantry on the 4th April; Sir Henry was directed to state when that work was received by the corps at Lucknow.

On the 17th May in a Telegram Sir Henry states that the case being emergent he has disposed of the 7th Regiment of

Oude, by dismissing 15 sepoy, and with one or two exceptions, the native officers, the rest forgiven. Their Commanding Officer has returned from the Hills, places implicit trust in them. 200 men only will be armed until receipt of orders.

On the 3d June the Governor General forwards to the Court of Directors the proceedings of a Native General Court Martial on the trial of Salickram Sing, Jemadar, 70th Native Infantry. He was tried on the following charges:—First charge. In having begun a mutiny, and excited others to join in a mutiny in the Regiment to which he belongs, in the following instances:—1st. In having at Barrackpore, on the evening of the 5th March, 1857, in presence of Issuree Sing, Havildar of the Light Company, addressed Jemadar Sewbuccus Sing, of the Light Company 70th Regiment Native Infantry, in words to the following effect:—"My only hope is in you; what do you say? the sepoy may bite the new cartridges if they like, but I will not bite them;" thereby endeavouring to persuade the said Jemadar and Havildar to combine with him in resistance to lawful authority. 2nd. In having at Barrackpore, on the evening of the same day, endeavoured to persuade the men of his Company to disobey the order they had received to thatch their huts without delay; informing them that they need be no hurry in thatching their huts, as there would shortly be a disturbance, thereby inciting the men to resist authority. 3rd. In having, at Barrackpore, on the evening of the 8th March, 1857, had a meeting of non-commissioned officers and sepoy of his Regiment at his hut in the lines of the 1st Company 70th Regiment Native Infantry, in breach of the standing orders of the army and of the Regiment. Second charge. For conduct unbecoming an officer, in having made no report to his Commanding Officer of any intended disturbance, although he informed the men that a disturbance was intended, as set forth in the second instance of the first charge.

The Court convict him of mutiny and sentenced him to be dismissed from the service. The Commander-in-Chief concurs in the verdict, but considers mere dismissal from the service a very inadequate punishment for the crime of mutiny, and sends back the proceedings for revision of the sentence. The Court reassemble, and adhere to their original sentence.

On the 3rd June the Governor General forwards to the Court of Directors the proceedings of an European Court of Enquiry into the conduct of Lieutenant Colonel Mitchell, Commanding the 19th Native Infantry in connection with the occurrences which led to the disbandment of that corps. With these proceedings were also sent a series of correspondence, and the proceedings of a Court of Enquiry at Berhampore relating to the circum-

stances before and subsequent to the outbreak of that Regiment. The sentiments of the Governor General and the facts elicited at the Enquiry are recorded in the following Minute by His Lordship, concurred in by the Members of the Council : — “ A careful perusal of these papers, satisfies me that Lieutenant Colonel Mitchell in dealing with the outbreak of the 19th Regiment N. I. on the 26th February, did not shew the temper and firmness which is required of a Commanding Officer in such circumstances. I cannot doubt that, during the first part of the proceedings, Lieutenant Colonel Mitchell was, as some witnesses have testified, very angry. The inconsiderate threat, that if the men did not receive the cartridges he would take them to Burmah or China, where they would die, which is not denied by Lieutenant Colonel Mitchell, could not have proceeded from an officer speaking advisedly on a matter in which calmness and self possession were urgently needed. But it is especially in the time and manner of withdrawing the Artillery and Cavalry, which he had brought upon the ground for the purpose of compelling to obedience the Regiment which had then taken arms, that Lieutenant Colonel Mitchell's gravest error of a want of firmness consists. The evidence upon this point varies somewhat, but not materially. Lieutenant MacAndrew, Adjutant of the Regiment thinks, that the submission of the sepoy's in lodging their arms was simultaneous with the withdrawal of the Artillery. Captain MacDougall did not see any men lodge their arms, fifty men of his own Company agreed to do so, but they did nothing more than sit down with their arms in their hands. Captain Manning did not see the arms lodged by the few men of his Company who had them. Captain Newhouse says that the arms were not lodged until after he saw the torches which accompanied the Artillery move off the ground. Lieutenant Colonel Mitchell's statement is, that he made no compromise with the men, and that before he ordered the guns and cavalry off, the native officers declared to him that some of the Companies had lodged their arms, and that the rest were doing so. It is no doubt true that there was no arranged bargain between Lieutenant Colonel Mitchell and his men ; but whereas it was his duty to listen to no proposals, and to accept no assurances, until he had satisfied himself, through his European officers, that every musket in the ranks was laid down, he did yield to representations made on behalf of a Regiment in mutiny with arms in its hands, and he did so in order to obtain from them that which he ought to have exacted as an act of obedience. It is impossible not to view the mode in which Lieutenant Colonel Mitchell withdrew the coercing force as a triumph to the mutinous sepoy's. After what has passed in this matter,

I submit that the Government cannot feel that confidence in Lieutenant Colonel Mitchell's judgment and firmness which it ought to be able to repose in every officer commanding a Regiment, and I propose that the Commander-in-Chief be requested to appoint some other officer to raise and command the corps which will take the place of the disbanded 19th Regiment, and to find such other employment for Lieutenant Mitchell as His Excellency may deem suitable."

On the 5th June, the Governor General in Council in forwarding to the Court of Directors a continuation of the narrative sent on the 18th May, and a report from the Lieutenant Governor, North West Provinces, of the events which occurred there up to 22nd May, observes, that the tidings now sent are not without an admixture of hopeful intelligence, and that His Lordship confidently hopes that by the next mail he will be able to report that signal retribution has been inflicted on the mutineers and rebels at Delhi, and that the immediate result has been a perceptible tendency in all the districts to return, at no distant period, to quiet and good order. The Governor General also reports the death of General Anson, and the instructions sent to General Sir H. Barnard to assume command of the force proceeding against Delhi, and warning him of the necessity of attacking the insurgents as early as possible; the continuance of order and quiet, already much imperilled by excitement at the most important stations of Allahabad, Cawnpore, Lucknow and Agra, and in the adjoining districts, being dependent on the early and signal discomfiture of the rebels in arms at Delhi, and in its neighbourhood. The Governor General further informs the Court that, although Major General Reed, C. B. Commanding the Peshawur Division, by right of seniority, becomes Provincial Commander-in-Chief, His Lordship has, considering the emergency of existing circumstances, and the absolute necessity of having at the head of the army some officer of pre-eminent qualifications in point of knowledge of native troops and Indian experience, requested Lieutenant General Sir Patrick Grant to come to Calcutta, and assume command, temporarily, of the Bengal Army.

#### NARRATIVE OF EVENTS.

*Allahabad, May 19th.*—Every precaution taken to secure the fort and cantonments. Troops quiet and well behaved, 160 of the Oude Cavalry had arrived from Pertaubghur. City quiet and no fear of disturbance unless something occurs. *Feu de joie* prohibited on Her Majesty's Birth-day.—23rd.—70 artillery invalids arrived from Chunar and placed in the fort in which there are also 400 Seikhs of the Regiment of Ferozepore. On the recommendation of the Magistrate ladies and children are permitted to enter

the fort for safety. Two men, one apparently a discharged sepoy, were apprehended by some men of the 6th Native Infantry in their lines, trying to tamper with the sepoys. The men were imprisoned, and refused to give any account of themselves. The sepoys, who apprehended them, were immediately promoted. The 6th Regiment Native Infantry volunteered to be led against the insurgents at Delhi. The thanks of the Governor General were conveyed to the corps; and a General Order issued on the subject. All remains quiet; and the European troops are being pushed through to Cawnpore. 500 Irregulars authorized to be raised, the studs to supply undersized horses.

*Agra.*—(Taken from the Lieutenant Governor's report.)  
 "There has been a great deal of excitement here. A parade of troops was ordered on the 13th, and the Lieutenant Governor spoke to them plainly and fully on the subject of the gross delusions that have so widely prevailed regarding the intention of the Government, to meddle with their religious feelings or habits. An offer was made that any of them may take their discharge, if they were not satisfied with the explanation and assurances just given. They all expressed their belief in the Lieutenant Governor's communications to them. They have undoubtedly been infected by a deep distrust of our purposes. Measures have been taken to strengthen the fort and to place in it some considerable amount of supplies. The European force is not to go into it excepting in the very last extremity. Portions of the Gwalior Contingent have been pushed forward to Agra as a reinforcement. The Grenadier Regiment of that force will occupy the station of Etawa on the 25th instant. The Maharaja insists on sending to Agra the whole of his body guard, a force more showy than useful; but calculated to have a calming effect on the public mind. The Electric Telegraph has been of the most invaluable use during the whole of this excited period." Two Companies of a Regiment at Agra having mutinied at Muttra, it was considered expedient to disarm the 44th and 67th Regiments on the 31st. The Lieutenant Governor in a Telegram of the 24th May states: "on the mode of dealing with the mutineers, I would strenuously oppose general severity towards all. Such a course would, as we are unanimously convinced by a knowledge of the feeling of the people, acquired amongst them from a variety of sources, estrange the remainder of the army. Hope, I am firmly convinced, should be held out to all those who were not ringleaders or actively concerned in murder and violence. Many are in the rebels' ranks because they could not get away: many certainly thought we were tricking them out of their caste; and this opinion is held, however unwisely, by the mass of the population, and even by

some of the more intelligent classes. Never was delusion more wide or deep. Many of the best soldiers in the army, amongst others of its most faithful section, the Irregular Cavalry, show a marked reluctance to engage in a war against men whom they believe to have been misled on the point of religious honor. A tone of general menace would, I am persuaded, be wrong." On the 25th May the Governor General telegraphs an order that no mercy should be shewn to any man who resists with arms the Commander-in-Chief's force; any man who has taken part in the murder of an European officer or other person; any ring-leader. Generally, a distinction should be drawn between the Regiments which murdered their officers and those which did not. To men of the latter, forbearance in the first instance, and hope of pardon, if they should show a claim to it, may be extended. On the 25th May the Lieutenant Governor issued the following proclamation:—"Soldiers engaged in the late disturbances, who are desirous of going to their own homes, and who give up their arms at the nearest Government Civil or Military post, and retire quietly, shall be permitted to do so unmolested. Many faithful soldiers have been driven into resistance to Government only because they were in the ranks and could not escape from them, and because they really thought their feelings of religion and honor injured by the measures of Government. This feeling was wholly a mistake, but it acted on men's minds. A proclamation of the Governor General now issued is perfectly explicit, and will remove all doubt on these points. Every evil-minded instigator in the disturbance, and those guilty of heinous crimes against private persons, shall be punished. All those who appear in arms against the Government, after this notification is known, shall be treated as open enemies." On the 26th May the proclamation is cancelled by Telegraph. On the 27th May Mr. Colvin earnestly requests that his proclamation may stand. On the 27th May the Governor General reiterates his order. On the 28th May Mr. Colvin reports that to cancel his order is to cripple his authority. On the 29th May an order is transmitted to the Commander-in-Chief, cancelling Mr. Colvin's proclamation, and on the same day the following remarks are communicated to Mr. Colvin by Government. "The proclamation issued by the Lieutenant Governor of the North West Province on the 25th instant is open to grave objection. By the 1st Clause; it allows all soldiers engaged in the late disturbances, who gave up their arms, to go to their homes unmolested." By the 3rd Clause, the operation of the first is limited, in so far as it is declared that "every evil minded instigator in the disturbances and those guilty of heinous crimes against private persons

shall be punished;" but it is expressly said that only these shall be punished. In the course of these disturbances officers have been killed by their own men, or by the men of other Regiments, and it is known that two Regiments have made themselves especially infamous by such traitorous and murderous acts. It cannot have been intended by the Lieutenant Governor that the sepoys who participated in the murder of officers should escape punishment, yet it is at least doubtful whether under the proclamation they are not entitled to go free, as soon as their arms have been delivered up, and certainly their liberty could not be refused to them unless the term "private person;" crimes against whom are the only crimes denounced, be interpreted as including officers engaged in commanding their men. To stretch interpretations on the side of severity, in a matter affecting the lives of men, is not a right course; and it is especially necessary in the case of a proclamation of pardon, to avoid even the appearance of straining the plain meaning of such a proclamation in order to take lives of any persons who have surrendered upon the faith of it. But furthermore, upon any interpretation of this proclamation, the whole burden of proof that a mutineer has been guilty of the crimes selected for punishment is by this proclamation thrown upon the Government. It is not impossible that Government may be unable to prove one of these punishable crimes against any of those who surrender, and as the officer of Government to whom the sepoy may present himself to deliver up his arms cannot be expected to have any knowledge of the man's conduct, it is difficult to see how there can be any investigation whatever, even in the cases of the men known to belong to the Regiments by which the worst outrages have been committed. No power is reserved to detain a sepoy for the purpose of enquiring into his conduct before conceding to him permission to seek his home unmolested; and though this power might possibly be assumed in the case of individuals against whom suspicion should arise, it would be nothing less than a snare to use it against all the men of a particular regiment without having given notice of the intention to do so. There is then no reason why, with this proclamation in his hand, every sepoy of the 20th or 38th Regiments should not leave Delhi, present himself at the nearest Civil or Military post, and claim of right to go free. In whatever sense the proclamation may be understood by the Lieutenant Governor of the North West Provinces, no action can hereafter be taken under it which shall put the good faith of the Government of India above suspicion except such as would allow of the unimpeded escape of men who have murdered their officers. This would

be a heavy and lasting reproach to the Government of India, and a severe blow to the future discipline of the army. On this account it is unavoidable that the proclamation should be cancelled or superseded with as little delay as possible. But the Lieutenant Governor of the North West Provinces, has earnestly deprecated this course, as one which would weaken his power and discredit his authority. Seeing the difficulties with which the local Government at Agra has to deal, there is force in this appeal. Absolutely to annul an offer of pardon made, however unauthorised, by so high an authority as the Lieutenant Governor of Agra, might have a dangerous effect at this crisis; and in the present aspect of affairs the Governor General in Council does not fail to see the advantages, as tending to hasten the suppression of the rebellion, and the punishment of the more heinous criminals, of the offer of a large measure of mercy to that portion of the mutineers, who, under any circumstances, if they were now to submit, would be leniently dealt with. The number of men who have committed themselves to the rebellion, puts the punishment of all quite out of the question. Moreover, the immediate revocation of the terms on which pardon has been offered, and the substitution, before there had been time to take advantage of such terms, of others less favorable, could not fail to increase the mistrust and fear which has possessed the minds of the sepoys in the North West Provinces who are still in the performance of their duty. It is therefore resolved, that the proclamation of the Lieutenant Governor shall not be set aside until the Commander-in-Chief, now advancing upon Delhi, shall approach the city, when His Excellency will be instructed to issue the following proclamation in the name of the Governor General in Council:—

“ PROCLAMATION.

“The Governor General in Council, having reason to believe that amongst the mutineers in Delhi, there are many that have been constrained against their will or deceived into taking part in the proceedings of those around them, proclaims as follows:—Every soldier of a Regiment which, though it has deserted its post, has not committed outrages, will receive a free pardon and permission to proceed his home, if he immediately delivers up his arms to the Civil or Military authority, and if no heinous crime is shown to have been perpetrated by himself personally. This offer of free and unconditional pardon cannot be extended to those Regiments which have killed or wounded their officers, or other persons, or which have been concerned in the commission of cruel outrages. The men of such Regiments must submit themselves unconditionally to the



authority and justice of the Government of India. Any proclamation offering pardon to soldiers engaged in the late disturbances, which may have been issued by the local authorities previously to the promulgation of the present proclamation, will thereupon cease to have effect; but all persons who may have availed themselves of the offers made in such proclamations shall enjoy the benefit thereof. The Governor General in Council cannot conclude his remarks upon this subject without an expression of his regret that the Honorable the Lieutenant Governor should, without necessity for any extreme haste, have taken the step of issuing a proclamation of this grave character, affecting the reputation of Government in every part of India, and the discipline of the Bengal Army, without previous reference to him. The consequences have been very embarrassing. When the proclamation was issued, His Honor had a few hours before received a telegraphic dispatch showing that the general views of the Governor General respecting the treatment of the mutineers were such as to be wholly irreconcilable with the spirit of the Lieutenant Governor's proclamation. Against these views, as being in his opinion too severe for the existing position of affairs, he remonstrated in a telegraphic dispatch, to which in ordinary course His Honor might have expected an answer in a very few hours. The Governor General in Council is unable to concur with the Lieutenant Governor, in thinking that the terms of his proclamation are substantially consistent with the views expressed in that answer, and however that may be, the proclamation was issued without awaiting that answer. It would not have caused a delay of more than twenty-four or thirty-six hours, to have referred the proposed proclamation in terms to the Government of India, to which authority, in ordinary course, the decision of such an important military question belonged; and as the main object of the measure was to work upon the mutineers at Delhi, even if circumstances had been such as to render the delay of a telegraphic reference to the Governor General in Council inadmissible, the Commander-in-Chief, then on his march to that city, was the subordinate authority to whom the responsibility of acting in the matter without the order of Government should naturally have fallen. The point is one of so much importance that His Lordship in Council feels it necessary to explain himself to the Lieutenant Governor thus fully upon it, but he makes every allowance for the great difficulties of His Honor's position, and he is assured that His Honor acted as he judged best for the public interests in a time of danger."

*Attock.*—Occupied by a wing of 27th Foot; the occupation of that fortress by Europeans being considered of vital importance as securing the passage of the river.

*Allyghur, 20th.*—The four Companies of the 9th Native Infantry after behaving very well for some time, suddenly rose against their officers, who were compelled to leave them. No European injured. The treasury was plundered, and the prisoners in Jail liberated. The officers and civilians retired to Hattrass, eighty men of the 1st Gwalior Cavalry at Hattrass deserted, supposed to have gone to Delhi. Troops could not be spared from Agra to reoccupy Allyghur; but subsequently some Volunteers, headed by Captain Watson and accompanied by Mr. Cocks, c. s. proceeded to the place, and it is understood are there.

*Azimghur.*—All contained quiet up to the 26th, when some excitement showed itself, but the men were soon pacified. *5th June.*—A message from Benares reports that Azimghur has fallen. Four officers said to have been killed; names not given. Ladies all safe at Ghazepore, where they appear to have been sent. A party of Irregular Cavalry had previously been sent to bring away the treasure from both Azimghur and Goruckpore. It is not known whether the treasure left prior to the mutiny of the 17th Native Infantry.

*Barrackpore.*—The native troops continue quiet. As a matter of precaution, 400 men of the 84th Foot, were removed to Barrackpore. On the 25th May the native officers and men of the 70th Regiment N. I. on hearing of the dreadful massacres committed at Meerut and Delhi by certain mutinous native Regiments, and having heard also of disaffection said to exist in the ranks of some other corps in the Upper Provinces, petitioned to be allowed to proceed against the mutineers. The Governor General proceeded up to Barrackpore and addressed the men. "Native officers and soldiers of the 70th, your petition reached me yesterday, and I am come to answer it. I have received it with delight; not because I doubted your fidelity, for I know the trust that is reposed in you by your gallant Colonel, I know the high opinion which your brave General, with his long experience of the sepoys of Bengal, entertains of you; and I have myself marked your good and faithful conduct under recent bad example, when many fell away. I therefore felt sure of your loyalty. But your petition gives me pleasure, because it is an open contradiction of the rumour which has gone abroad, that the unfaithfulness of some Regiments, has tainted all within their reach. You have refuted the unjust suspicion nobly. Men of the 70th I will answer your petition. You have asked to be sent to meet the mutineers of Delhi. You shall go. In a few days, as soon as the arrangements can be made for your progress you shall proceed to the North West." The remaining Companies of the 31th Native Infantry subsequently volunteered to proceed —

against the mutineers. The thanks of Government were expressed to the corps.

*Berhampore.*—All quiet.

*Bareilly.*—The news from this place is obtained entirely from private sources. On the news of the outbreak at Meerut reaching, the troops displayed considerable excitement. The officers, however, pacified their men, and all has continued in a satisfactory state up to the 27th, the date of the last letter. A great want is felt of Irregular Cavalry throughout the Doab and in Rohilcund. Colonel Troup, who was in temporary command of Bareilly, authorized the officer commanding the 8th Irregular Cavalry, to increase his Regiment by 500 men; this has been sanctioned. One troop was raised in a few days; and a second troop was nearly ready. The Irregular Cavalry men on leave in Rohilcund and neighbourhood, had been desired to place themselves under the orders of Collectors of districts.

*Benares, 19th.*—The 13th Irregular Cavalry brought into the station from Sultanpore. *Feu de joie* was prohibited on Her Majesty's Birth-day. Things appear to have been kept quiet by the firm and conciliatory conduct of the Civil and Military authorities. The Head Quarters of the Division is so far removed, the Brigadier Commanding has been vested with authority over the neighbouring stations, which formerly constituted the Benares Division. One hundred of Her Majesty's 10th Foot having arrived from Dinapore, the parties of Europeans who arrived by transit carriages and bullock trains are sent on towards Cawnpore as rapidly as possible.

*Bohundshuhur.*—The Sirmoor Battalion, 400 men, which had been ordered down by Canal, were detained by damage done to the locks. The Civil officers were obliged to leave the place, but returned on the 25th. Rampore Horse are employed keeping the road clear. *1st June.*—The country between Allyghur and this place being fast quieted.

*Cawnpore, 21st.*—Strengthened by 50 Europeans and 2 Squadrons of Irregular Cavalry from Lucknow. Considerable excitement among the native troops, particularly in the 2nd Light Cavalry. That corps had sent emissaries into the camps of the three Native Infantry Regiments asking if they would support them in the event of an outrage. *22d.*—Matters took a favorable turn about half past 7 p. m. yesterday. Up to that time it appears that an outbreak was most imminent, guns were placed in position and every preparation made to meet it. The men were, however, quieted by an address to them by their Commandant through some native officers. Two guns and 300 men of all arms brought in by Maharajah of Bittore. *25th.*—Report on what was considered good authority that there would be an outbreak on the

24th or 25th. All preparations made, but nothing occurred. 26th.—All tranquil. The disaffected, discontented by the efficient measures coolly but determinately taken to meet any outbreak that might be attempted, are sobering down. 29th.—Parties of Oude Irregular Cavalry sent out to Goosaigunge and Mynpoorie to keep the road clear and put down plunderers. Reports from Native Agents more cheering and satisfactory. The 50 men of the 32d Foot sent back to Lucknow, 71 of the 84th having arrived. 31st.—All quiet. 4th June.—The Telegraph communication between Cawnpore and Agra interrupted. 50 of Her Majesty's 84th Foot sent to Lucknow. The Lucknow mutineers had crossed the Ganges and Mendie Ghaut, *en route* to Delhi. The party of Oude Cavalry sent to Mynpoorie to keep open the communication had mutinied and murdered their officers.

*Chunar*, 19th.—The fort was occupied by the Infantry of the Invalid Battalion and Veterans residing at the place. There being no room for the whole native guard usually on duty in the fort, three Companies, a portion was sent back to Benares. 20th.—Seventy artillery of the Invalid Battalion despatched to Allahabad.

*Delhi*.—Little authentic is known of the occurrences in Delhi. The Lieutenant Governor reported on the 22nd May that the retreating native Regiments from Meerut took their way to Delhi, where a few of the troopers first entered the town in straggling parties, harangued the mob and gained over to their cause the wing of the 38th Native Infantry, which was on duty in the town and at the palace. Several Europeans, Civil and Military, and ladies were at once cut down and massacred. The next step then seems to have been to murder all the Europeans in the Civil station, and very few escaped. The 38th, 54th, and 74th Regiments Native Infantry, were at the time at Delhi, with Captain DeTeissier's Horse Field Battery. The 74th Regiment joined without showing much alacrity in the rebel cause, and the Artillery men of the battery were only persuaded to take part with the mutineers when pressed by them in overwhelming numbers, and unable to extricate themselves from their power. A general massacre of all Europeans in and near the Civil and Military station of Delhi took place, but whether this was owing to the savage proceedings of the mutineers or to the truculence of the mob there is not yet the means of knowing. A number of officers were however enabled to escape from the general slaughter, and made their way with much difficulty through the surrounding villages to Meerut, occasionally treated with some kindness, but more frequently with neglect and some violence. Wherever the Goojur population predominated, they

plundered and murdered all parties ruthlessly. A Duffadar of the Gwalior Cavalry Regiment who had passed through Delhi four days previously, had reached Agra on the 29th. He describes the mutineers as robbing whom they please in the city. He says that a Regiment of Infantry, with four guns and some Cavalry, had left the city on the 23d to bring in the Rohuck treasure. A part of the Meerut force was attacked near Ghazeeodeen Nuggur, by a large body of the insurgents from Delhi with five guns. The insurgents were thoroughly beaten, and dispersed with much loss; and the five guns, with ammunition and a great quantity of intrenching tools were taken from them. This victory, the Governor General in his letter to the Court of Directors forwarding the present narrative, says, will be of great value in proving to the mutineers and to the whole army, the prowess of the European troops, even in comparatively small bodies, and its occurrence just now is still more important, when, owing to difficulty in procuring sufficient carriage, and in moving the siege train which the Commander-in-Chief was organizing for the attack on Delhi, a delay of some days must take place before the attacking force can reach that fortress.

*Dinapore.*—Nothing has been heard from this place favourable or unfavourable. The European force consisted of half a Cawnpore battery, 3 guns and about 600 of Her Majesty's 10th.

*Ferozepore, 13th May.*—The 45th and 57th Native Infantry mutinied. The latter Regiment gave up its arms, while the former resisting, were attacked and dispersed by the Artillery, 61st Foot and 10th Light Cavalry which remained staunch.

*Gwalior.*—On the 28th May an outbreak of the troops of the Contingent was expected; preparations were made, and the ladies and families moved to the Residency. The Maharajah assisted with strong bodies of horse and foot, and placed a mansion attached to the place at the disposal of the ladies, where they would be safe. Nothing however occurred, and the ladies returned to cantonments the following day. The Contingent reported to be in a satisfactory state on the 1st June.

*Hyderabad, (Deccan,) 24th May.*—The Resident recommended that the Electric Telegraph should be closed, as a means of communicating news from the North West Government considered it inexpedient to act on this. The proceedings at Delhi had caused considerable excitement in the city; but no disturbance was anticipated.

*Jullunder.*—The native troops are said to be obedient.

*Kurnaul.*—A party of the force from Umballah reached on the 21st. On the 24th a portion was pushed on to Paneeput; the rest of the force cannot get away till the 31st. The delay

caused by the want of carriage, and the non-arrival of the battering train from Phillour.

*Lahore, 13th May.*—The three Regiments of Native Infantry, 16th, 26th, and 49th and 8th Light Cavalry, were disarmed, and the men are doing duty without arms. The Seikh Sirdars are understood to have offered their services to Government. *3rd June.*—Sir J. Lawrence says all safe as yet in the Punjab; but the aspect of affairs most threatening. The whole native army are ready to break out; and unless a blow be soon struck, the Irregulars as a body will soon follow their example. Send for our troops from Persia, intercept the force now on its way to China, and bring it to Calcutta. Every European soldier will be required to save the country, if the whole of the native troops turn against us. Every precaution which foresight can dictate is being taken, to hold our own independently of the natives.

*Lucknow, 23rd May.*—Arrangements for the defence of the several posts have been completed, all considered safe, except from external influences. *25th.*—The Eed prayers concluded without any disturbances. *29th.*—Disturbances threatened outside. Tranquillity cannot be much larger maintained unless Delhi be speedily captured. *30th.*—An *emeute* in cantonments at 9 P. M., 25 of 7th Cavalry proved false. Several Bungalows burnt. Two or three officers killed, and the same number wounded; among the former is Brigadier Handscomb. Quiet in city, majority appear loyal. *31st.*—Most of the Bungalows in cantonments burnt. An outbreak of mutineers, half of 48th, about half of 71st and some few of 13th Native Infantry, with two troops of 7th Light Cavalry fled towards Sectapore. Sir H. Lawrence followed for seven miles with four guns, two Companies of 32d Foot, and 300 Horse. The latter evinced no zeal. 30 prisoners taken. Mr. Gubbins went out with a few Sowars and attacked the rebels at 9-30 P. M. *2d June.*—Colonel Birch moved out from Sectapore with a wing to meet the mutineers, but they turned towards the Ganges, and do not appear to have rallied. The districts are still quiet, except one point about 20 miles North West of Lucknow; but it is expected that they will be quiet when they hear that eight men have been hanged, and that more are about to suffer. The faithful remnants of the 3rd Infantry Regiments, and 7th Light Cavalry, amounting to about 700 men, are now encamped close to the detachment of Europeans. Lucknow is in a much better position. Some disturbance in the city, which was put down by the police.

*Meerut.*—The following account of the outbreak at Meerut is taken from the Lieutenant Governor's report of the 22nd May:—“On the afternoon of Sunday, the 10th May, the 20th Regiment Native Infantry, began the mutiny by seizing its arms simul-

taneously and rushing in a body as if to incite or attack the 11th Regiment Native Infantry. Lieutenant Colonel Finnis, of the latter Regiment was asked by his men to allow them to take their arms : he refused this request, and went forward to speak to the mutineers of the 20th Regiment Native Infantry. They immediately shot him down. The 11th Native Infantry then seized their arms, and united with the other corps. A Company of the 20th Native Infantry had been placed as guard over the jail after the troopers had been placed in it. A body of troopers of the 3rd Cavalry rushed to the jail to release their comrades : a party of the 6th Dragoon Guards were sent to oppose this movement, but appear to have lost their way in the confusion which had intermediately been produced ; for in the interval after the commencement of the disturbance, the Goojur inhabitants of the neighbourhood of the cantonments of Meerut rose *en masse*, plundering property, burning houses, and ferociously murdering every European they came across. In the universal disorder of the moment, amidst a general conflagration, the night came on, and the European force at Meerut was not able to act with any certainty or vigour against the retreating native Regiments. Around Meerut, the state of license in the villages, caused by the absence of all Government, spread for about twenty to twenty-five miles south and about the same limit, or somewhat more north ; within this belt, unchecked license reigned from the Jumna to the Gauges. The absence of any Light Cavalry, or effective means of scouring the country in this severely hot weather, paralyzed the attempts of the Meerut force to maintain any regularity or order beyond the immediate line of its pickets. The bungalows in the cantonments have nearly all been burned down, and all parties—officers, ladies, and children—were, and remain, collected within the enclosure of the Artillery School of Instruction, and in the several lines of barracks adjoining.” General Hewitt gives the names of the killed at Meerut, and of those saved from Delhi.

*Moradabad.*—The troops appear staunch. A party of 200 Sappers and Miners have been forced to lay down their arms, and clothing, and plunder ; date not given.

*Mynpoorie, 22nd June.*—120 men of the 9th Native Infantry mutinied, but did not injure their officers. The Civil officers were devoting themselves to save as much of authority as could be rescued from the insurrection. By the tact and excellent behaviour of Ensign Dekantzow, the men were kept back from any overt act, and finally quitted the station to join the men of the corps at Allyghur *en route* to Delhi.

*Muttra.*—The Bhurtpore troops occupied the post, but were

subsequently moved on to the road between this place and Delhi. On the 30th two Companies of Native Infantry (the relieved and relieving) mutinied and plundered the treasury.

*Neemuch*.—Empty bungalows burnt. Magazine occupied by wing of the Gwalior Infantry. 28th.—All quiet among the troops; a panic in the bazar.

*Nusseerabad*.—Artillery and 30th Native Infantry considered staunch; doubts about 15th Native Infantry. Col. Lawrence had sent to Deesa for 250 European Infantry, 3 guns, and a squadron of Cavalry, and 200 Native Infantry. 26th.—All quiet; but state of affairs unsatisfactory. The Assistant in charge of Ajmere writes to the Political Agent at Jeypore, under date the 29th, that he has just heard that the 15th and 30th Native Infantry and Artillery with six guns, had left Nusseerabad for Delhi, dressed in Hindoostanee style.

*Umballah*.—The Artillery and 2nd Europeans detained on the 25th for want of carriage. The Commander-in-Chief in a Telegram from Umballah of the 19th May to the Governor General states: "All quiet here. Affairs do not go on well; the feeling of the native army may be a little improved, but none can be trusted. The two Regiments here profess that they will go where and do what they are ordered; they express regret for having committed themselves for a moment. They have since behaved well; but our European troops will not act with the same confidence if they are with them; we cannot leave them behind without sufficient number of Europeans to control them. The country is very much disturbed. The communication with Meerut difficult. I hope this will be remedied, having such a force at Kurnaul, we cannot move at present for want of tents and carriage; it would destroy Europeans to march without both, and we have no men to spare. I see the risk of going to Delhi with such small means as we have, perhaps 2,500 Europeans, for should they suffer any loss it would be serious, having nothing more to depend upon in the North West Provinces, but it must be done. I have not heard from below Delhi, or Lieutenant Governor, it would be important to have his views upon the subject, for troops should be brought from Persia, and those going to China should be stopped at Singapore. I hope we may hold on till the crisis is past. We must not omit any means of increasing our European strength. Since this message was begun I have heard from the Chief Commissioner of the Punjab. He recommends strongly that an order be issued giving up the new cartridge. I have adopted this advice."

On the 27th May His Excellency the Commander-in-Chief General Anson died of cholera at Umballah.



*Umritsur*.—It is stated that the 59th Native Infantry do not object to the new Cartridges. A Company of the 81st Foot occupy Govindghur.

Since the dispatch of the mail of the 18th May the following European troops have reached Calcutta: A portion of Her Majesty's 35th Foot, about 380 men from Rangoon, the 1st Madras European Fusiliers, and a wing of Her Majesty's 64th Foot. The 1st Madras Fusiliers have been pushed on towards Cawnpore, by horse-dak, bullock-train and steamers, a portion having already reached their destination. A Company of Her Majesty's 84th had previously been pushed on, and the remainder are following by horse-dak and bullock-train. The 35th have taken the place of the 84th, at Barrackpore, and the 64th will start this day by steam, leaving a few men to follow by the bullock-train. The "*Punjab*" is expected daily with the remainder of the 64th, which will likewise be pushed on as speedily as possible. The *Cøromandel* has just arrived with a Company of the 84th from Rangoon, and a Company of Artillery, it is understood. Sir Henry Ward has offered to send 500 men of the 37th Foot from Ceylon. Two steamers left this, one on the 23rd and the other on the 24th ultimo for Galle, and will bring back the wing of the 37th. A steamer and sailing vessel have also been dispatched from Bombay to bring troops from Galle. The 78th Highlanders may also be expected in another week or ten days from Bombay. A circular was issued on the 29th explaining that none of the new cartridges had been issued to native Regiments. This became necessary from the gross misunderstanding which prevailed on the subject.

On the 24th May, the Ramghur Battalion volunteered to proceed against the mutineers. The Governor General in a General Order thanked the Battalion for this demonstration of their loyalty. On the 5th June a General Order was issued expressing the thanks of the Governor General for the zealous and loyal conduct of the Calcutta Militia in volunteering to proceed wherever their services may, at the present moment, be required.

The Governor General on the 19th June forwards to the Court of Directors in continuation of the narrative sent on the 6th June further intelligence and papers relative to the disaffection prevailing in the Native Army.

All communication by dak, as well as by Electric Telegraph, from and above Allahabad having been entirely cut off since the 6th June, very little information has been received of the events since that date.

*Allahabad*.—The 6th Native Infantry mutinied on the 6th at 9 P. M. They were joined by the three troops of Oude Irregular Cavalry, and the town's people. Thirteen European

officers are reported to have been murdered. The rest, with some Civilians, had taken refuge in the fort which was occupied by some invalid Artillery and the Regiment of Ferozepore Seikhs. A detachment of 1st Madras Fusiliers of between sixty and eighty men reached the fort the following day. Many of the Civil officers and European inhabitants are missing. About 350 Europeans of the 1st Madras Fusiliers, occupy the fort while the Seikh Regiment is at the Steamer's Ghaut protecting it; 400 more of the 1st Fusiliers must have reached by steam on the 16th or 18th. Town in possession of insurgents. 16th.—Col. Neill arrived all safe on the 11th, and Major Stephenson with 100 men on the 12th; party of 30 by steamer on 13th; 279 Fusiliers and 7 officers now here. All Seikhs outside; all guarded inside the fort by Europeans. Horses or bullocks with drivers much required for Artillery, to move out to attack enemy in cantonments. Bridge of boats retaken on 12th, and now held with picquets on opposite sides of river on Benares road. Enemy attacked daily. Heavy loss can best be inflicted with Artillery properly horsed or bullocked. Col. Neill could easily thrash the enemy. 500 Europeans, the least complement now, with half battery at least for this place, and all above 500 men, will be pushed on to Cawnpore. Allahabad now quite safe. The last report from Cawnpore was, it was in our hands. Nothing heard from Sir H. Wheeler: the road from Allahabad to Cawnpore quite closed.

*Agra.*—Appears to be all safe up to the 10th instant.

*Allyghur.*—The mutineers at Lucknow having crossed into the Doab and appeared at Allyghur, the detachment of Volunteers were forced to quit the place temporarily on the 8th.

*Azimghurh.*—The only officer killed is Lieutenant Hutchinson, Quarter Master of the 17th Regiment Native Infantry, who is said to have fallen in trying to save the post guns. The officers and ladies had arrived at Ghazeepore.

*Fort William and Barrackpore.*—Major General Harsey on the 8th and 9th June reports that the 43rd, 70th and 34th Regiments of Native Infantry, have voluntarily come forward and petitioned to be armed with the new Enfield Rifle. The Governor General expresses his great satisfaction at the request of the Regiments, proving as it does that the men consider there is nothing objectionable in either the rifles or the cartridges to their caste or religion; but desires to inform the Regiments that the supply of the new rifles received is so small that their request cannot at present be complied with. Major General Harsey, having reason to believe that the native troops intended to rise on the night of the 13th sent for European troops in order to disarm the Regiments. This was quietly carried into effect on the

evening of the 14th, Sunday; at the same time the whole of the native troops, except the body guard, in Fort William, Calcutta, and the neighbourhood, were quietly disarmed. At day break on Monday morning, the 15th, a detachment of European troops made a prisoner of the King of Oude, his Prime Minister, and others. These are now lodged as prisoners in the fort. A sepoy of the 43d Regiment having given information regarding a man, said to be a follower of the King of Oude, having tried to tamper with the sepoys in the fort, arrangements were made to secure the man, who had agreed with the sepoy to come again on the night of the 13th. The man came and was secured. He was tried by a Court-Martial on the 14th and sentenced to death. Unfortunately, during the night of the 14th, he effected his escape.

*Benares.*—On the news of the mutiny at Azimghur reaching Benares, a rising of the 37th Native Infantry was anticipated, and the authorities determined to disarm that corps. Accordingly the European troops and battery were paraded and marched on the lines of the 37th. The Regiment of Loodianah (Seikhs), with the Irregular Cavalry, and one squadron of the 13th were also under arms. On the Europeans approaching the 37th, that corps opened fire on them, which was returned by the European Infantry and Artillery. As the Regiment of Loodianah was advancing the Resaldar of the Irregular Cavalry rode up to the corps and called out that his men had mutinied. Some shots were fired by the Irregular Cavalry, on which the Seikhs paused, turned round, some firing towards the Cavalry, others towards the Europeans, on which the guns were turned on the Seikhs, who soon dispersed. The 37th in the mean time had been dispersed, and their lines were set on fire. The men of the 37th, the Seikhs, and Irregular Cavalry, passed through cantonments, and took the road to Jaunpore. Some of the Seikhs remained faithful, and protected the treasury, while others protected their officers. Some of the Irregular Cavalry also proved faithful, the party sent to Goruckpore and Azimghur for treasure having brought it in safety, and having since been usefully employed in clearing the road to Allahabad. The district and town appear pretty quiet, and matters appear satisfactory up to the latest date, the 18th.

*Berhampore.*—All quiet; a detachment of Europeans from Barrackpore has been sent to insure the safety of the station. The 63rd N. I. at Berhampore having volunteered to be employed against the rebels, was thanked by the Governor General for their loyalty.

*Cawnpore.*—Nothing heard from this place since the 4th instant.

*Chunar*.—All safe.

*Delhi*.—A second action was fought on the 31st, near the Hindon. Brigadier Wilson's force, reinforced by Sirmoor Battalion, and some reinforcements from Meerut, was to join the Umballa Column on the 5th *via* Bhagpoot Ghaut. The force reached Delhi on the 8th, and drove the rebels dispirited into the town, capturing the heights in front of Delhi and twenty-six guns.

*Dinapore*.—All quiet up to the 15th. Major General Lloyd reported that the 7th Regt. N. I. volunteered to go against the mutineers. The thanks of the Governor General were conveyed to the Regiment for their loyalty and offer of services. On the 3rd June General Lloyd forwarded the following Circular Memorandum which he issued for the guidance of officers Commanding Stations and Posts in the Dinapore Division: "With reference to the present disturbed state of public affairs, officers commanding at stations and posts within the division, are hereby authorized, should emergency arise, to act at once, for the good of the service, upon their own judgment and responsibility, duly reporting the measures they may adopt for the information of the Major General Commanding, and of the Brigadier at Benares, as regards commands in the neighbouring districts." The Governor General approved of the Circular.

*Dacca*.—On the 12th June, a detachment consisting of 100 European seamen from the war steamers *Punjaub* and *Zenobia* with two armed boats and two field pieces were sent to Dacca as a precautionary measure.

*Gya*.—A detachment of 120 Europeans sent to protect the treasury.

*Hansi and Hissar*.—The Hurriannah Light Battalion is said to have mutinied.

*Jaunpore*.—The detachment of the Seikhs, on the mutineers from Benares arriving, murdered their officer, Lieutenant Mara, and other Europeans, seized the treasure, and proceeded into Oude, *via* Fyzabad, Jemadar of the Seikhs having been elected Commandant.

*Lucknow*.—Nothing heard since the 4th instant.

*Meerut*.—Major General Hewitt reported as the latest news from Delhi was that the mutineers were divided into two parties, Mussulman and Hindoo, who had come into collision, and blood had been spilled. The four Companies of the 9th Native Infantry with the treasure from Bolundshuhur and Allyghur are said to have joined the mutineers. The Sirmoor Battalion have behaved well under Major Reid, in making their way to Bolundshuhur against great difficulties from the destruction of the Canal works, they were too late to save the treasure; but the re-

tribution inflicted on the village, where the pillaged Government property was found, had contributed to the tranquillization of the district. General Hewitt forwarded a letter to his address from the Commander-in-Chief of the 23d May containing instructions with respect to the movements of the force from Meerut required to join the column advancing from Umballah towards Delhi. The two forces to form a junction at Bhagpoot on the 5th June.

*Mynpooree.*—On the 29th May, the Lieutenant Governor forwards an extract from a report from the Magistrate of Mynpoory containing an account of the occurrences attending the mutiny of the three Companies of the 9th Regiment Native Infantry at that station on the night of the 22d May; and brings to the notice of the Governor General the marked gallantry and devotion to duty of Lieutenant DeKantzow of that Regiment on that occasion. The Governor General expresses his admiration of Lieutenant DeKantzow's conduct and thanks him.

*Mirzapore.*—All quiet. Treasure removed. The Rewah Rajah has offered 600 Cavalry, 500 Infantry, and five guns. These have been accepted.

*Nowgong.*—The wing of the 12th Native Infantry and native Battery have mutined. Particulars not known.

*Neemuch.*—The troops at the station reported to have mutinied, as well as the Cavalry of the Malwa Contingent. The Infantry of the Contingent at Mehidpore said to be true.

*Umballah.*—On the 17th May the Commander-in-Chief reports that he arrived at Umballa on the 15th and ordered the following movements: The 2d European Fusiliers from Soobathoo to Umballa, and the Nusseeree Battalion to Phillour, to escort a third class siege train and ammunition to Umballah. Six Companies and Head Quarters of the corps of Sappers from Roorkee to Meerut, and the 4th Irregular Cavalry at Hansi to be in readiness to proceed wherever required. To restore the confidence of troops not mutinied, a General Order, intimating that sepoy's would not be required to use objectionable cartridges was issued; and Commanding Officers were ordered to suspend all target practice and firing with blank ammunition. The European Regiments at Umballa are weak in point of numbers. Not more than 1800 effective men in the three corps of Infantry. Accounts recently received are more favorable than those of an older date. The troops concentrated at Umballa, though unable to move for want of carriage, are exercising a powerful influence. A detachment to leave this evening to Kurnaul to maintain order and reassure the inhabitants. The Putteealla Rajah has rendered considerable assistance and so has the Jheend Rajah. In another letter,

the Commander-in-Chief states that circumstances also have taken place at Umballa which render it impossible to rely on the perfect fidelity of the 5th and 60th Regiments of Native Infantry and arrangements were accordingly made to meet the existing state of affairs. Sir John Lawrence in submitting a report sent to him by the Commissioner, Cis-Sutlej States, relative to the recent fires in the cantonments of Umballah, observes that these combinations, arsons and ementes are all caused by the disaffection which has arisen from the introduction of the new cartridge, and that nothing but the giving up the use of the new cartridges will put a stop to the present state of affairs. If this be not done and made generally known, the disaffection which was pervading the whole of the native Regular Army will extend to the Irregulars. The list of fires which accompanied the reports shews that they have been directed chiefly against property either belonging to officers and men attached to the depot, or assigned to them for shelter during the hot months. The Government also have been considerable sufferers and these two facts are sufficient to shew that the musketry depot is obnoxious to the incendiaries, as well as the Government which authorized its establishment.

*Calcutta.*—The European troops arriving in Calcutta are being pushed up as quickly as possible. The whole of the Madras Fusiliers must now be at Allahabad, and the 84th have passed beyond Benares, as also a portion of the 64th, the last of the 75th Highlanders leave by bullock train to-morrow, the 20th, when the wing of the 37th will be despatched. One European battery left by steam this morning, and another is preparing to follow. The detachment of the Royal Artillery will also be sent up by bullock train. On the 4th June an Act No. XI. of 1857 was passed by the Governor General of India in Council providing that All persons owing allegiance to the British Government, who, after the passing of this Act, shall rebel, or wage war against the Queen, or Government of the East India Company, or shall attempt to wage such war, or shall instigate or abet any such rebellion or the waging of such war, or shall conspire so to rebel or wage war, shall be liable, upon conviction to the punishment of death, or to the punishment of transportation for life, or of imprisonment with hard labour for any term not exceeding fourteen years; and shall also forfeit their property and effects of every description: Provided that nothing contained in this Section shall extend to any place subject to Regulation XIV. of 1827 of the Bengal Code.

All persons who shall knowingly harbour or conceal any person who shall have been guilty of any of the offences mentioned

in the preceding Section, shall be liable to imprisonment, with or without hard labour, for any term not exceeding seven years, and shall also be liable to fine.

The Act moreover enables the local Governments to issue Commissions for the trial of such persons, or to disarm any class of the population.

On the 6th June an Act No. XIV. of 1857 for making further provision for the trial and punishment of persons who endeavour to excite mutiny and sedition among the forces of the East India Company, and also for the trial of offences against the State, was passed and published, together with the following General Order : " In pursuance of Act No. XIV. of 1857 passed this day, the Governor General in Council is pleased to authorize every General Officer Commanding a Division, every Brigadier, and every officer commanding a station, being the senior officer on the spot, to appoint General Courts Martial under the provisions of the said Act, as occasion may require for the trial of any person or persons who may be charged with any offence against the aforesaid Act, or against Act No. XI. of 1857, if such offence require in his judgment, to be punished without delay, and to confirm and carry into effect, immediately or otherwise, any sentence of such Court Martial.

General Courts Martial assembled under this authority may consist wholly of European Commissioned officers, or wholly of Native Commissioned officers, the number of officers not being less than five. The officer appointing the Court Martial shall determine whether it shall be composed wholly of European officers, or wholly of native officers, or partly of European and partly of native officers."

On the 1st June, the Governor General in Council reports to the Court of Directors that in consequence of the unhappy events which have occurred in the North Western Provinces, he thought it proper to publish the following Proclamation : The Governor General in Council has warned the army of Bengal, that the tales by which the men of certain Regiments have been led to suspect that offence to their religion, or injury to their caste, is meditated by the Government of India, are malicious falsehoods. The Governor General in Council has learnt that this suspicion continues to be propagated by designing and evil-minded men, not only in the army, but amongst other classes of the people. He knows that endeavours are made to persuade Hindoos and Mussulmans, soldiers and civil subjects, that their religion is threatened secretly, as well as openly, by the acts of the Government, and that the Government is seeking in various ways to entrap them into a loss of caste for purposes of its own.

Some have been already deceived and led astray by these

tales. Once more, then, the Governor General in Council warns all classes against the deceptions that are practised on them. The Government of India has invariably treated the religious feelings of all its subjects with careful respect. The Governor General in Council has declared that it will never cease to do so. He now repeats that declaration, and he emphatically proclaims that the Government of India entertains no desire to interfere with their religion or caste, and that nothing has been or will be done by the Government to affect the free exercise of the observances of religion or caste by every class of the people. The Government of India has never deceived its subjects. Therefore the Governor General in Council now calls upon them to refuse their belief to seditious lies. This notice is addressed to those who hitherto by habitual loyalty and orderly conduct have shown their attachment to the Government, and a well founded faith in its protection and justice. The Governor General in Council enjoins all such persons to pause before they listen to false guides and traitors, who would lead them to danger and disgrace.

A few days after the publication of the Proclamation, separate addresses by different classes of the community were presented to the Governor General, expressing their sorrow and concern at the mutinous conduct of a portion of the Native Army, and the disastrous consequences which have resulted therefrom, and offering to afford Government all the assistance in their power in the preservation of order and in the protection of the inhabitants of Calcutta. The Governor General in thanking the members of the Calcutta Trade Association for their offer of aid, observed that their services would be very valuable as special Constables, and suggested that those who were willing so to act to register their names at the office of the Commissioner of Police who had been authorized to enrol them. The Association was however, assured by His Lordship that there was no apprehension whatever of any riot, insurrection or disturbance amongst any class of the population of Calcutta, and that if any should occur the means of crushing it utterly and at once were at hand. The Governor General also stated that disaffection had not been evinced by all the sepoy Regiments in India as assumed by the Association, there being many soldiers and many Regiments in the Bengal Army who have fairly withstood the evil example and wicked Counsels which have destroyed the fidelity of the few Regiments that have mutinied.

To the French Consul, and other French Residents at Calcutta, the Governor General in returning his sincere acknowledgments hoped there would be no occasion to call for their services. Every thing was quiet within 600 miles of Calcutta. The



mischief caused by a passing and groundless panic, had already been arrested; and in the course of a few days' tranquillity, and confidence would be restored throughout the Presidency.

To the Native Community, Hindoo and Mussalman, the Governor General expressed his gratification at the loyalty, and good sense displayed by them at the present juncture in declaring their abhorrence, and the unqualified and just condemnation of the mutinous conduct of some of the Native Regiments, and remarked that the steadfast policy of the British Government in India has been and ever will be to observe a strict neutrality in matters of faith, to respect all scruples of caste, and to leave its subjects, of every creed, and class, to the free and uninterrupted enjoyment of their religious opinions and observances. The Native Community was also informed that decisive steps were taken for the suppression of the revolt, the punishment of those concerned in it, and the restoration of peace and order in the disturbed districts.

The European and other Christian inhabitants of Calcutta having offered to serve as Volunteers for the protection of the city, the Governor General in a Notification issued on the 12th June, invited all persons willing to serve in the corps of Volunteer Guards of Calcutta, either as horsemen or on foot, as members of that force, to enrol their names at the office of the Town Major in Fort William.

On 4th July\* the Governor General in Council continues the narrative.

*Agra.*—All right up to 15th June.

*Allahabad.*—Lieutenant Colonel Neill arrived on 11th June. He immediately attacked the enemy, but was hampered by drunkenness, wine and spirits being sold to the Europeans at four annas a bottle. This was plundered from various public and private stores. The liquor was destroyed by order of Colonel Neill, the Sikhs turned out of the fort, and on the evening of the 14th he cleared Kydgunge. The Sikhs followed very rapidly, and the enemy evacuated the city that night. Some villages were destroyed and a system of Patrols organized to encourage the country people to bring up supplies. The women and children were all sent away in the steamers which took up the Fusiliers. Colonel Neill reports the cholera in the fort. Brigadier General Have-lock arrived on the 30th June, and a detachment consisting of 400 1st Fusiliers, 300 Sikhs, 28-pounders manned by Artillery Invalids, and 120 Cavalry started on that day for Cawnpore.

*Attack.*—No intelligence.

\* There is some mistake about the date. The narrative is marked 19th June but it refers to the former narrative of that date, and brings events up to 4th July.

*Azimghur.*—Has continued occupied by Mr. Venables, Indigo Planter with 100 men of 6th N. I. and 50 of the 12th Irregular Cavalry.

*Banda.*—The Europeans were forced to quit the station on 14th June, two Companies 1st N. I. having taken possession of the treasury. All arrived at Nagode.

*Barrackpore.*—All quiet. The senior officer present with the 70th N. I. begged that that Regiment might not be disarmed, as the threat said to have been used "let us get beyond Pultah, and then see what we will do" must have been uttered by a bad character. The General of Division however remarks that the men ought to give the bad character up. The Governor General in Council agrees, and refers to information that respectable men in the corps had warned the officers not to take their wives. Desertions to the number of 151 had taken place from the 43rd N. I. of these 56 returned and were allowed to join their guards, and 1 Naick and 12 sepoys were brought back by the Civil power. The Naick was hung.

*Barcilly.*—On 23rd May Brigadier Sibbald reports that the men at Barcilly are quiet, but labouring under a great fear of punishment. On 30th May the Lieutenant Governor authorises the Brigadier to assure the troops in Barcilly that nothing has occurred to shake his confidence in their loyalty. On 31st May the troops mutinied. They consisted of a Horse Field Battery, No. 15, the 18th and 68th N. I. and 8th L. C. The officers Brigadier Sibbald excepted were allowed to escape to Nynce Tal which was protected by the Goorkhas.

*Benares.*—All quiet. Station occupied by 200 Europeans, European Light Field Battery, 800 Sikhs and a few of the 13th L. C.

*Berhampore.*—A sowar of the 11th released some deserters from 43rd N. I. and tried to excite the troops to mutiny. He was sentenced to transportation for life.

*Bhaugulpore.*—In the district at Rohnee four men attacked Sir Norman Leslie, Major Macdonald and Assistant Surgeon Grant. The men were three of them sowars of the 5th L. C. The attack was made on the 12th. On the 15th the men were tried by drumhead Court Martial and hung.

*Cawnpore.*—It is understood that 2nd L. C. and 1st N. I. mutinied on 4th June, and were joined by Nana Dhoondee Punt of Bithoor. The first detailed intelligence was received from Nerput, Opium Gomashita of Cawnpore. He said the Nana had murdered all the Europeans he could find in the city, and also 126 men, women and children, who came in a boat. The English camp kept up its fire, but the troops inside were badly off for provisions. This occurred on 12th June.

On 28th June Sir H. Lawrence writes that the force had been destroyed by treachery. The Nana swore to protect them, then murdered all in their boats. Story is considered improbable.

*Delhi.*—The Umballa column was reinforced on June 6th by troops under Brigadier Wilson. The mutineers were defeated on the 8th with the loss of 26 guns. On the 14th June it was reported the troops had taken the palace with a slaughter of 7,000 men.

*Ghazepore.*—65th N. I. appear to be behaving well. There was a detachment of H. M.'s 64th at the station.

*Gwalior.*—The Contingent mutinied on the 16th. Scindia escorted some of the officers to Agra.

*Goruckpore.*—The Oude Government have lent 3,000 Goor-khas who were to leave on the 29th.

*Hansi and Hissar.*—The Hurriannah Light Infantry mutinied, but officers escaped to Thanesar and Sirsa.

*Hyderabad.*—1st Hyderabad Cavalry refused to fight against men of their own creed. The Hindoos separated themselves from the Mussalmans. The men seeing force arrayed against them calmed down. General Woodburn with a moveable column was however ordered by the Resident to proceed to Aurungabad. He arrived on 24th June. The 1st Cavalry were ordered on foot parade. The good men remained. The bad fled, and commenced saddling their horses, on which they were fired on and dispersed.

*Jhansi.*—Troops had mutinied, and fears were entertained for the Europeans.

*Jullundur.*—Native Infantry mutinied on 8th June, and were joined by 5th Native Infantry at Phillour. Pursued by a force from Jullundur and troops of the Aloowalla Chief.

*Lucknow.*—The mutineers were gradually closing in. The Residency, Muchee Bawun, and cantonments had been strengthened. All well up to 30th June.

*Mynpoorie.*—Held by a detachment of 1st Gwalior Cavalry under Major Raikes.

*Nagpore.*—The Irregular Cavalry of the Nagpore force were disarmed on 23rd June. The Seetabuldee Hill had been fortified, and the European Artillery from Kamptee moved there. Some native officers of the Irregular Cavalry were hung on the 30th June. The 1st Irregular Infantry took part in the proceedings.

*Neemuch.*—The troops mutinied on 3rd June, and proceeded to Delhi. The officers, who escaped, returned, and on 20th all was quiet.

*Oude.*—The troops at Sectapore mutinied on 4th June, those at Fyzabad and Secroora on the 8th, those at Sultanpore and

Persadipore on the 10th. The troops at Baraitch and Gonda went also, but when is not known. Officers not killed escaped to Allahabad. The fate of those at Seetapore not known.

*Peshawur*.—40 men of 55th Native Infantry blown from the guns for mutiny.

*Rewah*.—The Maharajah placed his forces at our disposal. Lieutenant Osborne sent 400 Infantry, 400 Cavalry and 5 guns to Unamapatam, whence they could command the Saugor, Dumoh, and Jubbulpore stations, and another force to the Kuttra Pass.

*Saugor*.—All quiet on 1st July, and force of 600 men from 31st and 42nd and 5th Irregular Cavalry marched against Boondelas and routed them.

On 21st July the Governor General in Council continues the narrative.

*Agra*.—The Neemuch mutineers approached and the Europeans were compelled to enter the fort. The force comprised 650 European Infantry and Artillery, 200 or 300 Volunteers, the Kotah Contingent and some Kerowlee Horse. The Kotah Contingent however mutinied one mile out of town and fired on its officers. The Kerowlee Horse also left, but the Europeans marched on and defeated the enemy but were obliged to retreat for want of ammunition. Agra was virtually in a state of siege on 7th July, and Mr. Colvin incapacitated for business by a complaint of the head.

*Allahabad*.—Col. Neill has been appointed a Brigadier General. General Havelock's column left Allahabad on 7th July, and on 12th July defeated the insurgents before Futtehpore, taking eleven guns. Not a European was touched. The enemy's strength was 2 regiments of Cavalry, three of Infantry, and eleven guns. The result says the Brigadier General is to be attributed to "the fire of British Artillery, exceeding in rapidity and precision all that the Brigadier General has witnessed in his not short career, or to the power of the Enfield rifle in British hands, and to British pluck, that quality which has survived the revolution of the hour, and gained no intensity from the crisis, and to the blessing of Almighty God, and to the most righteous cause of humanity, truth and good Government in India." On 14th, General Havelock was compelled to disarm 13th and 3rd Irregular Cavalry, but on 15th again beat the enemy at Pandoo Nuddy, taking four guns. Brigadier General Neill left Allahabad for Cawnpore by dak on 16th July.

*Banda*.—The remaining officers of the 12th N. I. were safe with the Nawab of Banda on 29th June.

*Barrackpore*.—A detachment of seamen have been placed in Fort William to serve as Artillerymen.

*Bareilly.*—Col. 1100P reports on 10th June that on 29th June the Commissioner wrote to him mentioning the intention of the 68th N. I. to mutiny on that day. This was confirmed by a Havildar Major of the Regiment. He armed all the officers, and the 8th Cavalry turned out apparently in heart and spirits. The day passed quietly, but on 31st June the men rose, the 68th firing on the officers in their bungalows. The officers were saved by some of the 8th I. C. who rode off with the surviving officers and ladies to Nynce Tal. The native officers were promoted. Seven gentlemen of the station were known to have been murdered.

*Cawnpore.*—Brigadier General Havelock retook Cawnpore on 16th July. The Nana had murdered all the women and children, and retreated to Bithoor, blowing up the magazine. The British loss was about 70, but the action which lasted 140 minutes was a complete victory.

*Delhi.*—Sir H. Barnard, K. C. B. was attacked on 30th May on the bank of the Hindun. The mutineers were driven back with a loss of five guns, some carriages and ammunition. The besiegers lost eleven killed, nineteen wounded and two missing. On 31st May the enemy again attacked, but were driven back with loss. The besiegers lost 12 killed and 12 wounded. Major General T. Reed, C. B. joined the force on 8th June. The total force in camp was "4 guns, 2nd Troop, 1st Brigade; 2nd and 3rd Troops, 3rd Brigade Horse Artillery; 3rd Company, 3rd Battalion, Artillery, and No. 14 Horse Field Battery; 4th Company, 6th Battalion, Artillery; Detachment Artillery Recruits; Head-quarter's Detachment Sappers and Miners; Her Majesty's 9th Lancers; two Squadrons Her Majesty's 6th Dragoon Guards; Head-quarters and six Companies 60th Royal Rifles; Head-quarters and nine Companies of Her Majesty's 75th Regiment; 1st Bengal Fusiliers; Head-quarters and six Companies 2nd Fusiliers; Sirmoor Battalion." On June 8th, Sir H. Barnard carried an entrenched position at Badulce-ke-Serai, and drove the enemy despite a most determined resistance within the walls of Delhi. He captured twenty-six guns. The natives vied with the Europeans in zeal. Only one officer was killed, Colonel Chester, Adjutant General of the Army.

*Indore.*—Holkar's troops rose on 1st July, and attacked the Residency. The Europeans escaped to Schore.

*Jhansi.*—It is feared that all the Europeans have been murdered.

*Jubbulpore.*—The Commissioner's house fortified, but safe up to 10th July.

*Jullundur.*—"The 36th and 61st Regiments mutinied on

the 4th June, and with a few men of the 6th Light Cavalry, proceeded to Phillour, where they were joined by the 3rd Native Infantry. These corps crossed the Sutlej a little above Loodianah, and eventually entered that town, from which they were driven by a party from Jullundur—part of Her Majesty's 8th Foot, and some European and Native Artillery, and some of the 6th Light Cavalry."

*Lucknow.*—On 30th June, Sir H. Lawrence went out with 200 of the H. M.'s 32nd, 40 Sowars, and 11 guns to attack insurgents. The Sowars and Artillery revolted, and the Chief Commissioner was compelled to retreat. Sir H. Lawrence died on the 4th July from wounds. Provisions were in store for six weeks.

*Mhow.*—The troops, right wing 1st L. C. and 23rd N. I. mutinied on 1st July, burnt cantonments, and murdered several officers. The remainder are in the Arsenal with European Artillery. Holkar's troops are said to have moved on Delhi. Holkar himself staunch.

*Nagpore.*—Three Ressaldars executed with the best effect. Great quantities of arms have been delivered up. The city remained quiet.

*Saugor.*—The 42nd N. I. mutinied on 3rd July, and part of 3rd Irregular Cavalry. The European Artillery and officers had previously provisioned the fort. The 31st and some of the 3rd Irregulars without their officers marched out and defeated the mutincers. The Government ordered a report on the circumstances which induced the officers of a Regiment thus proved to be faithful to quit it.

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## MADRAS BUDGET OF 1856-57.

### *Madras Records, No. XXXVIII.*

ON the 19th March, 1856, Mr. J. D. Bourdillon, Secretary to the Government of Fort St. George, Public Works Department, submitted Statements Nos. 1 and 2 of projects of Public Works proposed to be undertaken or continued in 1856-57.

The works in No. 1 are beyond the competence of the Madras Government to sanction. This number contains fifty-eight new projects involving an estimated aggregate outlay of Rs. 60,13,682, of which the sum of Rupees 26,93,577 is proposed to be expended in 1856-57. Out of the fifty-eight projects requiring the sanction of the Government of India, eight were included in the Budget of 1855-56. The remaining fifty are separately re-

ported on in the Budget under review, and are treated under the following classification :—

IRRIGATION WORKS.

- No. 45. Annicut over the Tambrapoorn<sup>o</sup>y River.  
 „ 17. Continuation of the Southern High Level Channel from the Kistnah Annicut.  
 „ 18. Kistnah Annicut Channel from Vallahbapoorum, to tide water on the Southern Bank.  
 „ 32. Poiney Annicut Channel.  
 „ 47. Calingaroyen Channel in Coimbatore.  
 „ 1. Embanking the Mahanuddee in the Ganjam District.

NAVIGATION WORKS.

- „ 55. Extension of East Coast Canal from the Palaur to the Pondicherry Frontier.  
 „ 54. Improving the Coast Canal between Madras and Ammucovil.  
 „ 14. Building two locks and Calingulahs in the Ankeed Canal and embanking the Weyairoo.  
 „ 10. Increasing the width of the Palcole Canal with locks at Nursapore and Maurootair.  
 „ 50. Cutting a Canal from the Tuddry River to Coomptah.

TRUNK ROADS.

- „ 29. Additional Metalling to part of Trunk Road, No. 1.  
 „ 28. Raised causeway and bridges over the Puninggardee Backwater.  
 „ 20. Masonry works between Covoor and Moodegunder River.  
 „ 5. ——— works between Soobaram and Chittavalsah.  
 „ 4. Formation of the Road between Chittavalsah and Chicacole.  
 „ 3. Completing the road between Chicacole and Sunthoshapurum.  
 „ 2. Construction between Sunthoshapoorum and Dendagudda.  
 „ 21. Masonry works in completion of Trunk Road, No. 7.  
 „ 35. Bridge over the Pennaur on Trunk Road, No. 8.  
 „ 36. ——— over the Vellaur on Trunk Road, No. 8.  
 „ 39. Additional Metalling between Oolundoorpett and Samiaveram.  
 „ 37. Bridge over the Pennaur on Trunk Road, No. 9.  
 „ 38. ——— over the Guddilum on Trunk Road, No. 9.  
 „ 23. Masonry works on Trunk Road, No. 11.

## DISTRICT ROADS.

- No. 6. Road from Vizagapatam to Polapurty.  
 „ 15. ——— between Masulipatam and Ibrahimpatam.  
 „ 19. Bridge over the Boogairoo.  
 „ 26. First Class Road between Ghootty and Rayelcherroo.  
 „ 24. Completing Road from Cuddapah to Tolapodatoor.  
 „ 25. Bridging the Bellary and Humpsagur Road.  
 „ 30. Bridge over the Cooum at Dacumbode.  
 „ 31. Road from Chingleput to Taiteray.  
 „ 33. ——— from Trivatoor to the Palaur Annicut.  
 „ 34. Bridge across the Palaur at the Annicut.  
 „ 40. ———over the Vellaur on the Southern Coast Road.  
 „ 41. Road from Trichinopoly to Salem boundary.  
 „ 42. ——— from Trichinopoly via Laulgoody and Woodiar-  
 polliem to join Trunk Road, No. 9.  
 „ 43. Bridge over the Vigay River.  
 „ 44. Pulkanooth and Nellocotah Road.  
 „ 46. Road from Palamecottah to Tuticorin.  
 „ 48. Bridge over the Ambravaty.  
 „ 49. Bridging the Guersappah Ghat Road.

## BUILDINGS.

- „ 11. Buildings for the Sappers and Miners at Dowlaiswa-  
 rum.  
 „ 27. New Hospital for the European Barracks at Bellary.  
 „ 57. Altering and improving the Dragoon Barracks at  
 Bangalore for the accommodation of a European  
 Infantry Regiment.  
 „ 56. Building two Blocks of married men's quarters in the  
 above Barracks.  
 „ 51. Improvements to the Custom House.  
 „ 52. Civil Audit Office.  
 „ 58. Secunderabad Barracks.

This project has already been sanctioned by the Government of India.

The Statement No. 2 exhibits the works sanctioned by the Government of India, the estimates of which amount to Rs. 88,76,807. Up to the end of the current official year Rupees 36,58,522 will have been expended. The amount required for the ensuing year is Rupees 37,07,214.

Putting the two Statements together, the total estimated cost of works other than repairs, proposed to be under execution wholly or in part during the ensuing year under this Presidency, amounts to Rupees 1,48,90,489, of which sum Rupees 36,58,522 have already been expended and Rupees 64,00,791, it



is proposed to lay out in that year, leaving Rupees 48,31,176 for future years."

The amount proposed to be expended on repairs as exhibited in a third statement added under Nos. 1 and 2, is Rs. 18,51,470.

The following is an abstract of the expenditure sanctioned by Government for works described in the Statements submitted by Mr. Bourdillon :—

Districts.	Total Estimate sanctioned.	Amount already authorized to be expended.	Amount already expended.	Amount to be authorized for the year 1855-56.	Remaining amount available for completion.
1. Ganjam, ...	2,24,330	1,67,822	1,23,003	94,477	6,850
2. Vizagapatam, ...	1,01,492	78,309	54,500	16,992	0
3. Rajahmundry, ...	9,69,990	7,66,371	5,26,000	3,01,380	1,42,610
4. Masulipatam, ...	7,54,216	5,36,105	2,95,652	3,41,489	1,17,075
5. Guntoor, ...	3,80,948	2,84,937	1,56,932	2,06,255	17,761
6. Nellore, ...	3,09,193	1,70,713	75,175	2,29,018	5,000
7. Cuddapah, ...	1,54,901	1,29,549	75,460	79,441	0
8. Bellary, ...	8,94,421	2,68,649	1,69,130	1,80,911	44,380
9. Chingleput, ...	3,76,865	1,50,000	28,260	1,83,592	2,15,013
10. North Arcot, ...	9,00,828	5,69,889	3,58,889	3,33,639	2,08,300
11. South " ...	3,89,310	2,07,835	1,26,559	2,05,076	57,675
12. Tanjore, ...	4,54,943	3,19,841	2,20,561	2,31,379	3,000
13. Trichinopoly, ...	1,23,991	1,12,987	63,152	60,839	0
14. Madura, ...	1,29,708	47,117	19,003	54,665	56,040
15. Tinnevely, ...	89,539	87,915	23,957	45,458	20,124
16. Coimbatore, ...	15,25,749	4,37,343	4,16,200	5,02,306	6,07,243
17. Salem, ...	98,308	15,989	6,219	92,059	0
18. Canara, ...	1,99,769	1,86,239	1,17,688	82,181	0
19. Malabar, ...	2,72,429	1,46,039	80,423	1,92,006	0
20. Madras, ...	1,07,450	91,570	70,406	37,044	0
21. Secundrabad, ...	4,88,313	4,77,923	4,70,000	18,313	0
22. Saugor, ...	3,782	0	0	3,782	0
23. Jaulnah, ...	9,245	6,163	3,512	5,733	0
24. Kurnool, ...	1,75,560	1,42,707	77,908	87,632	10,000
25. East Coast Canal, ...	2,26,523	1,00,000	1,00,000	1,26,523	0
26. Mysore, ...	14,904	0	9	14,904	0
	88,76,807	51,53,415	36,58,622	37,07,214	15,11,071

On the 11th July, Colonel Baker, Secretary to the Government of India, Department of Public Works eulogizes the Madras Budget of 1856-57 for the admirable manner in which it has been prepared. He proceeds to convey orders upon the several projects enumerated in Mr. Bourdillon's letter of the

19th March, and expresses opinions and remarks on the following works in Statement No. 1, Projects Nos. 17 and 2; in the one, "no designs have been submitted for the aqueducts across the several streams, nor have the streams themselves been marked in the sketch Map" and in the other, "an approximate estimate of the cost of the larger Bridges has not been given. Expresses doubts as to the sufficiency of the foundations of the Pennaur Bridge, No. 35, and of the masonry works, No. 23, proposed in Trunk Road, No. 11 in the probable event of sand being found in the river bed to a greater depth than that of the substructure." The Project No. 18, Kistnah Annicut Channel, he considers "not complete inasmuch as the Bridges and minor Channels of distribution remain unprovided for. The selection of a site for the Channel, in such near proximity to the river, has probably been guided by the circumstance that the river's margin is higher than the adjoining land; but if this river be given like most other rivers in alluvial soil, occasionally to erode its banks, its neighbourhood to the canal may prove to be a source of frequent apprehension and danger." Calls for information as to the supply of water in the Kistnah at different seasons to feed the existing Channels and those projected, as well as that relating to the cost of the Bridges noticed above. The additional information furnished with Project No. 1 is defective. "The sections run merely along the bank of the river and do not show the relative levels of these banks and of the adjacent country. No information is given of the site of the embankments, what area of floodway they enclose between them? What volume of water is discharged by the river in highest floods; or to what extent the embankments would limit the present spread of water?" Sanction to further outlay on this project is withheld until satisfactory and complete report on the points above indicated shall have been submitted. Further and more detailed information is also called for respecting the Project No 55. 1st. The Canal being affected by the tides it is not clear how its level can be steadily maintained unless there be a lock at each point where it enters and emerges from these Tidal Lagoons. The number and position of such locks should be distinctly shown. 2nd. There is no specification of the works, and the estimate is a general one. The Project No. 14 being a work of considerable importance, a Statement of the nature and extent of the expected traffic and of the probable returns is required, and with regard to Project No. 50, Colonel Baker observes "that neither the length of the Canal is stated, nor is there a scale to the map." Directs attention to his remarks on the propriety of levying tolls on all Canals of Navigation. Projects Nos. 29, 26, and 24 to remain in

abeyance. Expresses doubt as to the efficiency of "Sand and Potter's earth" for road metalling proposed in Projects Nos. 6, 15, and 19, as the roads being important, will be subjected to heavy traffic. On Project No. 43, remarks as to the deficiency of the depth of the wells of the Bridge on the Vigay River, and considers it doubtful whether the Verandah on the Sea front of the Custom House could be used as an Export ware-house as proposed in Project No. 37.

On the 12th August the Government of Madras recapitulates the works sanctioned, and directs the attention of the Chief Engineer to the several points commented upon by Colonel Baker. The works that have been sanctioned are as follow :—

IRRIGATION WORKS.		Rupees.
No. 18.	Kistnah Anicut Channel from Vullabapoorum to tide water, ... ..	1,39,700
„ 47.	Calingaroyen Channel in Coimbatore, ...	64,898
„ 54.	Canal between Madras and Ammuncovil, ...	72,800
„ 10.	Increasing the width of the Palcole Canal, and building a lock, ... ..	57,280
„ 50.	Canal from the Tuddy River to Coompta, ...	36,021
TRUNK ROADS.		
„ 28.	Works at Puningardee back water on the Northern Trunk Road, ... ..	33,023
„ 20.	Masonry works between Covoov and Moodigunda, ... ..	81,580
„ 21.	Ditto, in completion of No. 7 Trunk Road, ... ..	89,134
„ 36.	Bridge over the Vellaur on Trunk Road, No. 8, ... ..	37,263
„ 39.	Metalling between Oolundoorpett and Samiaveram, ... ..	37,313
„ 37.	Bridge on Trunk Road, No. 9 over the Pennar, ... ..	46,901
„ 39.	Ditto ditto, Guddilum, ... ..	25,869
DISTRICT ROADS.		
„ 6.	Road from Vizagapatam to Polapurty, ...	45,750
„ 15.	Ditto Masulipatam to Ibrahimpattam, ...	43,250
„ 19.	Bridge over the Boogairoo, ... ..	38,558
„ 25.	Bridging the Bellary and Humpsagur Road, ...	59,250
„ 30.	Bridge over the Coom at Dacumbode, ...	26,860
„ 31.	Road from Chingleput to Taitoray, ...	41,130
	Carried forward, ... ..	9,79,880

	Brought forward, ..	9,79,880*
No. 33.	Road from Trivatoor to the Palaur Annicut, ... ..	38,600
„ 34.	Bridge across the Palaur at the Annicut, ..	94,400
„ 40.	————— over the Vellaur, on the Southern Coast Road, ... ..	35,020
„ 41.	Road from Trichinopoly to Salem boundary, ..	50,000
„ 42.	Ditto Ditto, via Lalgoody to join Trunk Road, No. 9, ... ..	43,600
„ 43.	Bridge over the Vigay River, ... ..	42,200
„ 44.	Pulkanooth and Nellacottah Road, ... ..	25,560
„ 46.	Road from Palamcotta to Tuticorin, ... ..	67,361
„ 48.	Bridge over the Ambravutty, ... ..	63,830
„ 49.	Bridging Guersapah Ghaut Road, ... ..	25,994
BUILDINGS.		
„ 11.	Buildings for the Sappers and Miners at Dowlaishweram, ... ..	47,028
„ 27.	Hospital for European Troops at Bellary, ... ..	82,330
„ 67.	Dragoon Barracks at Bangalore, ... ..	1,55,600
„ 51.	Additions and alterations to the Custom House at Madras, and improving the external accomodation, ... ..	70,010
„ 52.	Rebuilding the Civil Audit office, ... ..	37,350
	Total Rupees, ... ..	18,58,793

## REPORT ON VACCINATION, MADRAS PRESIDENCY.

*Madras Records, No. XLII:*

ON the 9th June, 1857, Dr. A. Lorimer, Secretary Medical Board, submits returns of Vaccination throughout the Madras Presidency for 1856. The number of operations performed in 1856 amount to 4,02,440, while in the preceding year 4,39,651 Vaccinations were recorded, showing a decrease of 37,211. This deficiency in 1856 is discouraging, but the Medical Board believe, that the present returns have been more correctly prepared than those of the previous year, and thereby more real good has been accomplished. Other causes are also stated to which the Board ascribe the decrease in the number of Vaccinations, but the chief obstructions to the spread of the prophylactic are the prejudices and apathy of the Hindoo community, and the want of cordiality generally on the part of the Native of-

ficials in the districts. As a remedial measure the Board recommend that the Collectors and other Civil officers be reminded of the orders of Government to give that full support and co-operation to the Circuit Vaccinators, which is necessary to the promotion of Vaccination, but which has been so partially accorded.

The Government on the 14th July, record their remarks and orders on the report, and the causes which have affected the progress of Vaccination in the Madras Presidency, and express a hope that all the Civil authorities will afford the fullest support to those specially employed in this work.

REPORT ON THE ADMINISTRATION OF THE  
SALT DEPARTMENT.

For, 1855-56.

MR. T. E. Trevor, Officiating Secretary to the Board of Revenue on the 7th February, 1857, submits statements containing the results of the Administration of the Salt Department for 1855-56.

The quantity of Salt in store on the 1st October, 1855, as compared with the same date in the previous year, was

	<i>Mds.</i>	<i>Srs.</i>	<i>Cks.</i>
In 1854,	11,26,664	14	15
In 1855,	20,59,864	12	4

The quantity imported and sold during the two years was as follows :—

IMPORTED.

	<i>Mds.</i>	<i>Srs.</i>	<i>Cks.</i>
In 1854-55,	73,63,823	30	12
In 1855-56,	74,09,058	2	12

SOLD.

	<i>Mds.</i>	<i>Srs.</i>	<i>Cks.</i>
In 1854-55,	59,12,566	32	5½
In 1855-56,	66,87,079	17	13¾

The following statement shows the Taidad and the actual outturn of each Agency during the past season :—

	<i>Taidad.</i>	<i>Outturn.</i>	<i>Deficiency.</i>
Hidgelee, .. Mds.	11,00,000	8,44,185	2,55,815
Tumlook, .. ..	9,00,000	6,51,834-18	2,48,166
Chittagong, .. ..	8,00,000	4,55,887	3,44,113
24-Pergunnahs, ..	6,00,000	2,33,068	3,66,932
Carried forward, ...	34,00,000	21,81,971-18	12,15,026

Brought forward, Mds.	34,00,000	21,84,974-18	12,15,026
Balasure, .. ..	7,00,000	6,51,100	48,900
Cuttack, ... ..	4,50,000	3,01,316	1,48,684
Pooree, .. ..	3,00,000	6,71,368	28,632
„ Kurkutch, ..	4,00,000		
<b>Total, ..</b>	<b>52,50,000</b>	<b>38,08,758-18</b>	<b>14,41,242</b>

The deficiency above shewn in the outturn in all the Agencies, the Board ascribe partly to the very unfavorable weather during the season of manufacture, and partly to the great difficulty in obtaining coolies and to some other causes.

The experiment for manufacturing Salt under the excise system has proved unsuccessful, and the Board attribute the failure to the contractors not being men of capital.

In the sales of Salt there has been an increase of 62,206 maunds in the undermentioned Divisions:—

	<i>Maunds.</i>
Chittagong, .. ..	17,108
Bullooah, .. ..	2,567
Baekergunge, .. ..	3,686
Jessore, .. ..	6,139
Baugundy, .. ..	2,512
Barripore, .. ..	9,163
Calcutta, ... ..	1,257
Western, ... ..	6,680
Midnapore, .. ..	1,735
Jellasure, ... ..	11,359
<b>Total, ... ..</b>	<b>62,206</b>

There has also been an increase in the sales in Tumlook and in the three Agencies composing the Cuttack Divisions, aggregating 66,136 maunds 14 seers and 2½ chittacks.

The confiscations during the year as compared with the past year were as under:—

	<i>Attached.</i>			<i>Released.</i>			<i>Confiscated.</i>		
	<i>Mds.</i>	<i>Srs.</i>	<i>Cks.</i>	<i>Mds.</i>	<i>Srs.</i>	<i>Cks.</i>	<i>Mds.</i>	<i>Srs.</i>	<i>Cks.</i>
In 1854-55,	17,898	37	10½	15,101	26	4	3,985	0	6½
In 1855-56,	15,423	20	15	12,809	19	3½	30,023	20	15½

The convictions during the year under report were more numerous than the preceding year; and in Cuttack, the cases of smuggling have been fewer during the past year.

The Board subjoin the following remarks of the Controller upon the operation of the indulgent ruling of Section 27, Act XXIX:—

“The landholders generally have received the indulgence with a spirit of thankfulness which so rich a boon was well calculated to give rise to, and have by their co-operation to put

down illicit manufacture, prevented as far as I can ascertain any sacrifice to the Revenue. In addition to the Reports received from Barripore, Baugundy, Bullooh, and Western Superintendents to the effect that the Zemindars in their Divisions have strenuously endeavoured to check illicit manufacture on their respective Estates, I received during my tour credible information that Zemindars were doing all in their power to co-operate with our Preventive Establishment, and frequently took the initiative themselves in discountenancing illicit manufacture, and showing their displeasure on every occasion when it had been brought to their notice that any attempt to infringe the law had been resorted to.

“ During the past year, only two cases have been instituted by the Superintendent of Jellasore Salt Chokeys, and they are still pending in the Midnapore Judge’s file. In these cases, the Sudder Izardars were previously warned on several occasions, but to no effect. It was therefore, deemed necessary for the sake of example to prosecute them in the Civil Court.”

The Board express satisfaction at the above results, which show that the Zemindars appreciate the advantages of the indulgent reading of the Law.

The Board proceed to show the prospects of the current year. The Taidad for the current year is 52½ lacs of maunds. From this is to be excluded the Salt manufactured in Cuttack, 4,50,000 maunds, as that will not come into the market until after the close of the year, which reduces the Taidad to 34 lacs of maunds. The Board observe, that the quantity produced in the Bengal Agencies will equal that of the last season viz. 22 lacs of maunds. They sum up the provision for the year thus in round numbers :—

	<i>Maunds.</i>
Salt in store on 1st October, . . . . .	27,90,000
Imported during first Quarter, . . . . .	12,95,000
Cuttack Salt now being imported, . . . . .	10,00,000
Expected outturn exclusive of Cuttack, . . . . .	22,00,000
Imports, . . . . .	22,50,000
Maunds, . . . . .	95,35,000

The Board assume the total consumption to be what it is stated to have been in 1854-55 in Mr. Plowden’s Salt Report viz. 62 lacs of maunds, and there will still remain about 30 lacs of maunds in excess of the expenditure.

The importation of Madras Salt has been stopped.

## MADRAS LAND REVENUE REPORT.

For Fusly  $\frac{1264}{1854-55}$ .

On 19th February, 1857 the Government of Madras record their belief that the measures adopted by Government for affording relief, and the prosecution of works of irrigation, have brought the country through a period of much difficulty. The Government notice certain remissions, and express their desire that all such should speedily be discontinued, both to secure the revenue and the ryot's independence. They notice that the supply of sugar-cane was less by 3,500 cawnies than in the preceding year. The decrease is attributed to a scarcity which caused the people to abandon luxuries for necessities. "The total demand for Fusly, 1264 was Rupees 4,63,60,842, of which 4,18,10,343, or more than 90 per cent. was collected within the Fusly; and at the end of January, 1856, Rupees 5,28,595 only remained." No great difficulty is apprehended in the way of realizing the balances. Government remark that the Tuccavee system will cease in Fusly, 1267, but the advances in this Fusly amount to Rs. 3,50,075. The salt revenue shewed an increase over last year of Rs. 3,61,594, and the net increase from all sources is Rs. 16,22,096. The Government trust the remissions to "privileged classes," if not in the nature of enams will shortly cease. Enquiry is to be made into outstanding balances, and the irrecoverable balances amounting to Rs. 45,399 are to be struck off finally, the money being owed by persons too poor to meet the demand.

"Before proceeding to describe the season under review, it is desirable to recall a few of the facts connected with that which preceded it. The season of Fusly, 1263 (A. D. 1853-54) was one of difficulty and depression, throughout the districts in the centre and on the eastern side of the Peninsula. Both the S. W. and the N. E. monsoons were seriously deficient, and the Board were obliged to give a painful picture of the state of several of the Provinces." The Land Revenue therefore fell off by Rs. 28,70,408, while the expenditure on public works undertaken to give the people food reached Rs. 17,00,000. The following table shews the revenue of the preceding ten years:—

Fuslies.	Land Revenue.	Extra Sources.	Total.
	Rs.	Rs.	Rs.
1254,	3,41,27,687	1,13,80,199	4,55,97,886
1255,	3,11,73,415	1,10,83,929	4,52,57,344
1256,	3,60,84,900	1,07,24,072	4,68,08,972
1257,	3,68,32,279	1,08,33,624	4,76,65,903



1258,	3,60,51,323	1,04,97,983	1,65,49,306
1259,	3,49,27,725	1,07,41,083	4,56,71,808
1260,	3,59,14,223	1,09,38,096	4,68,52,319
1261,	3,66,31,010	1,10,79,987	4,77,10,997
1262,	3,70,39,729	1,08,59,573	4,78,99,302
1263,	3,41,69,321	1,02,60,953	4,44,30,274

The season under review was not good, and in Bellary and Mysore there was great distress. For a time 1,00,000 persons were employed on the Public Works in Kurnool and Bellary, and in many districts the rains were deficient. The season was one well calculated to display the effects of works of irrigation. It was on the whole healthy. Its most remarkable feature was the rise in prices which amounted to 70 per cent. over the average of the preceding ten years. To meet this terrible pressure on the poorer classes Rs. 5,34,688 was expended on roads, and Rs. 9,49,160 more expended on the Railway, with Rs. 66,01,093 in Public Works greatly alleviated the distress. All duties on the import of grain were abolished, and in many places the price obtained for the crops compensated for the shortness of the harvest. The districts irrigated have most largely benefited. The revenue for the year was

				Rupees .
Land Revenue, .. .. .	..	..	..	3,57,01,998
Extra Revenue, ... .. .	..	..	..	1,03,37,118
				<hr/>
Total, .. .. .	..	..	..	4,60,39,116

The revenue therefore has recovered in spite of a season by no means favourable to the extent of Rs. 15,32,677. Five districts have slightly declined, a result produced entirely by reductions in the assessment. The total reductions amount to Rs. 11,37,491. The Board believe that the result will confirm the opinions of those most confident in the wisdom of diminishing the assessment in order to increase the area of cultivation. The Board proceed to explain the tables and add a list of persons in the Tanjore district who though ryots are wealthy. Thus 133 persons hold estates paying from Rs. 1200 to Rs. 9000, and seven landholders are named who pay from Rs. 10,475 to Rs. 25,000 a year. The advance in cultivation has been

Year. .. .. .	..	..	Cawnies.
Fusly 1263, .. .. .	..	..	85,42,623
„ 1264, .. .. .	..	..	87,49,152
			<hr/>
			2,06,529

“The amount of assessment on irrigated land, however, gives a lower total than in Fusly, 1263 owing chiefly to the reduction in the district of South Arcot and to the lower commutation rate in Tanjore.” The following statement shews the amount cultivated with cane, cotton and indigo :—

<i>Products.</i>	<i>Fusly, 1264.</i>
	<i>Cawnies.</i>
Sugarcane,    '    ...    ..    ...    ...    ..	27,457
Cotton,        ...    ..    ..    ...    ..	6,56,584
Indigo,        ...    ..    ..    ...    ..	1,22,309

There has been a decrease on all, chiefly on account of the scarcity which induced the ryots to cultivate necessaries exclusively.\* The indigo however has increased in North Arcot and Cuddapah. The Board referring to outstanding balances say that the ryots appear determined to try the existing law to the utmost, and that nothing short of a radical charge will secure the punctual payment of revenue. Property to the extent of Rs. 7,071 was sold for arrears, but this statement shews much less than the truth, land having been sold subsequent to the close of the Fusly. The Board proceed to notice certain remissions, and express a hope that the system of Tuccavee or advances will soon be abolished. The charges of the year amount to Rs. 67,52,292 or Rs. 2,41,133 below those of the Fusly, 1263, but differences have been introduced in the mode of making up the accounts. The revenue from Salt has increased by Rs. 3,61,594, and from sea customs by Rs. 20,729. The following table shews all the items of Extra Revenue :—

<i>Items.</i>	<i>Fu ly, 1263.</i>	<i>Fusly, 1264.</i>
	<i>Rupces.</i>	<i>Rupces.</i>
Salt,        ..    ..    ..    ..	46,67,316	50,28,910
Frontier Chowkies, .. .. .	2,47,360	1,64,802
Moturpha, .. .. .	11,69,466	11,15,543
Sea Customs,        ... .. .	10,09,818	10,30,547
Tobacco, .. .. .	1,840	0
Stamps,        ..    ..    ..    ..	5,76,449	5,57,338
Abkarry, ... .. .	22,61,528	21,44,230
Sundry small Farms and Licenses,	3,27,176	2,95,747
	<hr/>	<hr/>
Total,...	1,02,60,953	1,03,37,117

The Board explain the changes, and notice that the tobacco revenue which on an average from 1255 to 1261 produced Rs.

\* There has been some blunder in binding this book, owing to the practice of paging each Chapter separately.

8,47,261 now produces nothing, the monopoly having been abolished.

On 17th March, 1856, the Commissioner for the Northern Circars reports that the Circars contain 16,060 villages and hamlets of which 4717 are Government villages and 5515 proprietary villages, and 572 villages are rent free. The Government villages are thus classified :—

	<i>Villages.</i>
Ryotwar, .. .. .	1,425
Joint Rents, .. .. .	1,530
Cosht do., .. .. .	620
Rents for 1 year, .. .. .	217
Do. for longer periods, ... .. .	231
	4,023

Cosht rent is a form of joint rent. It is proposed to change the joint rent system into Ryotwar.

Ganjam and Vizagapatam are irrigated districts, and in Masulipatam, 46 per cent. of the revenue is derived from watered Land. In Rajahmundry 38 per cent. is derived from similar sources, and in Guntoor, about 17 per cent. From the reports of the Collectors it appears that the great advantage of irrigation is the certainty it produces. Disease last year caused a falling off among the cattle to the extent of

Cows, .. .. .	18,045
Shee Buffaloes, .. .. .	17,031
Sheep and goats, .. .. .	80,292 but the Commis-

sioner places no confidence in the returns.

The Commissioner explains certain tables, and observes that the rains were plentiful, the average fall being 39 inches during the South West Monsoon and 5½ during the North East Monsoon. In some of the districts there was an overplus of moisture very injurious to the crops. The Circars were more exempt from epidemic disease than during the previous year, but the mortality from fever was unusually large. The Commissioner explains some changes in the amount of receipts of little importance, and gives the following table of taxation :—

<i>Items.</i>	<i>Fusly, 1264.</i>		<i>Average</i>		
	<i>Land.</i>	<i>Sist.</i>	<i>per Acre.</i>		
	<i>Acres.</i>	<i>Rs.</i>	<i>Rs.</i>	<i>As.</i>	<i>P.</i>
Lands not irrigated, ..	14,91,634	26,03,814	1	11	6
Depending on the Goda- very Annicut Channels,	89,553	3,12,992	3	8	0
Carried forward,	89,553	3,12,992	3	8	0

Irrigated Lands.	}	Brought forward,	89,553	3,12,992	3	8	0
		Depending on Tanks,	2,04,095	7,38,364	3	10	0
		Ditto on Channels,	1,01,125	3,81,324	3	12	4
		Ditto on Wells, ..	12,417	78,936	6	5	9
		Ditto on Rain, ...	40,820	92,681	2	4	0
Total, .. ..		4,48,010	16,04,297	3	9	3	
Grand Total, .. ..		19,39,644	42,08,111	2	2	9	

He explains the remissions which are small except in Gun-  
toor where the season has been one of unusual disaster. The  
whole amount of remissions is Rs. 4,09,868, and the total of the  
Land Revenue is 66,75,464 being 8,754 above that of the pre-  
ceding year.

Ryotwar, Cosht, and joint rents,	... Rs. 42,68,212
Rents for more than a year,	.. 1,29,136
Zemindaree and Proprietary estates,	.. 22,78,116
	66,75,464

The value of land in occupation but not cultivated amounts  
to Rs. 3,92,487 of this sum.

The Extra sources produced Rs. 21,94,158 or Rs. 1,58,459 more  
than last year. The increase has taken place chiefly in Salt. The  
Sevoy Jummah or extra land revenue amounted to Rs. 95,280  
chiefly from interest on outstanding balances. The Commis-  
sioner explains the balances, and proceeds to state that the total  
collections during the year amounted to Rs. 88,87,280, being Rs.  
1,96,125 in excess of last year. The revenue was collected with-  
out recourse to coercion except in 13 instances. The charges  
amounted to Rs. 10,96,579 or 12.34 per cent. on the amount  
realized. "The charges on account of irrigation, exclusive of  
those incurred for the Godavery and Kistnah Annicuts, amount  
to Rs. 1,13,758 on a revenue of Rupees 16,04,297 from irrigated  
lands, the expenditure being Rupees 7-9 per cent. on the reve-  
nue." Enams lapsed during the year to the amount of Rupees  
22,537 a year. Thirteen thousand and eighteen English letters  
had to be disposed of in the Collectorates in the course of the year,  
together with 1,14,109 vernacular letters, and 97,868 more issued  
to Tehsildars. The correspondence shews a tendency to in-  
crease.

The statements appended to the Board's Report may be thus  
condensed :—

Villages in Madras, ... ..	95,963
Of these ryotwar, .. .. .	30,896.
Tanks, ... .. .	38,792
Anicuts, ... .. .	3,320
	"

Ploughs, ... ..	10,39,090
Cattle for agriculture, ... ..	26,48,428
Cows, ... ..	26,01,960
She buffaloes, . . . . .	10,62,309
Sheep and goats, .. ..	50,46,351
Population, .. ..	2,23,01,697
Ryots, .. ..	12,47,056
Individual leases, .. ..	14,76,320
Joint, ... ..	1,64,572
Puttahs above Rupees 1000, .. ..	408
——— above Rs. 500 but less than 750,...	1,027
——— between Rs. 50 and Rs. 100, ..	78,133
——— ————— 10 and Rs. 50, ..	4,95,997
Extent of cane cultivation, cawnies, ..	20,269
Cotton, ... ..	5,69,050
Indigo, ... ..	1,18,514
Total Revenue from land, ... ..	Rs. 3,57,01,998
Extra sources, ..	1,03,87,117
Salt, .. ..	50,28,910
Sayer, .. ..	1,64,802
Abkarree, .. ..	21,44,232
Small farms, .. ..	3,27,176
Moturpha, .. ..	11,15,543
Customs, .. ..	10,30,547
Stamps, ... ..	5,76,440

The Appendix contains the separate report from each Collector with the figures, of which those given in the Report are the digest.

*Vizagapatam.*—The Collector explains his returns and notices the mode in which a tax is levied on clearings in the mountain jungle. The tax consists of eight annas on every knife employed.

*Bellary.*—The Collector furnishes tables minutely detailing the incidence of the Moturpha or trade tax.

1687	Corn merchants pay, ..	Rs. 7-10	each
526	Cloth ditto, .. ..	18-6	"
365	General and cloth, .. ..	26-13	"
1117	———, .. ..	9-12	"
93	Shroffs, .. ..	12-11	"
61	Confectioners, .. ..	7-15	"
183	Cotton dealers, .. ..	26-1	"
125	Betel and cocoanut, .. ..	12-13	"
75	Sugar and jaggery, .. ..	18-10	"
478	Betel and tobacco, .. ..	5-14	"
327	Oil dealers, .. ..	11-15	"
1123	Other dealers, .. ..	6-6	"

Carpenters pay Rs. 2-6, iron-founders Rs. 21-7, dyers Rs. 6-11, butchers Rs. 13-12 each. Each cloth loom pays Rs. 4-3, each carpet loom Rs. 3-8 a year.

EAST INDIA RAILWAYS.

*Blue Book, dated 22nd July, 1857.*

“THREE thousand six hundred and twenty-eight (3628) miles of railway have been sanctioned, and are in course of construction, viz. :—

By the East Indian Railway Company, from Calcutta to Delhi, with branches from Burdwan to Ranegunge, and from Mirzapore to Jubbulpore, 1,400 miles.

By the Madras Company, from Madras to the Western Coast at Beypore, 430 miles; and

From Madras, *via* Cuddapah and Bellary, to meet a line from Bombay at or near the river Kristna, 310 miles.

By the Great Indian Peninsula Company, from Bombay to Callian, 33 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 *via* Poonah and Sholapore, to the Kristna River, to meet the line from Madras, 357 miles.

By the Sind Company, from Kurrachee to a point on the Indus, at or near to Kotree, 129 miles; and

By the Bombay, Baroda, and Central India Company, from Surat to Baroda and Ahmedabad, 160 miles.”

These lines it is estimated will cost £30,231,000, of this sum £20,314,300 has been issued viz. £833,300 at 4½ per cent. 1,000,000 at 4¾ per cent. and 1,84,810,000 at five per cent. of these sums.

East Indian Railway,	...	..	£6,731,000
Madras,	...	...	4,000,000
G. I. Peninsula,	...	...	6,333,300
Sind,	...	...	500,000
Bombay, Baroda and C. I. C.	...	...	750,000

20,314,300

The land required for the Railway and the terminus has also been given Three hundred miles only are open, viz.

	Miles.
Calcutta to Ranegunge,	121
Bombay to Campoolie,	87
Madras to Arcot,	65

The works for the trunk lines, in accordance with Mr. Simms and Lord Dalhousie's advice, are most substantial. The gauge fixed on for all India is 5 feet 6 inches. The Bengal line has cost about £12,000 a mile, and the Madras line £5,500. In Bombay the accounts are as yet too imperfect for the mileage to be ascertained. "The line in Bengal, now open, is 10 miles longer than the London and Birmingham Railway. The latter occupied six years, the former five years in constructing. In Madras, the execution of the works has been more rapid still, 65 miles having been opened for traffic within three years after commencement, and in Bombay, also, 33 miles were completed and opened in less than four years."

In Bengal 8,95,121 passengers, and 77,685 tons of goods were carried during 1856. The receipts were £95,188-16-4. Of the passengers 8,35,204 passengers were third class. The Great Indian P. Railway was open for an average length of 59 miles, and earned £37,312-12 in six months. Of this sum £28,549 was profit.

In Madras the Railway in six months carried 71,456 passengers, and 6,14,401 maunds of goods, and earned £11,720. Minute statistics of expenses on the East Indian and Madras Railways are added, and a Railway map of India.

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REPORT ON THE ABKAREE, L. P.

For 1855-56.

ON the 27th January, 1857, the Officiating Junior Secretary to the Board of Revenue submits the annual Report:—

	Rs.
The total collections amounted to, ...	36,18,692
„ Balances, ... ..	88,817
„ Charges, .. ..	6,12,409
„ Net revenue, ... ..	30,06,283
Shewing increase over 1854-55, of ...	2,37,294

The number of persons arrested was 1,276

————— imprisoned is only returned from some districts.

The estimated revenue for 1856-57 is Rs. 26,91,791.

The Board review each division, and refer to an attempt of the Police to interfere with the shops in Calcutta. In 1854-55 those shops numbered 152, yielding Rs. 2,11,825 a year.

## REPORT ON CIVIL JUSTICE IN MADRAS.

For 1856.

There is no report, the record consisting of tables only. The most important statistics are as following :—

Suits instituted, ... ..	1,21,564		
Value of property, ... ..	Rs. 1,11,49,999		
Suits decreed, .. ...	47,043		
For Plaintiffs, ... ..	40,747		
Appeals decreed, ... ..	3,790		
For Appellant, .... ..	1,674		
Average duration of suits, .. ...	1 yr.	0 m.	16 days.
Highest—(in Honore), .. ...	2 yr.	6 m.	11 days.
Lowest—(in Guntoor), ... ..	0	1 m.	19 days.
Average duration of appealed suits, ..	2 yr.	8 m.	15 days.
Suits for Land rent and revenue, ..	4,566		
„ Fixed property, ... ..	1,111		
„ Debts, wages, &c., ... ..	41,366		

The same details are added as to each class of Judge, together with tables shewing the work performed by every individual Judge.

## EXTERNAL COMMERCE OF BENGAL.

For 1856-57.

THE total value of the “ External Commerce of Bengal (Chittagong, Balasore, and the Provinces of Arracan and Tenasserim included) has amounted, in the year 1856-57, to Rupees 31,17,63,348, being an increase over 1855-56 of Rupees 2,41,99,786, or Rupees 6,95,88,028 above the average value of the commerce of the three preceding years.”

The total value of the Imports was Rs. 15,43,22,170, and of Exports Rs. 15,74,41,178. The Import of articles of merchandise has declined principally in cotton twist, and yarn, cotton piece goods, silk goods and glass ware. Manufactured metals have increased. The Exports on the other hand have increased by Rs. 94,13,839 chiefly in saltpetre, hides, opium, sugar and grain. Sugar has increased by Rs. 48,86,049, and grain by Rs. 60,85,071. Indigo, jute, and lac, have declined.

The comparative movement of trade in 1855-56, and 1856-57 is thus shown :—



*Statement showing the Aggregate Value of the Principal Articles of Import into Calcutta by Sea in 1856-57, compared with similar Imports in 1855-56.*

	1855-56.	1856-57.	
Apparel, ... ..	Rs. 19,80,651	22,25,173	
Beads, .. ..	3,95,187	3,61,831	
Books and Stationery, .. ..	10,52,925	12,24,203	
Cabinet-ware, ... ..	7,70,933	8,60,655	
Chanks, .. ..	39,430	84,116	
Cigars, ... ..	2,39,793	2,26,647	
Coals, ... ..	5,86,717	3,96,860	
Coffee, ... ..	1,14,157	71,614	
Cotton Twist and Yarn, ... ..	90,02,951	81,22,578	
— Piece Goods, ... ..	3,21,10,633	3,17,15,287	
Drugs, .. ..	3,24,818	2,88,218	
Dyes, ... ..	2,05,043	3,99,202	
Fruits and Nuts, ... ..	8,21,699	11,40,169	
Glass-ware, ... ..	10,73,457	7,78,963	
Gums, .. ..	50,737	65,536	
Hides, .. ..	2,91,138	5,85,906	
Ice, ... ..	2,37,126	1,22,065	
Instruments, Musical, ... ..	1,46,849	1,67,152	
Jewellery, ... ..	6,09,930	7,13,295	
Machinery, ... ..	39,28,928	19,07,381	
Malt Liquors, ... ..	7,57,011	7,33,499	
Manufactured Metals, ... ..	67,73,770	76,12,339	
Medicine, ... ..	1,17,075	2,22,221	
METALS. {	Copper, ... ..	24,21,581	25,13,319
	Iron, ... ..	12,19,584	17,83,703
	Lead, .. ..	1,33,621	1,25,763
	Quicksilver, .. ..	69,284	1,93,568
	Spelter, .. ..	4,09,871	4,48,312
	Steel, ... ..	1,12,153	1,00,854
} Tin, ... ..	4,07,846	2,22,419	
	Yellow Metal, ... ..	1,04,750	2,88,178
Military Stores, .. ..	7,888	21,060	
Naval Stores, ... ..	4,65,385	4,93,408	
Oilman's Stores, ... ..	3,11,059	3,12,687	
Paints and Colors, ... ..	3,07,158	3,60,968	
Perfumery, ... ..	2,11,574	2,12,648	
Porcelain and Earthen-ware, ... ..	1,39,911	1,80,265	
Provisions, .. ..	3,96,663	4,78,382	
Salt, ... ..	35,94,722	38,45,371	
Silk Goods, ... ..	8,95,183	5,57,686	
Spices, ... ..	7,94,778	11,54,390	
Spirits, ... ..	8,03,021	8,94,276	
Carried forward, ... ..	7,44,36,995	7,42,12,167	

Brought forward ...	7,44,36,995	7,42,12,167
Timber and Planks, ... ..	9,69,980	3,17,165
Umbrellas, .. .. .	3,33,865	4,49,896
Wines, ... .. .	10,66,673	10,08,737
Woollens, ... .. .	7,67,280	6,88,156
Sundries, ... .. .	20,96,101	22,63,606
Merchandise, ... .. .	7,96,70,694	7,89,39,727
Treasure, ... .. .	5,97,67,578	6,58,46,272
Total, Rupees, ... ..	13,94,38,272	14,47,85,999

*Statement showing the Aggregate Value of the Principal Articles of Export from Calcutta by Sea in 1856-57, compared with similar Exports in 1855-56.*

	1855-56.	1856-57.
Apparel, ... .. .	Rs. 37,775	Rs. 20,757
Books, ... .. .	20,398	3,348
Cotton Goods, .. .. .	4,89,789	6,95,730
" Wool, ... .. .	15,81,152	21,02,295
Cowries, ... .. .	22,068	16,182
Drugs, ... .. .	3,83,967	5,38,342
Dyes { Indigo, .. .. .	1,97,84,900	1,47,66,431
{ Other sorts, .. .. .	3,09,247	3,46,955
Grain, ... .. .	1,16,97,691	1,77,82,762
Gunnies and Bags, ... ..	42,13,890	41,20,881
Hides, ... .. .	37,15,824	49,77,136
Horns, ... .. .	1,05,612	1,13,009
Jute, ... .. .	32,85,748	27,49,754
Lac, ... .. .	12,81,236	10,50,397
Naval Stores, .. .. .	2,20,836	3,21,043
Oils, ... .. .	4,72,029	5,55,234
Opium { Behar, .. .. .	2,42,90,727	2,68,62,207
{ Benares, ... .. .	1,20,98,691	1,13,25,832
Provisions, ... .. .	1,41,293	2,38,890
Saltpetre, ... .. .	42,35,333	54,10,742
Seeds, .. .. .	82,52,441	58,01,124
Shawls, Cashmere, ... ..	5,64,792	3,44,678
Silk Piece Goods, ... .. .	38,45,179	26,51,159
" Raw and Cocoons, ... ..	70,40,137	69,95,168
Spirits, Rum, .. .. .	2,04,827	1,61,722
Sugar, .. .. .	1,13,38,544	1,62,24,593
Tallow, .. .. .	1,24,706	1,74,466
Tobacco, .. .. .	1,20,644	2,12,419
Wax and Wax Candles, ... ..	96,497	3,63,680
Carried forward, ... ..	11,99,75,973	12,69,26,936

	Brought forward, ...	11,99,75,973	12,69,26,936
Sundries, ..	... ..	12,04,156	17,16,262
		<hr/>	<hr/>
	Total, ... ..	12,11,80,129	12,86,43,198
Imports Re-exported, ...	... ..	21,12,131	48,72,030
		<hr/>	<hr/>
	Total, ... ..	12,32,92,260	13,35,15,228
Treasure, ... ..	... ..	23,40,243	62,15,295
		<hr/>	<hr/>
	Total, Rupees, ...	12,56,32,503	13,97,30,523

*Principal Articles of Import and Export to and from Chittagong in 1856-57 compared with similar Imports and Exports in 1855-56.*

IMPORTS.		1855-56.	1856-57.
Betelnuts, .. .. .	.. .. .	Rs. 1,274	Rs. 2,715
Cocanuts, ... .. .	... .. .	10,473	11,884
" Shell, .. .. .	.. .. .	1,322	178
" Oil, ... .. .	... .. .	648	1,575
Cowries, .. .. .	... .. .	.....	8,225
Coir and Coir Rope, .. .. .	.. .. .	7,738	10,815
Dammer, ... .. .	... .. .	1,643	3,149
Timber, ... .. .	.. .. .	.....	3,375
Sundries, ... .. .	... .. .	8,892	10,653
		<hr/>	<hr/>
	Total, ... .. .	31,990	52,569
Treasure, ... .. .	.. .. .	6,000	4,000
		<hr/>	<hr/>
	Total, Rupees, ...	37,990	56,569
EXPORTS.		1855-56.	1856-57.
Grain, ... .. .	... .. .	Rs. 3,38,924	Rs. 4,55,738
Sugar, .. .. .	.. .. .	4,035	2,665
Sugarcandy, ... .. .	... .. .	928	.....
Piece Goods, ... .. .	... .. .	15,375	7,188
Tobacco, ... .. .	... .. .	13,002	5,964
Twist and yarn, ... .. .	... .. .	2,307	1,066
Timber and Planks, ... .. .	... .. .	9,318	737
Sundries, ... .. .	... .. .	13,092	8,156
		<hr/>	<hr/>
	Total Rupees, ...	3,96,981	4,81,514

*Principal Articles of Import and Export to and from Balasore  
in 1856-57 compared with similar Imports and Exports in  
1855-56.*

IMPORTS.		1855-56.	1856-57.
Cocoanuts, .. .. .	.. .. .	.....	Rs. 7,540
Cowries, ... .. .	... .. .	.....	165
Coir, ... .. .	... .. .	.....	2,390
Cloth, ... .. .	... .. .	.....	1,162
Grain, ... .. .	... .. .	.....	3,793
Timber, .. .. .	... .. .	929	.....
Sundries, .. .. .	... .. .	.....	3,883
Treasure, ... .. .	... .. .	20,000	10,500
Total, Rupees, .. .. .		20,929	29,433
EXPORTS.		1855-56.	1856-57.
Grain, ... .. .	... .. .	Rs. 91,628	1,48,187
Timber, ... .. .	... .. .	929	.....
Sundries, ... .. .	... .. .	417	292
Total, Rupees, .. .. .		92,974	1,48,479

*Principal Articles of Import and Export to and from Arracan  
in 1856-57 compared with similar Imports and Exports  
in 1855-56.*

IMPORTS.		1855-56.	1856-57.
Apparel, ... .. .	... .. .	Rs. 4,320	Rs. 415
Ale—Beer, ... .. .	... .. .	6,648	7,448
Brandy and Gin, ... .. .	... .. .	4,240	2,790
Cotton Piece Goods, ... .. .	... .. .	30,126	7,537
China-ware, ... .. .	... .. .	9,916	.....
Metal—Iron, .. .. .	... .. .	.....	5,980
Rattans, ... .. .	... .. .	7,548	.....
Timbers, ... .. .	... .. .	13,543	9,526
Wines, .. .. .	... .. .	6,221	4,046
Sundries, ... .. .	... .. .	85,723	67,246
Treasure, ... .. .	... .. .	1,60,136	3,21,554
Total, Rupees,.....		3,28,421	4,26,542
EXPORTS.		1855-56.	1856-57.
Cutch, ... .. .	... .. .	1,820	.....
Gunnies, ... .. .	... .. .	20,500	.....
Carried forward, ...		22,320	.....

	Brought forward,	...	22,320	.....
Grain, ...	...	Rs.	1,06,76,444	Rs. 29,85,078
Jute, ...	...	...	...	1,000
Hides, ...	...	...	2,898	...
Rattans, ...	...	...	3,976	728
Pepper, ..	...	...	...	5,678
Tobacco, ...	...	...	20,255	56,544
Sundries, ...	...	...	3,319	4,201
Treasure, ...	...	...	...	2,66,369
Total, Rupees,...			1,07,29,212	33,19,598

*Principal Articles of Import and Export to and from the Tenasserim Provinces in 1856-57 compared with similar Imports and Exports in 1855-56.*

IMPORTS.		1855-56.	1856-57.
Arms and Ammunition, ..	...	Rs. 5,921	Rs. 28,791
Cutch, ...	...	22,238	16,176
Earthen Ware, ...	...	28,679	...
Grain, ...	...	60,812	1,08,636
Malt Liquors, ...	...	95,179	24,051
Metal,—Iron, ..	...	8,780	24,052
Piece Goods,—Cotton, ...	...	6,55,944	7,99,065
Tobacco, ...	...	86,186	31,427
Twist and Yarn, ..	...	1,73,198	1,60,649
Wines, ...	...	20,226	8,005
Sundries, ...	...	8,32,912	12,58,050
Treasure, ...	...	1,58,543	4,24,122
Total, Rupees, ..		21,48,518	28,83,024

EXPORTS.		1855-56.	1856-57.
Betelnuts, ...	...	Rs. ...	Rs. 82,504
Cutch, ...	...	41,028	5,744
Grain, ..	...	6,12,652	9,27,692
Fishmaw, ...	...	551	3,041
Hides, ...	...	3,088	...
Horns, ...	...	566	189
Piece Goods—Cotton, ..	...	26,275	5,04,598
Stick Lac, ..	...	2,568	15,616
Twist and Yarn, ...	...	...	2,12,607
Timber, ...	...	10,66,462	20,63,966
Sundries, ..	...	65,684	6,53,772
Treasure, ...	...	2,13,370	1,47,910
Total, Rupees, ...		20,32,244	46,17,639

The largest trade is with Great Britain amounting to

Imports—merchandise, .. ..	Rs. 6,46,34,569
Treasure, .. . . .	3,87,10,796
<b>Total, . . . . .</b>	<b>10,33,45,365</b>
Exports—merchandise, .. . . .	4,47,30,708
Treasure, ... . . . .	300
	<b>4,47,36,008</b>
<b>Total, .. . . .</b>	<b>Rs. 14,80,81,373</b>

France sends Rs. 17,67,308 of merchandize and Rs. 70,41,270 of treasure, and takes Rs. 88,67,714 of merchandise but no treasure. China sends Rs. 16,48,933 of merchandise and Rs. 75,17,485 of treasure, and takes Rs. 3,69,42,598 of merchandise, of which Rs. 3,27,67,507 consists of opium, and Rs. 20,58,726 of treasure.

The tonnage of Calcutta during the year was 1,014 vessels inwards with an aggregate of 5,72,127 tons, and outwards 1,113 vessels of 6,66,416 tons. More than a clear half each way carried British colours.

The Imports of specie into Calcutta were as follows :—

#### SPECIE AND BULLION.

IMPORTS.	1856-57.
United Kingdom, .. ..	Rs. 3,87,10,796
Aden, .. .. .	51,300
America, North, ... ..	48,375
Arabian Gulf, ... ..	66,725
Bourbon, ... .. .	8,92,989
Cape of Good Hope, ... ..	.....
Ceylon, ... .. .	1,58,150
China. { Hongkong, .. .. .	15,08,615
{ Other Ports, ... ..	60,09,870
France, ... .. .	70,41,270
Malta, .. .. .	80,600
Mauritius, .. .. .	5,17,530
New South Wales, ... ..	28,78,111
Penang, Singapore and Malacca, ..	41,22,985
<b>Carried forward, ...</b>	<b>6,20,87,316</b>

Brought forward, ... ..	6,20,87,316
Persian Gulf, ... ..	80,000
Suez, .. ..	16,55,161
Bombay, .. ..	15,765
Bimlipatam, ... ..	.....
Madras, ... ..	11,56,345
Rangoon, ... ..	7,93,685
Pondicherry, ... ..	58,000
<b>Total, Rupees,</b>	<b>6,58,46,272</b>

And the Exports Rs. 62,15,295, of which Rs. 13,35,902 was sent to the Cape, Rs. 17,44,500 to China, and Rs. 7,05,618 to Rangoon.

## AREA AND POPULATION OF INDIA.

*Blue Book, 27th July, 1857:*

### BRITISH STATES.

DISTRICT.	AREA.	POP.
Lahore, ... ..	<i>Sq. Miles.</i> 2,826	591,683
Umritsur, ... ..	2,024	884,429
Goordaspoor, ... ..	1,675	787,417
Goojranwalla, ... ..	3,752	553,383
Sealkote, ... ..	1,350	641,782
Rawul Pindee, ... ..	5,996	553,750
Jhelum, ... ..	5,350	429,420
Goojrat, ... ..	1,916	517,626
Shahpore, ... ..	3,500	261,692
Mooltan, ... ..	5,634	411,386
Jhung, .. ..	5,718	251,769
Googaira, ... ..	4,142	308,020
Leia, ... ..	6,122	309,696
Khangurh, .. ..	1,027	211,920
Dehra Gazea Khan, ... ..	4,000	238,964
----- Ismael Khan, .. ..	4,123	862,041
Peshawur, .. ..	2,324	450,099
Hazarah, ... ..	2,424	296,364
Kohat, ... ..	2,840	101,232
Jullundur, ... ..	1,381	708,728
Hoshiarpoor, .. ..	2,204	845,354
<b>Carried forward, ... ..</b>	<b>70,328</b>	<b>97,16,755</b>

DISTRICT.				AREA.	POP.
Kangra,	Brought forward,		<i>Sq. Miles.</i>	70,328	97,16,755
	...	..	...	3,207	718,955
	• Total,	...	...	73,535	10,435,710
Umballah,	...	...	...	1,832	782,017
Thaneyсур,	...	...	...	2,336	496,748
Loodiana,	..	...	..	1,377	527,722
Ferozepore,	...	..	...	2,545	475,624
	Total,	...	...	8,090	2,282,111
Oude,	...	..	...	25,000	5,000,000
Nagpore or Berar,	...	...	...	76,432	4,650,000
Rangoon,	..	...	...	9,800	137,130
Bassein,	..	...	..	8,900	128,189
Prome,	...	...	...	5,500	100,000
Henzada,	...	...	...	2,200	103,775
Toungoo,	...	...	...	3,950	34,957
Tharawaddy,	...	...	...	1,950	66,129
	Total,	...	...	32,250	570,180
Amherst,	...	...	...	} 29,168	115,431
Tavoy,	...	...	...		
Ye,	..	...	...		
Mergui,	...	...	...		
EASTERN STRAITS SETTLEMENTS.					
Penang,	...	...	...	160	
Prov. Wellesley,	...	...	...	140	
	Total,	...	...	300	91,098
Singapore,	...	..	...	275	57,421
Malacca,	...	...	...	1,000	54,021
	Total,	...	...	1,575	202,540
Total under the direct administration of the Governor General of India in Council,				246,050	23,255,972

BENGAL.

Patna, ..	...	...	...	1,828	1,200,000
Shahabad,	...	...	...	4,403	1,600,000
Behar, ..	...	...	...	5,694	2,500,000
Sarun with Chumparun,	...	...	...	6,394	1,700,000
	Total,	...	...	18,319	7,000,000



DISTRICT.			AREA.	POP.
Bhaugulpore,...	...	Sq. Miles.	7,803	2,000,000
Dinajpore,	...	...	3,820	1,200,000
Monghyr,	...	...	3,592	800,000
Poorneah,	...	...	5,712	1,600,000
Tirhoot,	...	...	6,114	2,400,000
Maldah,	...	...	1,288	431,000
<b>Total,</b>			<b>28,329</b>	<b>8,431,000</b>
Moorshedabad,	...	...	1,856	1,045,000
Bagoorah,	...	...	2,160	900,000
Rungpore,	...	...	4,130	2,559,000
Rajshahye,	...	...	2,084	671,000
Pubna ...	...	...	2,606	600,000
Beerbhoom,	...	...	3,114	1,040,876
<b>Total,</b>			<b>15,950</b>	<b>6,815,876</b>
Dacca,	...	...	1,960	600,000
Furreedpore,	...	...	2,052	855,000
Mymensing,	...	...	4,712	1,487,000
Sylhet, including Jyntea,	...	...	8,424	380,000
Backergunge,	...	...	3,794	733,800
<b>Total,</b>			<b>20,942</b>	<b>4,055,800</b>
Jessore,	...	...	3,512	381,744
Twenty-four Pergunnahs, including City of	...	...	2,277	701,182
Calcutta,	...	...		
Burdwan,	...	...	2,224	1,854,152
Hooghly,	...	...	2,007	1,520,840
Nuddea,	...	...	2,942	298,736
Bancoorah,	...	...	1,476	480,000
Baraset,	...	...	1,424	522,000
<b>Total,</b>			<b>15,862</b>	<b>5,758,654</b>
From Saugor Island on the West, to the	...	...	6,500	not known.
Ramnabad Channel on the East,	...	...		
Chittagong, ...	...	...	2,717	1,000,000
Tipperah and Bulloah,	...	...	4,850	{ 806,950 600,000
<b>Total, ...</b>			<b>7,567</b>	<b>2,406,950</b>

DISTRICT.		AREA.	POP.
Cuttack, and Pooree,	... ..	Sq. Miles. 4,829	1,000,000
Balasure,	... ..	1,876	556,395
Koordah,	... ..	930	571,160
Midnapore with Hidgellee,	• ..	5,029	666,328
Total,		12,664	2,793,883
Grand Total,		126,133	37,262,163

## NON-REGULATION PROVINCES.

UPPER.	{ Joorhat, or Seebpoor,	... ..	2,825	200,000
	{ Luckimpoor,	... ..	2,950	30,000
	{ Sudiya, including Muttruck,	... ..	6,942	30,000
	{ Kamroop,	... ..	2,788	300,000
LOWER.	{ Nowgong,	... ..	4,160	70,000
	{ Durrung,	... ..	2,000	80,000
Goalpara,	... ..	2,166	39,835	
Total,		24,531	749,835	
Cachar,	... ..	4,000	60,000	
Territory resumed from Toola Ram Senahputtee,	... ..	2,160	5,015	
Ramgurh,	... ..	8,524	372,216	
Palamow,	... ..	3,468	482,900	
Chota Nagpore,	... ..	5,808		
Pachete,	... ..	4,792	772,340	
Barabhoom,	... ..	860		
Singbhoom,	... ..	2,944	200,000	
Sumbulpore,	... ..	4,693	274,000	
Odeypore,	... ..	2,306	133,748	
Total,		32,895	2,235,204	
Akyab,	... ..	32,250	540,180	
Sandoway,	... ..			
Ramree,	... ..			
Total under the administration of the } Lieutenant Governor of Bengal, ... }		221,969	40,852,397	

## NORTH-WESTERN PROVINCES.

Panceput,	... ..	1,270	389,085
Hiasar,	... ..	3,294	330,852
Delhi,	... ..	790	435,744
Rhotuck,	... ..	1,340	377,013
Goorgaon,	... ..	1,939	662,486
Total,		8,633	2,195,180

DISTRICT.		AREA.	POP.
Suharunpore, ...	...	<i>Sq. Miles.</i> 2,162	801,325
Mozuffernuggur, ...	...	1,646	672,861
Meerut, ...	...	2,200	1,135,072
Bolundshuhur, ...	...	1,824	778,342
Allyghur, ...	...	2,153	1,134,565
Total, ...		9,985	4,522,165
Bijnor, ...	...	1,900	695,521
Moradabad, ...	...	2,699	1,138,461
Budaon, ...	...	2,402	1,019,161
Bareilly, ...	...	3,119	1,378,268
Shahjuhanpore, ...	...	2,308	986,096
Total, ...		12,428	5,217,507
Muttra, ...	...	1,613	862,909
Agra, ...	...	1,865	1,001,961
Farruckabad, ...	...	2,123	1,064,607
Mynpoorie, ...	...	2,020	832,714
Etawah, ...	...	1,677	610,965
Total, ...		9,298	4,373,156
Cawnpore, ...	...	2,348	1,174,556
Futtehpore, ...	...	1,583	679,787
Humeerpore, ...	...	2,242	548,604
Banda, ...	...	3,010	743,872
Allahabad, ...	...	2,788	1,379,788
Total, ...		11,971	4,526,607
Goruckpore, ...	...	7,840	3,087,874
Azimgurh, ...	...	2,516	1,653,251
Jounpoor, ...	...	1,552	1,143,749
Mirzapore, ...	...	51,52	1,104,315
Benares, ...	...	996	851,757
Ghazeepore, ...	...	2,181	1,596,324
Total, ...		19,737	9,437,270
Grand Total, ...		72,052	30,271,885

NON-REGULATION PRO-  
VINCES.

Kumaon, including Ghurwal, ...	...	6,962	605,910
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DISTRICT.	AREA.	POP.
Jaunsar and Bawar, ...	<i>Sq. Miles.</i> 579	24,684
Dehra Dhoon, ...	673	32,083
Khote Kasim, ...	70	13,767
Bhutti Territory, ...	3,017	112,974
Jaloun and Jansi, ...	4,405	376,297
Ajmere, ...	2,029	224,891
British Mhairwarrah, ...	282	37,715
Saugor, ...	1,857	305,594
Jubbulpore, ...	6,237	442,771
Hoshungabad, ...	1,916	242,641
Seonee, ...	1,459	227,070
Dumoh, ...	2,428	363,584
Nursingpore, ...	501	254,486
Baitool, ...	990	93,441
Total, ...	15,388	1,929,587
British Nimaur, ...	302	25,400
Total under Lieut.-Governor of the North Western Pro- vinces, ...	105,759	33,655,193

MADRAS.

Rajahmundry, ...	4,501	1,012,036
Masulipatam, ...	4,711	520,866
Guntoor, ...	4,752	570,083
Kurnool, ...	3,278	273,190
Cuddapah, ...	13,298	1,451,921
Nellore, ...	7,959	935,690
Eellary, ...	12,101	1,229,599
Arcot, N., ...	6,580	1,485,873
—, S., ...	5,020	1,006,005
Chingleput, ...	2,717	588,462
Madras City, ..	27	720,000
Salem, ...	7,499	1,195,377
Coimbatore, ...	8,151	1,153,862
Canara, ...	7,152	1,056,333
Malabar, ...	6,050	1,514,909
Trichinopoly, ...	2,922	709,196
Tanjore, ...	3,781	1,676,086
Madura, ...	13,545	1,756,791
Tinnevely, ...	5,482	1,269,216
Total, ...	119,526	20,120,495

DISTRICT.	AREA.	POP.
<b>NON-REGULATION DISTRICTS.</b>		
Ganjam, ... ..	<i>Sq. Miles.</i> 5,758	926,930
Vizagapatam, ... ..	4,690	1,254,272
Coorg, ... ..	2,116	135,600
Total, ... ..	<hr/> 12,564	<hr/> 2,316,802
Total under Madras Government, ...	132,090	22,437,297

**BOMBAY.**

Ahmedabad, ... ..	4,356	650,223
Kaira, ... ..	1,869	580,631
Broach, ... ..	1,319	290,984
Surat, ... ..	1,629	492,684
Tannah, ... ..	5,795	874,570
Candeish, ... ..	9,311	778,112
Bombay and Colaba Islands, including City } of Bombay, ... .. }	18	566,119
Poonah, ... ..	5,298	666,006
Ahmednuggur, ... ..	9,931	995,585
Sholapore, ... ..	4,991	675,115
Rutnagerry, ... ..	3,964	665,238
Belgaum, ... ..	5,405	1,025,882
Dharwar, ... ..	3,837	754,385
Total, ... ..	<hr/> 57,723	<hr/> 9,015,534

**NON-REGULATION PROVINCES.**

Sattara, ... ..	10,222	
Sinde, ... ..	.....	1,005,771
Shikarpoor, ... ..	11,532	
Frontier District, ... ..	2,147	
Hydrabad, ... ..	26,760	
Kurrachee, ... ..	19,240	
Thur and Paekur, ... ..	8,920	
Total, ... ..	<hr/> 63,599	<hr/> 1,768,737
Total under Bombay Government, ...	131,544	11,790,042

		AREA.	POP.
The Native States in Bengal, ...	Sq. Miles.	515,533	38,702,206
"    "    Madras, ...	"    "	51,802	5,213,671
"    "    Bombay, ...	"    "	60,575	4,460,370
	Total, ...	627,910	48,376,247
Foreign States French, ...	"    "	188	203,887
"    Portugueze, ...	"    "	1,066	313,262
	Total, ...	1,254	517,149
	Total of all India, ...	1,466,576*	180,884,297

## THE FOSSILS OF THE EASTERN PORTION OF THE GREAT BASALTIC DISTRICT OF INDIA.

### *Geological Papers on Western India.*

THE great basaltic district of India extends for more than two hundred thousand square miles, and owes its formation to volcanic action. It is difficult to conceive of the grandeur that must have attended the appearing of this vast region, which was effected by eruptions separated from each other by various intervals of time. The fossils of such a district are therefore peculiarly valuable as affording guides by which the age of the great trap formation may be ascertained, and for connecting the great sandstone formations of the North and South of India. The basaltic district situated in two provinces, the Deccan, including all the country south of the Nerbudda, and that watered by the Southern branches of the Ganges, may be considered to be geologically connected by an elevated tract to the North West of Bundelcund. From the north of this station a number of rivers descend over sandstone escarpments into the valley of the Ganges and the Jumna. From the East and South of the same tract the Mahanuddy collects a great body of water, and after flowing through a country but very little known but containing the diamond mines of Sumbulpore flows into the Bay of Bengal. The Nerbudda flows in an opposite direction, and taking its rise to the west of Amercantack traverses a country of granite, sandstone and basalt abounding in iron, and the finest marbles, and finally debouches into the Indian Ocean through the alluvial plains of Guzerat.

All the other great rivers of the Peninsula, including the Godave-

\* The area of Europe deducting Russia is 1,686,117 square miles, and its population, also deducting Russia, 189,475,968.

ry, Kistnah, Pennar and Cauvery, issue from the Western Ghâts from the summits of which the country slopes generally to the east, except to the extreme south, where the descent is precipitous. Of these rivers, the Pennar though comparatively a small stream, is of the greatest geological interest. The greater portion of its waters are derived from the district in which the diamond, sandstones and argillaceous limestones are exhibited in their most characteristic forms. The most remarkable phenomenon, however, in the district watered by this river is the horizontal summits of many of the ranges, and the distinct manner in which the continuity of the strata can be traced from one hill to another, although extensive plains intervene, while at no great distance the sandstone which forms the summits of these hills is seen on the same level as the surrounding plains. This succession of strata is nowhere more conspicuous than in the diamond mines of Bangnapilly.\*

The plains at the foot of this table land consist of a rich black alluvium containing fragments of basalt and jasper, and its basis is a blue limestone abounding with springs. On ascending the limestone becomes paler and above Bangnapilly contains the diamond breccia.

On emerging from the Nulla Mulla range the Pennar enters the plains of the Carnatic, and flows through low hills of late-rite resting upon the ordinary granite of the Carnatic with its associated hornblende schist, quartz rock and mica slate. It is in a rock composed of the last two minerals that the copper mines of the Nellore district are situated. Between the Godavery and Kistnah rivers is a granitic platform intersected by numerous greenstone dikes, which are composed of a crystalline compound of hornblende and felspar. The greenstone generally known in India as black marble, is difficult to work but is susceptible of a most beautiful polish as in the mausoleums of Golconda, the tombs of Hyder Ali and Tippoo Sultan at Seringapatam, and in many of the sculptures of the Carnatic pagodas. When these dikes were formed it is probable that the granite was in a fluid state.

In the granitic platform between Hyderabad and Nirmul several small basaltic hills are insulated. Their flat summits and steep sides correspond with the hills of the great trap district. The lower part of the hills is composed of laminae of a sonorous trap and the upper of globular concentric basalt, themselves friable and soapy to the feel but their nuclei of a deep black colour and containing large crystals of olivine and small kernels of calcedony.

On approaching the Godavery the granite changes its appearance and contains large and beautiful crystals of red felspar imbedded

\* Woodcut given in the Report.

occasionally in veins of transparent quartz, clouded with spots of a milky colour. The river flows over granite and its bed is covered by numerous fragments of calcedonies and zeolites. The banks are composed of a black basaltic soil from the lower part of which thin slabs of kunkur project. About twenty miles to the east of Nirmul hornblende slate occurs. From this schist the magnetic iron ore, employed for ages in the manufacture of the damask steel, is obtained. The mines are mere holes dug through the thin granitic soil, and the ore is detached by means of crow bars. It is then collected, broken and washed. The ore is then smelted with charcoal and apparently no flux is used. The iron thus made is obtained at once perfectly malleable and tough and is equal to the best descriptions of Swedish. The mines, which afford a boundless supply of ore, are situated in the neighbourhood of vast forests and near a river navigable for boats during a period of the year. The iron ore thus found in the great sandstone formation, affords an additional argument in favour of the opinion of those who consider this rock and the subjacent schists as equivalent to the older European sedimentary formations rather than to those of the supermedial order.

On approaching the Sichel hills the granite becomes softer and decomposes rapidly, and the soil changes to the basaltic mould known in India by the name of cotton ground, mixed with calcedonies, zeolites, &c. In the bed of a torrent some very perfect specimens of the *Paludina Deccanensis*\* have been discovered and fragments of other shells. The hills themselves extend from the junction of the Wurdah with the Godavery in a W. N. W. direction, and are arranged in terraces with steep sides and projecting spurs. Their extreme breadth from the Nirmul Pass to Yedlabad is forty miles. They enclose narrow valleys abounding in streams or support table lands covered with black soil. The water is nowhere far from the surface. Granite not only forms part of the base of the hills but part of the mountains themselves. To the north of the Koorm river extensive fossil beds have been discovered consisting generally of gyrogonites, unios and individuals belonging to the *Paludina Physa* and *Limnea*. On descending towards Hutnoor granite presenting a concentric ligniform surface appears, but with this exception the basalt continues as before and *Paludinae* are found. There is much calcareous matter mixed with the soil and at Elchoda seams of a pure white pulverulent lime were found between layers of basalt. At Hutnoor fragments of blue limestone not dissimilar to that occurring in the diamond district are common. On the second terrace the surface rock is changed to a white limestone composed of large

\* See Plate III. Figure 20.



bivalve shells, the edges of which are decomposing rapidly. The continuation of the stratum is buried under an accumulation of basaltic debris from an overhanging spur. Towards the foot of the Pass the rock changes from nodular basalt to amygdaloid and a little further on the granite reappears. The country surrounding Yedlabad is covered by a deep basaltic soil, and the bed of the stream near the town is strewn with fragments of blue limestone. At Zynad argillaceous limestone appears on the surface and between the strata, which are generally horizontal, rock crystal and calcareous spar are distributed in thin seams. On the surface kunkur is very abundant, and since along the vertical partings of the strata there are rows of circular cavities it is probable that the stuff was the deposit of limestone held in solution by water and gaseous fluids issuing from the lines of fissure.

To the east of the village of Zynad there is a gentle elevation composed of limestone extending for three miles, and terminating in a small conical summit composed of basalt which has broken through the limestone. To the north of this place as far as the Paync-Gutga river the country is flat, covered with basaltic soil connected with trap hills and intermixed with jaspers. To the north of the river limestone is seen, and masses of white kunkur. Still further towards the Pindee hills sandstone appears on the south bank of a ravine, and on the opposite side at a lower level argillaceous limestone, through which hot springs with a temperature of 87° force their way up. On the other side of the Pindee hills at Kair other hot springs of the same temperature whose water is remarkably agreeable to the taste occur. There kunkur is exhibited in all stages of formation; so quickly is the deposit of kunkur formed that shells are entombed whilst adhering to the surface of the rock and tufts of grass are encrusted whilst their roots are still alive.

Sandstone forms the surface rock over the surrounding country its junction with the limestone being concealed by basaltic soil. In this sandstone, at the hill of Won, a fossil having a compact structure and of a deep black colour was discovered. The fact is of considerable interest as but few if any other fossils have been discovered in the sandstone of Southern India. To the north at Hingan Ghat considerable fragments of silicified palms and other plants have been found embedded in the chert lying on the basalt.

From Hingan Ghat to Nagpore the country presents no organic remains, the whole country being covered with a rich black soil from which insulated basaltic hills with flattened summits rise abruptly.

Mr. Malcolmson after describing the geological structure of the country between the Kistnah and Nagpore passes

on to the consideration of the origin of minerals in trap rocks. In this paper he endeavours to shew that Dr. Turner and others are entirely wrong in their supposition that all calcedonies, rock crystals, &c. when occurring in volcanic rocks are the result of infiltration. If such a supposition were correct he shews that since under every layer of basaltic soil in India calcareous matter is found deposited, such matter would appear in the cavities of trap rocks rather than such intractable substances, which is not the case. He therefore considers that the existence of minerals in trap rocks is owing to the play of the molecular attraction existing between similar particles of matter. Mr. Faraday by an ingenious experiment has shewn that retention of carbonic acid depends upon the absence of moisture, and not upon its subjectivity to pressure. Thus, admitting the igneous origin of trap rocks, the presence or absence of moisture during the various degrees of heat to which the rocks were exposed in the progress of eruption and of cooling accounts sufficiently for the phenomenon that the fossils of the basaltic district sometimes retain their carbonic acid, whilst the rock in which they occur has been fused by the surrounding basalt. Considering that the truth of the theory as to the origin of minerals in trap rocks has been established the report discusses the era of the great basalt formation, and considers that it was posterior to the deposition of the sandstones. With regard to the diamond sandstone and argillaceous limestone, Mr. Malcolmson considers that they belong to the more ancient secondary or even transition rocks. The fossils embedded by the basalt all belong to fresh water genera and to species which apparently no longer exist. Most of the specimens have however only been found in recent or tertiary formation, and it is therefore extremely probable that the basalt in which they are imbedded belongs to the tertiary epoch; with regard to the relative age of the laterite and trap it is probable that the trap has been protruded from below since the laterite assumed its present form.

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## SECUNDERABAD TO BEEDER.

*Being Dr. Voysey's Notes on the Country.*

THE journal was commenced in January, 1819. The first objects of interest visited on the road were the tombs of Golconda. They consist of large cupolas supported on square pilasters of granite of an extraordinary length, some of them being one solid

mass of at least 20 feet in height. The tomb is in the centre of the hall formed by the cupola and is made of greenstone. Of this greenstone a vein was discovered of about ten feet in width running east by south. Dr. Voysey minutely details the appearance of the country, and narrates how granite succeeded to trap and trap succeeds to granite. In many parts of his journey particularly between Secunderabad and Puttuncheroo the characteristics of the country were striking. Loggan stones and tors of the most grotesque appearance generally smaller than their pediment and piled three together, with tanks of some 25 miles in circumference, formed remarkable features. A vein of greenstone was discovered. It affected rhomboidal blocks and was penetrated with veins of quartz.

The river Manjira was crossed and the bund upon its banks, which were lined with granite, was observed to be full of magnetic iron sand. In all the streams passed in the journey which empty themselves in the Manjira carbonate of potash was observed.

The approach to the Godavery was over waving land entirely of trap and alluvium, and the height of the river two years before Dr. Voysey's visit was observed to have been thirty feet above its then present level. Near Oudghir, the trap still continuing, iron clay very much resembling that of the Cape of Good Hope was seen. The route then led to Chillelah, Beeder being distant only about five coss.

Beeder is itself situated on a hill and is built upon a species of iron clay here found at the great elevation of 2000 feet above the level of the sea. The fort at Beeder was in a ruinous state for the builders finding the rock upon which it stood easily worked had cut it down level with the wall. The rock had subsequently mouldered, and the wall had been precipitated with it. At Beeder Dr. Voysey visited a button manufactory. After leaving Beeder the iron clay disappeared and was succeeded by trap soil interspersed with large masses of granite. Such continued to be the character of the country until Secunderabad was reached. In another part of the record Dr. Voysey remarks on some petrified shells found in the Gawilgerh range of hills.

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### MASULIPATAM TO GOA.

MASULIPATAM stands on the sea coast in nearly 16° N. latitude and is about 28 miles to the north of the principal embouchure of the Kistnah. The adjacent country is a plain which it is believed once formed the bottom of a lagoon. The

channel of the Kistnah, since altered, is supposed to have supplied much of the water. Towards Bezwarah gneiss makes its appearance, and there rises into a ridge six hundred feet in height. To the north east of Bezwarah are the diamond mines of Mallavelly where the gneiss is covered in some places by a conglomerate of sandstone. The diamonds are dug from a bed of gravel. The gneiss and granite continue to Hyderabad, and beyond to the village of Moonopilly, where they are covered by the great overlying trap formation. Near Beeder and sixteen miles east south east from that city the trap is overlain by an extensive laterite bed, two hundred feet thick, and extending to the west north west for twenty-eight miles. The laterite is a purply or brick red porous rock, filled with tubular cavities, empty, or containing white clay or blue tinted lithomargic earth. The sides of the cavities are ferruginous. The rock when not exposed to the air may be cut by a spade but hardens by exposure. Veins of manganese associated with oxide of iron sometimes occur in the laterite. On the side of those veins the laterite is so hard as to stand out in relief from the weathered portions of the rock. The laterite of Beeder is used for building walls and for the revetments of ditches. At Calliany a bazar has been excavated in the laterite cliffs. Beyond Murbi the laterite disappears, and trap with its associated wacke, amygdaloids and kunkur are alone met with. At the town ferruginous nodules existing in the laterite are collected, and after being roasted and coarsely ground are smelted. About ten miles to the south of Gulburgah beds of limestone outcrop from the trap and form the bed of the Bhima at Firozabad. At a little distance from the right bank of the river the trap again covers the limestone and continues to Inglisswara, where laterite appears. Trap then continues and is replaced by gneiss, which towards the junction of the Kistnah and Gutpurba is capped by limestone. To the west of the falls of Gokauk there is a limestone and sandstone formation succeeded by granitic rocks capped towards Goa by laterite.

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## THE GEOLOGY OF A PORTION OF THE DECCAN.

ON the 23rd of January, 1839 Colonel W. H. Sykes, F. R. S. F. G. S. F. L. S. read a paper before the Geological Society on the Geology of that portion of India lying between the parallels of 15° 45' and 19° 27' north latitude and 73° 30' and 75° 53' east longitude. The tract thus comprised extended over a district of 26,000 square miles and was remarkable for the

amazing extent of the trap region and the horizontal position of its stratified beds. But there were other prominent geological features besides the extent of the trap formation. The whole country had a granitic basis; trap veins occurred in granite; peculiar nodular limestone and laterite formations were widely extended; pulverulent limestone occurred in seams, and negatively, the country was remarkable for the absence of that uniform series of rocks which constitute the formations of Europe, and for the non-discovery of any fossil remains of extinct animals.

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## GEOLOGY OF THE ISLAND OF BOMBAY.

There are two papers on the Geology of the Island of Bombay printed in the Government records. One is by Mr. H. J. Carter and the other by Dr. G. Buist.

The Island of Bombay is one of a multitude of islands on the north-western coast of Hindostan. The group to which it belongs consist of about twenty islands, of which fourteen are well known. The principal rocks throughout this group are volcanic, and it is probable that the islands are all of the same age. In the formation of Bombay there have been four distinct periods:—1st. That of the primary volcanic or trappean effusions. 2nd. That of the deposit of fresh water strata. 3rd. That of the secondary or subsequent volcanic effusions, and 4th. The deposit of the marine strata. The fresh-water formation, as is proved by the absence of marine fossils, was deposited in a lake or river. The upper part of this formation, for 36 feet below the igneous rock that overlies it, is seen entire. Below this its strata have been broken up by igneous rocks. It is certain that this lake extended over the whole of the Island of Bombay, and it is probable that it extended as far as Ghora Bunder in the northern extremity of Salsette. In this formation there are the remains of wood, fruit and leaves. These appear to have been brought from a distance. It also appears that plants like large bulrushes grew in the lake and that it swarmed with cypridæ. The waters of the lake it is probable were dried up or diverted by a stream of molten larva. This was the first of the secondary volcanic effusions. The third period commences at this period. The eruption at present measures ninety feet thick on the eastern side, fifty-one feet thick on the western side of the Island. Thus immediately after this effusion it is probable that Bombay was black arid plain. After this effusion had hardened there was a second from below. The second effusion it is apparent could not find a ready outlet; it therefore followed the course of the

fresh water strata before it. These it intercalated and broke up into fragments. This effusion and the third effusion, it is probable, took a prominent part in raising up the longitudinal ridges running north east and south west which border the eastern and western sides of the Island. To these trappito basaltic and amygdaloidal effusions succeeded a third, which Mr. Carpenter styles the volcanic breccia. The interval that succeeded between the second and third effusions cannot be estimated. It is known however that the volcanic breccia succeeded to the amygdaloidal, for fragments of the latter are found amongst those fragments of heterogeneous rocks that compose the former. The principal characters of this effusion are, that it is composed chiefly of angular fragments of the fresh water formation which vary in size from particles that are invisible to the eye to pieces of ton's weight. These fragments form a continuous tract from Carnac Bunder to Sion. Mr. Carpenter considers this effusion to be contemporaneous with the lateritic formation, and is satisfied that it forced its way through the crusts of the previous rocks. There was yet another effusion. It is proved to have taken place by the existence of dikes of volcanic breccia.

The 4th period, it is believed, is not of a very ancient date. The marine deposit seems to belong to the post and newer pliocene formations. Bombay could never have been very long under water or very deeply immersed as the beaches scarcely exceed twenty feet in thickness. Mr. Carpenter here proceeds to describe those details from which the before mentioned inferences have been drawn.

As the report on the Geology of Bombay by Mr. Carpenter is thus speculative that by Dr. Buist treats of economic Geology. From Malabar Point to Mahaluxmee there is a fine continuous ridge of black basalt which continues with more or less interruption to Bassein. From the light-house at the extreme end of Colaba to Sion and on the eastern side of the Island there is a mass of trap. It is irregular, sometimes it sinks to the level of the sea, and at other times rises into knolls. Between these two ridges, the basaltic ridge from Malabar Point to Bassein and the greenstone and tuffaceous ridges last mentioned the Island is flat and for the most part below the level of the sea. This fact seems to prove that the Island has undergone elevation since the period of volcanic action ceased. Evidences of an upheaval and depression are further evident from the alluvium amid Bombay. The record here proceeds to give the surface formations described as 1. Lagoon formation. 2. Littoral concrete or raised sea beaches. 3. Blue clay or submerged and reclaimed silt. 4. Lower alluvium or old marine clay. 5. Red earth. The last formation is of a peculiar character. It is as its name indicates of a

bright red colour and is found lying immediately over greenstone or some similar variety of friable trap.\* On first being exposed to the air it refuses to sustain vegetable life and it remains without vegetation during the wettest season. With moderate manuring it changes entirely its character and becomes a fine uniform unctuous soil remarkable for its fertility.

The marine and fresh water formations form natural reservoirs for water, the volcanic rocks preventing any exit. The basalt is nearly destitute of water but it is readily obtained in the sedimentary beds beneath the volcanic rocks. The greenstone affords abundance of wells and in the littoral concrete water may be obtained every where. The water there found usually rises and falls with the tide. Along the line of the sea shore water can be obtained at a depth of some ten feet. In the clay nearly all the wells are brackish, the clay around being impregnated with salt. From Matoonga to Sion water can be obtained at a depth of from ten to twenty-five feet. The report here enumerates the papers that have been written upon the Geology of Bombay.

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### THE TRAP FORMATION OF THE SAGAR DISTRICT.

CAPTAIN S. Coulthard submitted this paper to the Asiatic Society in 1829. The trap formation of Sagar is comprised within a district bounded on the north at Hirapur by a primitive range; on the south, to the south of the Nermada, by a primitive range, on the west by the longitude of Mayapur and on the east by a granite range crossing the Nermada at Jebelpoor and running in a northerly direction. This basin elongated east and west has in its bottom the sandstone deposit rising through the trap formation covered with a coating of lias or on the surface. It appears on the surface for one hundred and ten miles in a line drawn directly from Jebelpore to Sagar. From the western limits to the central part, that is from Mayapur to Sagar trap rocks darken the surface. At Sagar they rest on sandstone, which does not appear to have much between it and the proximate primitive rocks. The sandstone rock of this district itself contains more than 54,000 square miles, and may be considered as a continuation and a sort of north eastern bend, from Baroda as a point, of the rock of the Malabar Coast. The appearance of the trap militates on the whole against its being considered to have an igneous origin. In the limestone

\* This must be received with caution.

of the trap no fossils had been found by Captain Coulthard but fresh-water shells and silicified wood have since been discovered in abundance.

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## ON THE GEOLOGY OF MALWA.

CAPTAIN Dangerfield's report on the Geology of Malwa, appeared first in Sir John Malcolm's *Memoir of Central India*. It has since been reprinted in a separate form.

Malwa is an elevated plain with its slope to the north. It constitutes the northern termination of an extensive trap formation. Malwa though bounded on all sides by hilly tracts contains none but table crowned hills varying from one hundred to three hundred feet in height. These mountains are distinctly stratified, and consist of alternate beds of basalt or trap and amygdaloid, from the great difference in the resistance made to decomposition by these strata their exposed ends acquire a very distinct character. The amygdaloid forms the great slope and the trap retains its original perpendicularity. This circumstance facilitates the construction of the forts so numerous in this part of the country. Below the Jaum Ghât in the Vindhya range about a mile from the Nerbudda between Mundleysir and Mhysir there is a cluster of basaltic columns. They rise from a small basaltic ridge. Their diameters vary from a foot to a foot and a half. Their general form is a prism of four or six sides. The basalt of which they are composed is of a brilliant black. The columns are both vertical and inclined. They dip to no particular point. The bed of the Nerbudda consists for a considerable portion of its course of basaltic rocks. These form numerous shallows and rapids. Below Chiculdah until its entrance into Goozeerat the river is not navigable. Its bed is contracted by two hilly ranges and its course interrupted by elevated rocky ridges. The principal falls are three in number. They occur at Deyree, Sausadarah and at Hurrin Pall or Deer's Leap.

Between Mundleysir and Chiculdah the banks of the Nerbudda are about 70 feet in height. They consist of a thin upper layer of rich vegetable mould, and two distinct strata of alluvium, from the upper of which muriate of soda is extracted by the natives. The lower stratum is impregnated with carbonate of soda. The soda is not extracted like the common salt but its efflorescence on the banks is collected. Above Mundleysir the northern bank becomes rocky and precipitous and consists of gently inclined beds, chiefly of greenstone slate with small in-



terspersed grains of mica, but the island of Mundatta consists of hornstone slate. Above this the banks are wooded and consist of low hills and deep ravines and water tanks. Iron ore abounds, but it is only smelted at Khautcote and Chandghur for the country is almost desolate. The ore is of good quality. This hilly tract corresponds to that below Chiculda which however is better peopled. It is inhabited chiefly by wild Bhcel tribes and the Rajpeely hills near Broach are inhabited by the coolies. In these hills there are several cornelian mines. In the upper plains of Malwa there is but little diversity, trap rocks alternating with amygdaloid. In the plain the vegetable soil, a rich black loam, varies in depth from three to ten feet. Near Sultanpoor beyond Dhar there is a large bed of jasper and in the neighbouring hills a great variety of crystallized siliceous minerals abound.

Along the whole bed of the Chumbul is a broad bed of horizontally stratified tabular basalt. It is probably connected with the basaltic column in Nemaar. To the east of the Chumbul and extending the whole length of the province there is a narrow bed of cellular clay iron ore. It constitutes a low ridge of which the higher parts rest on sandstone. The ore is poor and is not worked. The northern portion of Malwa is chiefly occupied by sandstone and sandstone slates. The sandstones are generally very fine grained. The sandstones begin at a short distance south of Jowra and extend down the western boundary of Malwa.

At Cheotakairee iron ore is found in reniform or mammillated masses and is worked. To the west a compact greyish limestone appears. This rock again rises to the surface at Dewlia. From Bheindur to Kairoda the country gradually rises, but between Kairoda and the foot of the range that encloses the city of Oodeypoor the country is flat and swampy. The range itself is about 500 feet in height and is composed of either massive or columnar hornstone. Near the Oodeypoor valley a little to the southward of Deybaree is a fine lake. It is formed by a dam being thrown across the bed of the river Bedus which here flows through a chasm about one hundred feet in width. The dam is thirty-seven feet above the level of the lake, is 33½ yards long and 110 yards broad at the top. This lake is however far inferior in its proportions to that at Oodeypoor which is supplied by the Goomety. The boundaries on either side of this lake are two mountains 700 feet in height. The dam closing the opening in the range through which the river burst is of marble. The height of this dam to the water's edge is fifty-four feet, its length is three furlongs and its breadth one hundred and ten yards. The lake is about eight miles long and four miles broad.

At Oodeypoor copper and lead are said to abound, and the mines to the northward and southward formerly produced a considerable revenue. At Oodeypoor there occurs a largely granular red limestone containing crystals of rather dark green serpentine and a very little mica. Granite again occurs at Jubboogaum. On the borders of Guzerat a coarse millstone is quarried and sent to Baroda and the neighbouring towns.

Of the geological character of the eastern and north eastern boundary of Malwa little knowledge had in 1823 been obtained. The country however consists of a broad hilly belt leading down to the lower plains of Bundelcund by the second range of the Vindhya.

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### GEOLOGY OF NAGPUR.

THIS paper only refers to the western part of Nagpur. It includes an area of twenty-four thousand square miles. "Its northern side is formed by the table-land stretching from the Mahadewa Hills on the north-west to the northern extremity of the Lanji Hills on the north-east; the south-eastern side is constituted partly by the chain last mentioned, and partly by a line drawn from its southern base to the junction of the Wein Gunga and Wardha, which latter river marks out nearly the whole of the south-western side." The district presents a water's bed from north to south. The most important rivers that flow through it are the Kanhan from the Mahadewa Hills, which at Kampti "receives the Pech from the same upland tract, and the Kolar,—the Wardhá, which is joined by the Wanna from the hills west of Nagpur, and by the Pain Ganga from the Nizam's country,—and the Wein Ganga, the largest of all, which on its left bank, is increased by the united streams of the Wagh, the Son and the Dewa, and by the Chulband, and on the right by the Kanhan, and Wardha, after its confluence with the latter of which it takes the name of the Pranhita, and ere long discharges its waters into the Godavari."

The geological structure of the territory whose extent we have mentioned has for sometime engaged the attention of scientific men. The first who examined it were unsuccessful in their search for fossils. In 1833, however, Dr. Malcolmson discovered *Unio Deccanensis*, *Physa Prinsepii*, *Paludina Deccanensis* and specimens of silicified wood, and since his time several productive sites for sandstone organisms have been met with. The paleontology of the district is in fact both varied and important. It is however the juxtaposition of trap sand-

stone and granite that invests the geology of Nagpore with special importance.

The greater part of the trap lies on the west in the shape of a parallelogram. Its greatest length is 120 miles and its breadth from fifty to sixty. Its south-western side is formed by the Wardhá, its south eastern side commences from Suit on the Wardhá to the north-west of Bhisí where its north-east side begins, and continues up the right bank of the Kanhán to the ancient Gond Fortress of Dewajad. At Dewajad the upland tract of Multai forms the north-west side and completes the parallelogram. In addition to this the main body of trap there is a development of it to the north.

The plutonic and metamorphic formation occurs principally to the north. This formation may be considered to form a parallelogram stretching between Nagpur and the Lauji hills of the same size as the trapezian parallelogram and applied perpendicularly to it. A large outburst of granitic rocks occurs moreover in the upper portion of the Wagh river. In both the districts the general strike of the strata is north and south.

The sandstone formation exists in the central part of Nagpur and laterite occurs at various parts within the area. The report then goes on to describe "in a descending order" the thickness, nature and contents of the formations within the area whose boundaries have been previously assigned.

#### SUPERFICIAL FORMATION.

1. *Black Soil*.—It seldom exceeds twenty feet in depth and contains no organic remains of any antiquity.

2. *Red Soil*.—Is frequently fifty feet in depth and is for the most part unfossiliferous.

3. *Brown Clay*.—Both the red and black soils rest in this formation, which seldom exceeds twenty feet in depth and is not known to be fossiliferous. In its conglomerate however the tusks of a large mammal have been found.

4. *Laterite*.—This formation seldom exceeds 10 feet in depth. No fossils have been discovered in it, but to the east of Nagpur it contains diamond.

5, 6, 7.—The next rock to laterite is trap. This formation naturally divides itself into three heads, namely, overlying trap, aqueous formation and underlying trap. For the sake of perspicuity they are all considered under one head, trap.

The overlying trap is extremely varied, is of all tints, substance and structure. Its average depth is about 20 feet. The depth of the underlying trap is not known.

The fossils found in the fresh-water formation between the two are :—

“ Small bones, probably reptilian:

Remains of a fresh-water tortoise.

Fish scales, both Cycloid and Ganoid, in great numbers.

Insects, found at Takli : Mr. Hunter enumerates about ten species of *Coleoptera*.

Entomostracans ; five or six species of *Cypris*.

Mollusca, land and fresh-water, in great numbers. The following genera are enumerated :—

Bulimus,	Melania,	Limnæus,
Succinea,	Paludina,	Unio,
Physa,	Valvata,	

Plant remains : Mr. Hunter enumerates :—

Fruits and seeds, about fifty species.

Leaves, exogenous, six forms.

„ endogenous, three or four.

Stems, exogenous, few species ; some specimens six feet in girth.

„ endogenous.

Roots, six or seven kinds.

*Chara*, seed vessels.”

The relation which the underlying and overlying trap bear to each other is thus described in the report. “ Before either of the volcanic rocks was poured out in our area, there had been deposited on the sandstone a stratum which must have been at least six feet thick. Over this there was spread a molten mass of lava, which hardened the surface of the stratum, and itself cooled into a flat sheet of globular basalt about 20 feet thick. After a period of repose the internal fires again became active, and discharged another effusion, which insinuate itself between the sandstone and the superior deposit ; and, accumulating in some parts more than in others, through force of tension, ruptured the superincumbent mass, tilting up the stratum and scattering the overlying trap, or, raising both stratum and trap above the level of the plain, either left it a flat-topped hill, or, with boiling surge, pushed up its summit gradually or by fitful efforts. In these convulsions, the more recent trap, where it has not tilted up the deposit altogether, has generally encroached upon it, entangling some of its fragments, converting the greater portion of it into a crumbling vesicular rock, or producing miniature outliers of amygdaloid from materials susceptible of the change.”

8. *The Sandstone Formation*.—The report considers this under four heads :—1st. Coarse ferruginous sandstone, averaging a thickness of 25 feet. 2nd. A fine sandstone containing specks of mica, fossiliferous and with a thickness of perhaps 300 feet.

3rd. Red shale with a thickness of 30 feet and 4th, Limestone. The thickness of the limestone is perhaps 100 feet.

9. *Plutonic and metamorphic Rocks.*—In Nagpur the usual combinations of gneiss and quartz rock, mica and hornblende schist with massive granite occur but perhaps the most common rock is gneiss. The quartz rock yields gold but the principal ore that it yields is iron. This ore may be obtained in immense quantities in the district of Chanda “both on the east and west of the *Wcin* *Gangá*. Near *Devalgaum*, only three miles from the east bank of this navigable stream, which communicates by the *Godávari* with the Bay of Bengal, in the midst of a level country covered with jungle, there is a hill named *Khandeshwar*, consisting of strata tilted up at an angle of 60°, or 70°, the dip being to the north. The summit of the hill is about 250 feet above the level of the plain, 100 feet being gradual ascent through jungle, and the remainder an abrupt wall of naked rock. The iron ore is for the most part specular though many specimens possess polarity, and seem to be magnetic. It is on the surface of the slope that it is most valuable; but the whole mass, from an unknown depth under ground to the highest peak above it, is richly laden with metal. This single hill might furnish iron for the construction of all the railroads that shall ever be made in India, and with its abundance of fuel and cheapness of labour, and convenience of situation, it is admirably adapted for an export trade to every part of the country. But besides this locality, there are others in the neighbourhood which could each contribute an unlimited supply of the same indispensable metal. Among these may be mentioned *Lohará*, *Ogalpet*, and *Metápár*, *Bhánápur Mendá*, and *Gunjáwahi*, which are all on the W. of the *Wcin* *Gangá*; and at all of which places the ore seems to occur in quartz, and is sometimes granular, but for the most part compact.” The report proceeds to trace the geological history of the district.

Amongst the fossils discovered by Messrs. Hislop and Hunter in Central India was a cranium of a reptile that was submitted to Professor Owen. The fossil was found in the sandstone series of *Mangali* about sixty miles to the south of Nagpur. Professor Owen designates the species represented by this fossil “*Brachyops Laticeps*” and submits that it is closely allied to “*Labyrinthodont Batrachia*.” In a subsequent paper Mr. Hislop modified his views with regard to the Indian fresh water formation and divides them thus:—1. Upper sandstone series. 2. Laminated series embracing (i) arenaceous, carbonaceous and bituminous strata (ii) argillaceous shales and (iii) limestone. 3. Lower sandstone series.

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## FOSSIL FISH FROM THE TABLE LAND OF THE DECCAN.

THE author of this paper is Colonel Sykes. He says "considering the enormous development of trap covering some 200,000 square miles in the Deccan—the granitic basis of the whole peninsula of India,—the area occupied by laterite—the want of sedimentary rocks, and the hitherto total absence of organic marine fossils in the Deccan (for a few shells brought to notice by the late Dr. Malcolmson were either fluviatile or lacustrine),—the discovery of fossil fish on the margin of the trap region was a novelty necessarily of great interest, as indicative of the former submerged state of the peninsula of India." It is proposed to call the new specimen *Lepidotus Deccanensis*. It is remarkable for the slender proportions of the anterior part of the trunk and the thickness of the posterior part between the oval fin and the tail. The scales are perfectly smooth and the teeth are conical. Sir Philip Egerton thinks from specimens of this fish being generally found associated with terrestrial vegetable remains that it was an inshore fish.

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### THE GEOLOGY OF KOTAH.

THE village of Kotah is situated on a plain, on the left bank of the Pranheetah river twelve miles above its junction with the Godavery. It was from this locality that Dr. Walker obtained his specimens of fossil fish (*Lepidotus Deccanensis*.) At the station Dr. Walker conducted the experiment of boring for coal. No coal was however found. The surface formation in the immediate neighbourhood of Kotah consists of black regur or cotton soil, through this sandstone crops up, rising in ridges of hills to the height of some forty feet to the south of the station argillaceous limestone makes its appearance extending for about 150 yards. The layers of this rock vary in thickness from one eighth of an inch to a foot and are frequently separated from each other by seams of fibrous carbonate of lime. The report goes on to describe the deposits, succeeding each other from above downwards, as they were exhibited in boring for coal. To the report is appended a Note by Professor Owen on the Crocodilian remains of Kotah.

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## GEOLOGICAL NOTES ON TRACT BETWEEN BELLARY AND BIJAPUR.

THESE notes were taken by Captain Newbold, F. R. S. during a survey of the line of road connecting Bombay and Madras which lies between Bellary and the ancient Mohamedan capital Bijapur. "They commence from Bellary, comprising a line of 164 miles, extending in a north-westerly direction through part of the Ceded Districts, the Nizam's dominions, and the Southern Muratha Country, crossing at right angles the courses of the Tumbuddra and Kistnah rivers as they hasten across the Peninsula from west to east, to add their tribute to the Indian Ocean." Between Bellary and Yailbenchi a distance of 15 miles, the plain is supported on granite and gneiss, and for the last 4 miles is covered to the depth of 18 feet with cotton soil. This soil in some instances rests on "kunker" which is burnt by the natives for lime. The "kunker" resembles the travertine of Italy. The "regur" or cotton soil continues, as far as Devasamudrum and derives additional fertility from being watered by numerous rivulets running from the bank at Daroji. The soil produces rice, wheat and sugar-cane. In some places it is impregnated with muriate of soda, and there are established a few salt manufactories. Beyond Devasamudrum to the Tumbuddra which, is crossed by basket boats to Mustoor, gneiss is the prevailing rock.

At Mustoor, the plain rises towards Umaluti, a walled village about 25 miles distant. Beyond Umaluti, the regur is succeeded by the debris of granitic rocks. The country is indifferently watered and the majority of the springs are brackish.

At Tawurghirry occurs a range of hills called "Caradi Guddi" from being infested by a number of bears which are attracted by the dwarf date that luxuriate in the neighbourhood.

Beyond Tawurghirry chlorite slate occurs, and at Idlapur large masses of kunker embedding hematitic iron ore are seen. The chloritic slate is in this neighbourhood replaced by quartz until it again appears near Cundigul. Beyond Cundigul gneiss again makes its appearance and is succeeded by granite. The report here goes on to describe the Kistnah which Captain Newbold crossed in the usual wicker baskets. After leaving the Kistnah, the plain rises to the north and on the rising ground on which stands the little fort of Beylhal the road is literally paved with *boules* of trap. From Umblanur the trap is observed to undergo many changes in texture and colour. In some case the rock is divided into rectangular and rhomboidal prisms which by the mysterious law of crystallization manifested

in both ancient and modern trappean rocks, from the microscopic atoms of augite and hornblende to the prodigious pillars of Staffa and the Giant's Causeway, often assume a pentagonal and hexagonal shape. From Bagwari to Mangoli,  $15\frac{1}{2}$  miles south of Bijapore, the trap continues, but is at times overlaid with laterite, before however reaching Bijapore the trap is again a surface rock. That city stands on an immense sheet of overlying trap. The report here contains further notes on the route to Bellary from Bijapore by Kannighirry, and concludes with a notice of the great overlying trap formation of Central and Western India.

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## GEOLOGY OF THE SOUTHERN MAHRATTA COUNTRY.

THERE are two reports on the Geology of the Southern Mahratta Country, one by Dr. A. Christie and the second by Captain Newbold.

Dr. A. Christie observes that the "geognostical arrangement" of the rocks of the Indian peninsula is every where simple, the same formation being sometimes continuous for several hundred miles. The principle rocks are granite, transition rocks, old sea sandstone, trap rocks, and, superior to all this, a ferruginous claystone.

Granite is by far the most abundant rock in the Peninsula of India. It stretches from Cape Comorin to beyond Nagpore and Ellichpore, occupying a great part of the Carnatic, Malabar and Mysore, nearly the whole of the Nizam's dominions and a large part of Berar. It is also found in Malwa, Bundelcund, in the neighbourhood of Delhi, and some of the highest peaks of the Himalayas are composed of it; all the eastern portion of the Southern Mahratta Doab from Sungum to the British frontier consists of granite, but west of that it only occurs occasionally. Upon a superficial examination the granite of India might be pronounced to have several distinct structure but they all may be referred to the *lœminar*. The *lœmina* are often divided by natural seams; these seams becoming widened by the action of the weather account for the columnar and other appearances of the granite.

Granite is not generally employed in India as a building stone, it is used however for paving, and is hewn into handmills, two or four of which are a load for a bullock. These are the primeval mills of Scripture. The Hindoo temples at Anagoondy are built of granite. In one of the principle buildings is an extensive "colonnade, the columns



of which are light, with small pedestals and capitals and approaching somewhat in their proportions to the Grecian. Some of the pillars are tastefully carved with flowers. A few are in the form of caryatides. They support immense slabs of granite, which are carved on their under surface, so as to form an ornamental roof. The largest of these slabs, which are in the central part of the building are at least 30 feet long." The natives of India have a way of polishing granite, which communicates to it a black colour. They polish all kinds of stones by a mixture of powdered corundums and melted lac. The mixture being allowed to cool the stone is polished by being sprinkled with water and rubbed with these oblong masses.

The transition rocks occupy a large part of the Darwar and Canara districts and of the territory of Goa.

In the Southern Mahratta Country many varieties of clay slate are met with. Its principal colour are grey blue, greenish red and white. The grey variety is the most common. It occurs at Kulladghee, Darwar, Hoolgoor and Soonda.

Chlorite slate and talc slate have a wide distribution; both are met with throughout the whole of the central and southern parts of the Darwar district and in the western Ghâts.

Limestone occurs only in the north east part of the Darwar district, it is associated with clay slates and grey wacke, with the latter at Kulladghee.

Gneiss occurs in large quantities at Dummul and beds of it are met with at Nurgoond.

Beds of quartz are found among all the other transition rocks in this district.

Old red sandstone is one of the most extensive formations in India. In the Southern Mahratta Country it extends from Gudjunderghur to the north and north-east, as far as the Kistnah, some way into the Hyderabad country and from thence beyond Gokauk. It forms the summits of three insulated hills, those of Noulgoond, Nurgoond and Chick Nurgoond.

At Badamy, the hills, composed to their very bases of sandstone, have perfectly even summits, and are surrounded on all sides by vertical precipices. The hills have a height of probably 200 feet. The two small forts of Badamy are built upon these sandstone hills. The only ascent to them is by means of steps cut in the solid rock, the passage to which is between immense walls of rock 200 feet high.

Trap rocks occur extensively in different parts of India. In the Darwar district they do not occur in great abundance. In the neighbourhood of Bolgaum the trap forms rounded hills. The most common rocks that occur in the trap formation are a loose greenstone, basalt and amygdaloid.

Ferruginous claystone, the laterite of Buchanan, occurs in great abundance in the Deccan, in Mysore, in the district of Cuddapah and Orissa. It extends all along the Western Coast from Fort Victoria to the Southern extremity of the Peninsula. It is met with in Ceylon and is almost the only rock of Malacca. In some places it contains numerous small nodules of clay iron stone. These are picked up by the natives and smelted in a rude furnace blown by the hand bellows, such as is used in Europe by the Gypsies.

Immense deposits of a black alluvial clay are met with in various parts of India. "It is denominated cotton ground, from the circumstance of that plant being always cultivated upon it. It is the regur soil of the ryuts. It forms large plains throughout the whole of the Deccan; some of them sufficiently extensive to bring to mind the descriptions given by travellers of the Pampas of South America, or the steppes of Russia." Dr. Christie considers the soil to have originated from the disintegration of the trap rocks.

Captain Newbold proceeded westerly across the Mahratta Country, following the right bank of the Gutpurba to the falls of Gokauk having the Kolapore territory to the right. He does not consider regur to be the detritus of trap rocks, nor to have a "fluvial origin." Its appearance in the Ceded Districts watered by the Tumbuddra, Pennaur and Hogri rivers, none of which touch the trap formation, militates against the first, and the fact that it is seen covering vast flat plains like seas, hundreds of miles from the banks of great rivers, is conclusive against the second.

On the south bank of the Gutpurba are some low hills running E. S. E. composed of breccia, and from these hills to the Sitadonga hills a plain covered with regur extends. The hills at Badamy and Gujunderghur are composed of sandstone. Beyond these hills through which the Gutpurba finds its way occurs the plain of Bagulcotta. It continues west to Kulladghi. At Bagulcotta a pale buff-coloured limestone occurs that might be applied to lithographic purposes. Talicotta is the most promising locality for lithographic limestone. About a mile from Kulladghi are slate quarries. They yield hones, roofing slates, slate pencils, and huge blocks for pillars of temples, Hindoo idols, &c.

At Hirasillaky five miles from Kulladghi are iron mines. The metal sells at from two to two and a half rupees the pukka maund of forty-eight seers. Land carriage is readily procurable.

The report here describes the geological formation of the country between Kulladghi and the falls of Gokauk.

The Gokauk and Cotabanghy hills form the eastern flank of the Western Ghats and run in a parallel direction. They are entered from the east by a picturesque gorge through which the Gutpurba emerges. The falls are about three miles and a half to the east of Gokauk. The road lies along the bottom and side of this defile on the right bank of the river which here varies in breadth from ninety to three hundred yards. "The Gutpurba, a little above the fall, is apparently about 250 yards across, but contracts to 80 as the brink of the chasm is approached; consequently, the density and velocity of the watery mass is much increased, and it hurries down the shelving tables of rock with frightful rapidity to its fall.

The fall over the face of the precipice seems slow and sullen from the velocity of the surface water of this rapid, and from the great denseness of the body; and it plunges heavily down with a deep thundering sound."

The falls are 178 feet in depth on the cliffs near the falls; on the right bank of the river is a small group of Hindoo temples, dedicated to Siva.

From the falls of Gokauk to the cantonment of Belgaum about  $34\frac{1}{2}$  miles, the route is nearly south west across an elevated table-land sloping to the eastward, covered with alternate bands of red and black soil and intersected at Padshahpoor, which is about  $11\frac{1}{2}$  miles from the falls, by curvilinear spurs and outlying hills. About a mile to the north east of Belgaum another sheet of trap is entered upon, it continues unto Bangwari, where the edge of the trap is seen reposing on the hypogene schists at the base of the trap hills close to the village.

From the banks of the Malpurba to Darwar, a direct distance of twenty-three miles, the country is hilly and picturesque. The soil covering this tract of country is usually reddish, and the result of the decay and washing of the neighbouring rocks. The rocks composing the hills are schists passing into slates and shales.

South of Darwar to the Mysore frontier near Bunwassi and Chundergooty the face of the country presents a plain diversified with a few smooth conoidal hills. The soil is reddish and alluvial, and is in some directions intersected by belts of cotton soil. Towards Bunwassi quartz rock prevails with greenstone dikes. A little to the south of Bunwassi the lofty rock of Chundergooty in Mysore, a mass of granitoidal gneiss divided by vertical and almost horizontal fissures rises from the schists. From Bunwassi E. N. E. to Savanoor the schists continue. They are intersected by dikes of greenstone accompanied by depositions of "kunker." Near the dikes crystals of liver and

brass coloured iron pyrites are scattered throughout the structure of the schists, and cotton soil alternates on these strips with red clayey alluvial soil.

Near Lackmaisir occurs a calcareous rock similar to the breccia di verde of Egypt which is susceptible of a high polish. From Gudduck east to the Ceded Districts the formations consist of gneiss, hornblendes, slate and granite. The Kuppnt hills are principally composed of hornblende and chloritic schists and mica slate. The beds of the Dhoni rivulet which rises in these hills contain gravel and sand in which gold dust is found, associated with magnetic iron sand, menaccanite iron ore, grains of platinum, &c. Manganese is also found in considerable quantities. Tippoo here excavated pits for gun flints.

The report concludes with stating the geographical position and extent of the various rocks of the South Mahratta Country. It is mainly the same as that by Dr. Christie, already summarised.

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## GEOLOGICAL REPORT ON THE BAGULKOT AND THE ADJOINING TALOOKS.

THE district described by Lieutenant Aytoun is included between the rivers Kistnah and Mulpurba on the north, south and east, and a line drawn through Gulguleh, Kulladghee and Badamy on the west. Its outline is nearly triangular, the two rivers forming the sides and the line drawn through Kulladghee the base. Its greatest length north and south is 50 miles, and its greatest breadth east and west 45.

In the district are four sandstone ranges which bend in the direction of the dominant strike of all the rocks from W. N. W. to E. S. E.

The ranges, extending 16 miles to the south of Kuttcegeeree, are separated by valleys, in which limestone and schistose rocks are developed, in general covered with black cotton soil.

The first sandstone range extends from Beelgee to Gulgulch and rises to the height of 100 feet. The sandstone rests on grits and conglomerates and these last on granite. About three miles from Beelgee on the road to Gulgulch, trap makes its appearance.

The second sandstone range is about 180 feet high and is composed of sandstone and conglomerate.

The third sandstone range is composed of a jasper conglomerate and a quartzose sandstone. The limestones in the

immediate vicinity of the range are impure, but become purer near the fourth sandstone range.

At Guddunkeeree there occurs an uncommon variety of breccia composed of schists and limestones in a base of calc spar.

In the valley of Kulladghee the rocks are extremely confused. The report however proceeds to describe them and mentions that at Alyoondie are some fine coloured marbles, coloured green principally with chlorite, and in the vicinity a fine-grained lithographic stone.

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### THE BASIN OF THE MULPURBA.

LIEUTENANT Aytoun in a second paper describes the basin of the Mulpurba in Belgaum. He mentions that it is bounded on the west by the last "ridge of the great overlying trap formation of the Deccan. On the north by the sandstone hills of the Gokauk belt, which here sends an offset to the south, meeting an elevated belt of schistose rocks which forms the eastern boundary.

The river Mulpurba in its course to the north-east has forced a passage through the sandhills near Pursgurh

The trap range on the west is about 400 feet high." The rocks met with are the hypogene schists principally. They have all been subject to the disturbing and metamorphic effect of igneous agency, and trap and sienite are developed in many places through the basin.

The report concludes with a description of the Kupputgood hills or gold district. The nucleus of the hills in the immediate neighbourhood of Dumul is granite. The main range is there about 1000 feet high. The gold is found amongst the chlorite slate hills to the west of Dumul.

The chlorite is highly quartzose and indurated. The development of iron pyrites is exceedingly great, and it might be imagined that the small quantity of gold now found in the nullahs was derived from this source. Pepites of gold of a pear shape have occasionally been found. The gold in Australia, when found in small pieces, has sometimes this appearance.

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### GEOLOGY OF CUTCH.

THE province of Cutch is situated between the 22° and 24° of north latitude and 68 and 70° of east longitude. It con-

tains about 6,500 square miles independently of the Grand Runn which bounds it on the north. The province is hilly and rocky, with the exception of the southern coast which is a "dead flat covered with a fine rich soil." There are no constant streams, the river courses being merely channels for conveying the periodical floods to the seas. They contain at other times only detached pools.

Mr. Grant divides the country into eight distinct formations:—  
 1. Sienite and quartz rock. 2. Sandstone and clay with beds of coal. 3. Red sandstone. 4. Upper secondary formation. 5. Nummulitic limestone and marl. 6. Tertiary strata. 7. Alluvial deposits. 8. Volcanic and trappean rocks.

The only good example of sienite occurs at a hill called Calunja near the town of Nuggur in Parkur. Quartz rock is principally developed near the town of Mhurr.

Sandstone and clay occupies a considerable portion of the country as may be seen from the map that accompanies the report. The centre of the province is dotted with hills, the smaller of these are composed of a very ferruginous sandstone. Iron ore is principally extracted near the town of Doodye. In extracting the metal, "layers of very small pieces are disposed alternately with others of charcoal, in a rude open furnace, and exposed to the blast of two small bellows made of sheepskins. The metal, when fused, falls into a hole at the bottom of the furnace, whence it is transferred to an enclosed furnace, and subjected to similar blasts, until brought to a white heat, when it is taken out and beaten into a bar. No flux of any kind is used."

Coal is found in this formation and at Bhooj a stratum has been discovered eighteen inches thick. This bed was worked for some time, but the quality of coal extracted was bad. Near Scesaghud boring operations have been conducted but no coal was found. Near Mhurr occur beds of variegated marl and blue clay. From both of those alum is extracted. The manner in which the alum is prepared is simple. The earth in which it is discovered is quarried and exposed in heaps to the sun and air for about five months, "during which it burns spontaneously. It is next laid out in little beds similar to those of a field prepared for irrigation, and it is watered by a small stream for ten or fifteen days, by which time the aluminous matter accumulates into semicrystalline plates. This substance is boiled in water for about seven hours; after which, a third, or one half, by weight, of potash is added, and it is again boiled for a few hours, according to the strength of the ley. It is then poured into large open vessels, where, after settling for some time, it is washed, and the liquid drawn off, leaving an impure crystalline sediment. This is once more boiled, and when it arrives at a proper state,

which is learned by practice, it is poured into large earthen vessels with a small mouth, and sunk into the ground to prevent their breaking. After a time, the vessels are dug out, broken to pieces, and a lump of pure alum extracted. Six or eight measures by weight of alum are produced from ten measures of the substance from the irrigated beds, and four or five measures of potash. It is not so much esteemed in the Bombay market as that brought from China, on account of its yellow tinge."

The red sandstone formation occurs to the south of the coal series, and is separated from it by a low range of hills about six miles broad, composed of basaltic rocks and porphyry; associated with the red sandstone are beds of clay. One of these beds is aluminous and has been burning spontaneously for a long time. This bed has never been worked.

The most characteristic fossils found in the "upper secondary formation," which occupies hollows in the sandstone and coal formation, are ammonites. Eleven species have been collected.

Nummulitic limestone and marl extends from Luckput to a plain between the villages of Wage-ke-Pudda and Eyeraio, about 30 miles to the southward. The stone has the appearance of chalk and the surface soil is composed entirely of small fossils lying loose, called Luckput sixpences. The most characteristic fossils are nummulites, fascicolites, echini, galcrites, clypeasters and spatangi.

By the tertiary strata of Cutch is meant all that portion of the province that contains fossils of the tertiary period. They consist chiefly of a hard argillaceous grit covered by beds of pebbles or conglomerate. The principal deposit of fossil shells is at the village of Soomrow. The tertiary beds reach, in one place, to the town of Mhurr, a distance of 30 miles from the sea, and extend in a belt of a third of that breadth throughout the whole southern coast of the province. The alluvial deposits consist entirely of detritus washed from the hills, or of land recovered from the sea by the blowing up of sand. At *Mandavee*, an old ruin formerly the quay is now about three miles inland, and even now a considerable space composed of loose sand intervenes between the town and the sea. This space is continually increasing. "The same operation is in progress at places separated from the main waters of the gulf by small creeks.

Some of these inlets penetrate six or seven miles from the coast through a tract covered for miles in extent with shrubs. At low water these plants are exposed to their roots; but at high tides merely their upper branches are visible, so that the boats sail through a marine forest, the sails and yards frequently brushing against the boughs of the trees."

The district composed of volcanic and trappean rocks is one of the principal features of the geology of Cutch. The principal mass of igneous rocks lies towards the southern department of the province and forms a group of hills called the Doura range. The northern parts of the "range have, for the greater part, a flat, smooth outline; but in the interior of the group are many clusters of small, conical hills, arranged round a circular space enclosing a kind of hollow." Of the detached hills of volcanic origin, the principal is called the Denodur. It is situated near the shores of the Runn and is the largest and highest hill in the country. An irregular crater which is still visible leaves no doubt of its igneous origin.

The report contains other examples of the elevatory effects of volcanic action and mentions some igneous outbursts of apparently a very recent period at Wage-ke-Pudda and in the neighbourhood of Mhurr. The first view of that at Wage-ke-Pudda is very striking. It includes a space of about two square miles "blown out into a flat basin, the sides being broken into fissures with craters, ravines, and hollows; and the interior, or bed of the basin, interspersed with hillocks and cones of every variety of colour, black, red, yellow, and white, and with patches of cinders, similar to the refuse of a furnace." The whole looks as fresh as if the igneous agents were still in operation.

The paper concludes with a description of the Runn, which Capt. Grant considers to have been once covered with salt water. To the report is appended a systematic list of organic remains.

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## THE GEOLOGY OF THE COUNTRY BETWEEN 'HOSHUNGABAD AND NAGPOOR.

This paper is merely a summary, it was written by Lieutenant John Finnis in 1829.

The formations between Nagpoor and Hoshungabad "are trappean, primitive, transition, and secondary, and much intersected by veins of greenstone and trap."

The formations may be divided into five principal divisions.

The first division includes "the tract of country lying between Nagpoor and Baitool to the south bank of the Machna river.

An unvaried formation of trap occurs during the whole of this distance, and the face of the country is covered with round waken boulders."

The second division comprises the space within the Southern and Northern Gháts in the Machna. On the north bank of the



Machna trap no longer appears; it is followed by strata of quartz and mica schist.

The third division includes the country between the Machna river and the nulla, one and a half miles south of Keeslah. Here all traces of granite are lost and sandstone becomes general. The sandstone extends to Keeslah. About four miles from the Machna and three miles from the Bhora Nuddee seams of coal are displayed.

The fourth division comprises the low range of hills between Keeslah and Putroda. These hills form a part of the great range of Mahadeo hills. Kunkurs, and a mica schist formation occur in this division.

The fifth division extends from Putroda to the Nerbudda at Hoshungabad. After passing through the hills a rich field of cultivation opens to view, and the rocks are lost under the deep alluvial soil of the valley of the Nerbudda. The report closes with a list of specimens collected in the several districts.

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### FERIM ISLAND.

PERIM island is situated in the Gulf of Cambay nearly opposite the estuary of the Nerbudda river. It is separated from the coast of Guzerat by a channel about 75 fathoms deep and 500 yards in width. The island, which is surrounded by an extensive rock reef steep on all sides but the south, is three miles in circumference. The highest point of the island is not above 60 feet above the level of the sea. The "Perim light" is about 102 feet above water mark. The island is composed of tertiary strata; the south south east end terminates in a cliff which exposes horizontal beds of puddingstone separated by a sandy clay.

In an experimental boring at the town of Gogah, of the 369 feet gone through, the uppermost 74 consisted of sand and gravel, "11 feet, stiff black clay; 6 feet, sand and clay; 10 feet, soft sandstone alternating with thin seams of different coloured clays; sand and gravel 13 feet, and, lowermost, a very hard siliceous sandstone 9 feet thick. The inferior portion of the section is composed of a great bed of dark clay, which has been penetrated down to 246 feet, containing pyrites and broken shells." The fossils that have been discovered at Perim are a species of *dinotherium*, giraffe, and *boamatherium*, besides other forms which prove that the clay conglomerates of the gulf of Cambay contain in them the remains of a very extensive and varied fauna. The fossils mentioned are described at length in the report.

## THE CORNELIAN MINES OF BAROACH.

THIS paper was written in 1815 by Mr. John Copland of the Bombay Medical Establishment. The mines are in the wildest part of the jungle and no human habitations are within seven miles, on account of the tigers with which the country abounds. The miners reside at Neemoodra, where alone the stones are burnt. The mines are shafts working perpendicularly downward, about four feet wide and some 50 feet in depth. The soil is gravelly and consists chiefly of quartz sand reddened by iron and a little clay. The cornelian nodules weigh from a few ounces to two or even three pounds, and are scattered in the greatest abundance. Their colour is blackish olive, others somewhat lighter and others lighter still. A native informed Mr. Copland that the first would be black when burnt, the second red and the third white. The stones after they are collected are brought to the village of Neemoodra every evening, spread on the ground, exposed to the sun and turned every fifteenth day until the time of burning, which is only once a year, one month before the commencement of the monsoon. They are then put into round earthen pots about 14 inches in diameter "the bottoms of which having been taken out, and the pots inverted (mouth downward), the pieces taken from the bottoms are put inside, and placed over the mouths to prevent the stones falling out; in this state the pots are placed side by side in a trench of indefinite length, but of which the depth and breadth are about two feet, having a layer of five or six inches of dry goat's dung below, and the same above the pots. This is set on fire about eight o'clock in the evening, all the fuel is consumed before day break, when the pots are removed from the trench to the open air for the stones to cool, which requires about three hours; after this they are taken out of the pots, piled into heaps and chipped, as when taken from the mines, to discover their quality, and are finally thrown into a pit, where they remain till called for (more to be out of the way of thieves than as constituting any part of the operation.) From Neemoodra the cornelians are carried to Cambay by the merchants who come from thence, where they are cut, and formed into the beautiful and much sought after ornaments peculiar to the place."

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## GEOLOGY OF PARTS OF SINDE.

THE notes were written by Captain N. Vicary in a journey between Kurrachee and Sukkur.

The harbour of Kurrachee is protected by two rocky islets and Minora Point. Minora Point is connected with the Hala range, which exhibit in descending order conglomerate, clay and sandstone, upper bone bed, sandstone fossils, lower bone bed, coarse arenaceo-calcareous rock with spatangi; pale arenaceous limestone with hipponyces, nummulites and charoidæ, nummulitic limestone and black slates.

At present no river discharges itself into the harbour at Kurrachee, but there is every reason to think that at one time a branch of the Indus discharged itself there. The sea breeze is continually drifting dry sand into the harbour and filling it up, and on the land side the harbour is gradually filling up from the quantity of detritus carried into it by every flood of rain.

At Munga Peer, which is a basin enclosed by hills, there are two hot springs. The springs are about half a mile apart. The water is sweet. The northernmost is 124° Fahr. the other is 99°. At Luckee hot springs again occur, in one of these the water is highly mineral, and contains sulphur combined with calcareous matter and some salt. A dense scum is constantly rising to the surface of the pond over the spring and some Sindces, constantly in attendance, skim it off, and take it away in order to obtain the sulphur that it contains. The water from this spring has a great reputation amongst the natives as a remedy in cutaneous diseases. Near the spring in a perpendicular face of rock is a hole about three inches in diameter. Some years since an inflammable gas issued from this, it became ignited and was known by the Sindces under the name of Puri-ka-Chiragh or the Peris Lamp.

Near Peeth at the centre of the Hala range is another hot spring. The water smells of sulphuretted hydrogen. On the left bank of the Gauj fossil bones were discovered in vast abundance. They were crocodilian.

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### THE BELOCHISTAN HILLS.

THE hill country, the subject of this paper by Captain Vicary, extends from Shahpoor on the western side to Goojeroo on the east a distance of 90 miles, and from the sandstone ridge bordering the desert to the Murray Hills in a northerly direction about 50 miles.

The strike and direction of the ranges and of the valleys is nearly east and west and the mean dip southerly.

From the low sandstone range bordering the desert to the Murray Hills there are seven parallel ranges of mountains.

In the second sandstone range which extends to an unknown distance in an easterly direction the Jullock, Gundava and other passes are situated. The lower ranges of mountains nearest the Murray Hills and parallel with it are formed of a nummulitic limestone. The Murray hills rise to about 3,500 feet above the level of the sea. They present a precipitous escarpment to the southward and the stratification is nearly horizontal. The report closes with a description of the fossils from the nummulitic limestone of Beloochistan. It is followed by a notice by Dr. Fleming of the Geology of the Sooliman range.

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### THE GEOLOGY OF SINDE.

There are two papers on the geology of this province, one is by Mr. H. B. E. Frere and the second by Mr. H. J. Carter. The first is merely a letter addressed to Colonel Sykes announcing the despatch of certain tertiary fossils, chiefly bones of mammalia from the hills south west of the Munchar lake, and the other is more particularly on the larger forms of fossilised foraminifera in Sindh.

The description of the foraminifera passes from the "simple nautiloid form of *Operculina*, in which the spire and septa are all visible exteriorly, to *Assilina*, where they are more or less obscured in the centre; thence to *Nummulina* where there is an addition of compressed chambers on each side the central plane, expanding above and below into the globular form of *N. obtusa*; and elongating in *Alveolina*. Returning to the subgenus of *Nummulina*, which presents the 'reticulated structure' above and below the central plane, we pass on to *Orbitoides*, where the characteristic spiro-central plane of the nautiloid forms of Foraminifera is beginning to disappear, and then to *Orbitolites*, where it is entirely lost; ending with *Cyclolina*, which bears the same relation, in the simplicity of its structure to *Orbitolites*, that *Operculina* bears to it."

Plates accompany the report.

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### GEOLOGY OF THE SOUTH EAST COAST OF ARABIA.

The information continues in this Memoir by Mr. H. Carter was compiled chiefly from information obtained by Captain Saunders and Lieutenant Grieve.

The report although it only mentions the south east coast of Arabia commences at the straits of the Persian gulf, from thence proceeds to Ras el Had, then follows the south eastern coast and its islands to the straits of Bab-el-Mandeb, and crossing over to Berbera pursues the African coast as far as Socotra. The report commences with a geographical description of the coast.

The mountains which form the promontory of Ras Massandam on the western side of the Persian gulf suddenly rise from four hundred feet, the height of a small island called Massandam, to two and three thousand, and as they progress south eastward to six thousand feet above the level of the sea. They are this height at Maskat where they are called the Jibal Fallah. They terminate at the "Devil's Gap," and are there 6228 feet high. Between the mountains and the coast is a plain called Batana, which extends to within 14 miles of Maskat. From the southern boundary of the Devil's Gap, the outlet of the great valley that ramifies up among the mountains of Oman, a group of mountains extends towards Ras el Had.

The eastern extremity of Arabia is truncated and presents a coast facing due east of about 20 miles in extent, with a sea cliff about 100 feet above the level of the sea.

The sea-cliff ceases after the eastern extremity is turned and the land sinks to the level of the sea.

"After Masira, the mainland begins to rise again, and a sea-cliff first commences at a Cape called Ras Kabret in 19° 57' N. lat. and 57° 48' E. long. The land, however, on the western side of the bay, called Ghobat Hasish which is a little to the north of Ras Kabret, is 80 feet above the sea, and goes on increasing in height, until it attains an altitude of 480 feet at Ras Markas, which is close to Ras Jazirah. On account of the coast here running north and south for 100 miles, and therefore obliquely to its general direction, which is NE. and SW., we not only see that the land rises towards the SW., but that it rises also towards the south.

From Ras Jazirah, where the cliff, from its height and whiteness, very much resembles that of the south-east of England between the North Foreland and Beachy Head, the coast gradually increases in elevation to 800 feet which is its height about the centre of Curiyah Muriyah Bay; but as we approach the south-western horn of this bay, its outline and horizontality become disturbed, and suddenly it attains an elevation of 4,000 feet, which it preserves, more or less, on to the Yaffai mountains, at the Straits of Bab el Mandeb.

Opposite Curiyah Muriyah Bay are five small islands, which, in point of size, are hardly more than the tops of so many mountains; they are about twenty miles off shore, and the largest and

highest, which is Hallaniyah, has a point 1,645 feet above the level of the sea. There are also two or three still smaller, much further on towards Aden, viz. opposite Hisn Ghorab, about sixty miles south-west of Makalla. These are all the islands on this coast.

The chief features of the land between Curiyah Muriyah Bay and the Straits of Bab el Mandeb are, that here and there it is more or less tabular in its outlines; here and there more or less broken into mountainous peaks; here and there more or less interrupted by ravines; five times by great valleys; and once (in the Bay of El Kammar) by a tract of low land forty to fifty miles in breadth, which, running SW. and NE. between the mountainous ridges of which this elevated coast is composed, thus separates them longitudinally as far as the eye can reach.

Throughout, the high land is more or less scarped upon the sea or the maritime plain, and the latter seldom more than ten miles in breadth. Its colour is for the most part white, particularly where it is weatherworn, but here and there black or brown, where it is confronted by, or mixed with, rocks of an igneous origin."

With regard to the geology of the south east coast of Arabia the first thing that strikes the enquirer is the continuity of the limestone formation, which extends a distance of 1125 miles. The next point of interest is the eruption by elevation and outpouring of igneous rocks along the great line of fracture that forms the coast, and lastly the elevation of the land from 4000 to 6000 feet above the level of the sea that half brought to light other formations lying beneath the white limestones.

The igneous rocks comprise all the principal kinds and most of the varieties, by far the greater part of them are hypogene, the rest volcanic. The presence of gneissic strata in the granite at Marbat shows that some "of this rock is at least secondary; and being mixed up with limestone in the same neighbourhood, identical, but for the changes which such formations undergo when similarly situated, with some of the white limestone series above, further shows that there is granite here, which may be of still later date even than that enveloping the gneiss." The gneiss itself was not seen by Mr. Carter *in situ*.

On the north eastern part of the coast dioritic and euphotide rocks prevail. These at Masira and Ras Jibsh envelope jaspideous strata. At Maskat, Masira, Marbat, and perhaps Makalla, jaspideous strata are overlain by nummulitic strata, but are never covered by granite or dioritic rocks.

On the south eastern part of the coast there occurs a chain of volcanic rents up to and including Aden, these extend through every-

thing and from them extends an issue of black basalt and other volcanic rocks which cover in different places the maritime plain.

Throughout the coast the original localities of the eruption of igneous rocks appear to have been the principal ones of the subsequent eruptions and outpourings, with the exception of the volcanic rocks, which have come to the earth's surface, where the older igneous rocks do not appear.

The igneous formation Mr. Carter considers to admit of three groups:—1st. The strata of which the highest scarps are composed. 2nd. The nummulitic or compact littoral deposit on the shores especially of Dofar. 3rd. The miliolitic or loose littoral deposit and 4th, the recent littoral deposit.

The first group admits of three divisions. The first or uppermost includes the white limestone series, which extends from the summit of the table land to the commencement of the coloured argillaceous strata. It consists of white calcareous strata of different degrees of hardness and fineness, and is more shelly above than below, and throughout is more or less charged with thin foraminifera. In some parts flints are imbedded. Towards the summit *Cyclolina* and *Alveolina* abound, with bivalves and univalves. Mr. Carter regrets that he cannot state more of the middle part of these strata. The lower most are more or less magnesian and in some parts dolomitic.

The second division comprises the coloured argillaceous series, estimated at 300 feet at Marbat, 175 feet at Ras Sejar and 1,000 feet at Ras Fartak. It consists of red, blue, green and yellow argillaceous strata, sandy shales, and impure limestone in which a red colour is predominant. It contains "in addition to *Orbitolina*, throughout, but most numerous in the lower part, species of *Echinodermata*, *Isocardium*, *Pecten*, *Plagiostoma*, *Exogyra*, *Ostrea*, and *Ammonites*, probably all of the Cretaceous Period."

The third and last division of this group is the micaceous sandstone of which Mr. Carter saw so little that he can only state that it is of great thickness, and though laminated in some places is for the most part massive throughout.

At Marbat it is usually of a "ferruginous yellow ochraceous colour" and at Ras Sejar its upper part, the only part exposed, is of a light greenish blue colour, veined here and there with white quartz.

The nummulitic series is seen best at Maskat, on the island of Masira, between Marbat and Ras Resat and at Makulla. At Maskat and Masira it rests on dioritic rocks and euphotite, at Marbat and Masira on the same kind of rocks with granite, presenting at all these places gypsums, and between Marbat and Resat on compact limestone without gypsum.

At Maskat and Masira it consists above of a yellowish compact limestone, pregnant with small foraminifera, below this shells abound and below this corals, then arenaceous limestone, pure sand and conglomerate.

As another part of Masira, on the island of Hammar el Nafur and at Ras Kariat it rests on clays.

Between Marbat and Ras Resat it consists of compact shelly limestone, with coralline limestone below followed by limestone conglomerate.

Mr. Carter was unable to detect *Alveolina* in these deposits.

The third group is chiefly characterised by its loose structure. It is not only met with on this coast but extends to the peninsular of Kattywar.

From the foregoing data Mr. Carter tabulates the aqueous strata at Maskat and on the south east coast of Arabia.

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## SUMMARY OF THE GEOLOGY OF INDIA.

This summary was written by Mr. Carter in 1853, and is reprinted from the Journal of the Royal Asiatic Society. It professes to give a short summary of all the principal facts and conclusions at which an attentive study of the observations of others, and his own experience have enabled him to arrive.

The portion of India summarised in this paper "is comprised within the Ganges and Jumna on the N. E. the Indus and Sutlej on the N. W. the Bay of Bengal and Arabian Sea respectively on the E. and W., and Cape Comorin on the S.; cutting off, however, that angular portion which is N. E. of a line extending from Delhi to Ferozepore, as this would entail a description of the Geology of the Sub-Himalayan range."

Within this tract are representatives of all the Geological series of Europe from the Oolitic period down to the present time, with metamorphic strata and plutonic and volcanic rocks in abundance.

The Oolitic deposits are the most interesting. They contain the coal beds of India iron ore, and a very fair lithographic limestone. In their metamorphic state they appear to afford the white marble of India, which together with the red coloured sandstone another part of the series, form the Taj Mahal at Agra and the sandstone, the material of all the principal buildings of the towns on the Jumna, from Mirzapore to Delhi.

"At Ajmeer and elsewhere the same sandstone, apparently metamorphosed, yields lead and copper; copper is found in the shales also of this series; serpentine in Behar; steatite (potstone) in



many places ; magnesite near Jubbulpore, &c. and the researches of Captain Franklin and Jacquemont in Bundelkund, and Voysey in Southern India would seem to show that the original conglomerate, if not the real bed of the diamond, almost invariably accompanies the Oolitic series ; while the late discoveries of the Rev. Messrs. Hislop and Hunter in the neighbourhood of Nagpore have shown that these deposits abound in by far the most interesting fossils that the interior of India has yet afforded.

The so-called cornelian mines, again, at Rattanpore, about forty-two miles inland from the mouth of the Nerbudda, would appear to be in an old beach, chiefly formed of rounded flints from amygdaloidal rocks."

The report here goes on to enumerate the different formations with the districts in which they occur.

The sedimentary and igneous rocks of India may be thus tabularised :—



The report contains a diagram in explanation of the table.

The theory of the geological formation of India is the following :—

“1st. That the Oolitic series, which appears to contain the coal beds of India, was deposited by rivers flowing from the north.

2nd. That the marine beds of this series (indicated by their shelly nature), at the southern extremity of India, and in Cutch, seem to point to the outskirts of this delta, or the margin of pure salt water during this period. 11

3rd. That this delta, viz. the greater part of India, was raised above the level of the sea before the Cretaceous and Nummulitic Periods commenced, while its eastern and western borders, extending to the Himalayas on one side, and in the direction of Sind and Beloochistan on the other, still remained under water.

4th. That the deposits of the Cretaceous and Nummulitic Periods, which now form part of the subranges of the Himalaya mountains, and the Hala range of Sind, &c. were formed and raised above the level of the sea, leaving a gulf on each side, one in the present course of the Ganges, and the other in the course of the Indus rivers.

5th. That the Miocene and Pliocene deposits were formed in these gulfs, and were also raised above the level of the sea, causing the latter to retreat almost to its present margin.

6th. That the alluvia of the Ganges and Indus were deposited.

With reference to the advent of the trappean effusions, it would seem—if the coal formation resting on ‘secondary trap’ in the Rajmahal hills should hereafter prove to be a part of the Oolitic deposits, as Dr. M’Clelland supposes, and also to have been deposited on this trap,—that the Trappean Period extended from the deposit of the Oolitic series down to the breaking up of the Miocene and Pliocene deposits, inclusively.

The diamond conglomerate would, then, have been formed after the commencement of the trappean effusions; as it rests upon the Oolitic series the deposits of the Intertrappean Lacustrine formation seem to indicate a long interval of volcanic cessation previous to the outpouring of the basalt, which overlies them in the great trappean district.”

With regard to the coal of the Oolitic period Mr. Carter quotes the opinions of Mr. Ritchie to shew that it will beat the English coal of the carboniferous period out of the market. Mr. Ritchie states :—“ I consider that it will be a valuable coal for steam purposes. At the mint, and also at this company’s workshops in Calcutta, it has been converted into coke nearly equal to that from England, and costing considerably less.”

The summary concludes with a list of authorities from which the information contained in it has been derived.

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## POLICE IN BENGAL.

*Blue Book, dated 20th July, 1857.*

ON 14th May, 1857, the Government of India submit to the Court of Directors their views on the reform of the Police. They are of opinion that each Lieutenant Governorship should be treated on its own merits, and that reform is most urgently needed in the Lower Provinces. They therefore confine their views to the Lieutenant Governorship of Bengal. They are unanimously of opinion that the appointment of one Police Commissioner for the whole of the Lower Provinces is not expedient, and that the Commissioners should exercise authority over the Police as well as other branches of the Executive. Mr. Peacock alone is of opinion that the Revenue Commissioners are unnecessary, and therefore proposes to abolish seven out of eight Commissionerships, and to appoint two or three Divisional Commissioners of Police. They consider also that a moveable corps of Military Police should be attached to each division, usually employed in station and escort duties, and ready to assist the civil police in case of need. They agree in the proposal to increase the pay of the Police, are unanimous as to the necessity of increasing the number of Deputy Magistrates, and submit the papers to the Court before taking any further steps.

On 28th April, 1854 the Governor of Bengal submits to the Government of India his views on the Police. The first error has been the separation of the offices of Magistrate and Collector, which has left one class of officers, the Collectors, of mature standing, highly paid and with very little work, and another class, the Magistrates, inadequately paid, with very heavy work, and without sufficient experience. "Those who are acquainted with the details of the system are aware that some explanation may be given of what appears, to many, a total want of all training throughout its different branches. But when people, not acquainted with the details, are told that a young civil officer, after being for some time an Assistant, when he is nothing in particular, is made a Magistrate; that after a few years, quitting the Magistracy for the revenue branch, he becomes a Collector; that after a few more years his next step of promotion takes him from revenue duties, and makes him a Judge; that if he be a

man of ability he will probably, from a Judgeship, be moved to the office of Commissioner of Revenue; and that the same ability will, in all probability, next promote him from a Revenue Commissionership back to the judicial bench in the Sudder Court,—when people hear that a civil officer thus oscillates through his whole career between executive and judicial duties, and that each step he gains is one which does not tend to fit him for the step that follows after—when people hear all this, what wonder can there be that the administrative system is condemned off-hand and that all the evidence given in explanation before Committees of Parliament, and then buried deep in folio blue books, wholly fails to remove the ill-impression that has been produced?” His Lordship considers that the true theory of government in India is the entire subjection of every executive officer in a district to a Commissioner at its head. “Even as regards judicial officers, His Lordship is inclined to think that a great advantage is gained by placing them in all matters of an executive nature directly under the Commissioner, just as the Sudder Court in its executive capacity is subordinate to the local Government and by leaving them independent only as regards their judicial decisions.” Applying this view his Lordship would equalize the salaries of the chief executive and chief judicial officer of every district, thus placing in each one Collector-Magistrate with control over the whole executive, and one Judge. “In every district there would be one or more covenanted Assistants (including Joint Magistrates and Deputy Collectors) who would be at the disposal of the executive chief, but available for employment under the Judge for some portion, say two days of the week, either as Assessors, or Assistant Judges, in the trial of cases before a full mofussil bench, or in the trial of small original suits, within the jurisdiction of a Moonsiff. The Assistants would thus gain experience in every department both judicial and executive; they would rise as they became qualified to the superior grade equivalent to that of Joint Magistrate and Deputy Collector; and at the end of ten or twelve years’ apprenticeship, they would be eligible for independent and responsible employment as either judicial or executive head of a district.” There would then be no further shifting from office to office, the best executive officer being usually appointed Commissioner, and the best judicial officer promoted to the Sudder. The standard of pay should be that of the Collector-Magistrate in the North-west. The present establishment is as follows:—

26 Judges,	...	...	...	at Rs. 30,000	Rs. 7,80,000
3 Magistrates and Collectors,	...	...	...	" 28,000	" 81,000
23 Collectors,	...	...	...	" 23,000	" 5,29,000
3 Collectors,	...	...	...	" 18,000	" 54,000
1 Magistrate,	...	...	...	" 28,000	" 28,000
25 Magistrates,	...	...	...	" 10,800	" 2,70,000
4 Joint Magistrates and Deputy Collectors,	...	...	...	" 18,000	" 72,000
4 Joint Magistrates and Deputy Collectors,	...	...	...	" 12,000	" 48,000
11 Joint Magistrates and Deputy Collectors,	...	...	...	" 8,400	" 92,400
<hr/>					Rs. 19,57,400
100					

The future establishment would be

2½ Judges,	...	...	...	" 27,000	" 7,02,000
30 Magistrates and Collectors,	...	...	...	" 27,000	" 8,10,000
22 Joint Magistrates and Deputy Collectors,	...	...	...	" 12,000	" 2,64,000
21 Joint Magistrates and Deputy Collectors,	...	...	...	" 8,400	" 1,76,400

19,52,400

With a special allowance of Rs. 3,000 a year for the Judge, and the Magistrate and Collector of the 21-Pergunnahs, on account of the expence of a residence at the Presidency,

6,000

Rs. 19,58,400

His Lordship explains the effect of this measure on the prospects of the service, and observes, that every man raised to high office will have had about seven years independent executive or judicial charge of a district.

A Note is added to the Minute, dated 3rd December, 1853. In 1836 a Committee recommended that the offices of Magistrate and Collector should be separated. 1st, because all energy was thrown into the revenue work. 2nd, because as Government could not wait for its revenue attention was given to that, to the neglect of police work. 3rd, because men of sufficient standing to be Collector-Magistrates were not active enough for police work. 4th, that the Collector in a permanently settled province has no connection with the agriculturists but such as renders him unpopular. 5th, that the Collectors are apt to call in the police to aid fiscal operations, and 6th, that if the offices are separated each officer will attend to his own work undistracted. Both Lord Auckland and the Court of Directors were opposed to the separation, but it went on gradually, till in 1845, " matters stood as at present, that is to say, the magisterial and fiscal offices were disunited every where except in the three districts of Cuttack, and in the independent Joint Magistracies of Pubna, Malda, Bogra, Bulloah, Furdcpore, Bancoora, Baraset and Chumparun." The result of fifteen years' experience has been unfavourable. There has been a grievous loss of power in maintaining a class of officers with little to do, but prohibited from rendering assistance in police matters, while the Magistrates have

been so inexperienced as frequently not to command the confidence either of the European or native community. "Under the present system, our Magistrates vary from eleven to five years' standing in the service. During that period, when between twenty-five and thirty-one years of age, they are charged with the preservation of peace and order, and with the security of life and property throughout large districts, the real representatives of the character and authority of Government in the eyes of the people, without any official superior at hand to control and guide them, or any but private and irresponsible advice to depend upon; and when at the age of thirty-one their experience is matured, and they have arrived at a period of life when the physical and intellectual powers are together in full vigour, they are transferred to another department of the service, for the special duties of which they have had little training, and that almost forgotten, and where their time is insufficiently occupied, and their energies rust until their turn comes for promotion to the judicial bench." The Secretary further remarks that it is impossible in a permanently settled for a Collector-Magistrate to call in the police to aid him in fiscal matters. He suggests that the opportunity should be taken to revise the arrangements of the service, and proposes the plan accepted and described by the Most Noble the Governor. A table is appended shewing the salaries of Civil officers in each district of Lower Bengal.

On 23rd November, 1854, Mr. Grant records his opinion on the proposed changes. Mr. Grant contends that the system of uniting the offices of Magistrate and Collector is not old, but new. They were united in 1830 or '31 and the experiment pronounced a failure in 1836. The old system was the union of Judge and Magistrate, which was only objectionable in principle so far as it combined the offices of prosecutor and Judge. That objection still continued to exist under the system of 1830, and will not be removed by the system proposed now.

"In 1836, with the offices of Collector and Magistrate united, the police of Bengal was felt to be amiss. Instead of 'any administrative reform,' which, going to the real root of the evil, would have corrected or alleviated it, what was done was, to place the two offices each in separate hands; after which change of system, of course, the police remained much what it was before. But because the disunion of the offices has done no good or little good to the police, have we any warrant for presuming that the reunion of the offices would do it any good? It is very true that we are pressed with the sense of police affairs in Bengal being amiss now. But what is the root of the evil? No one denies that police affairs in Bengal will continue

amiss, till an adequate constabulary force and trusty native officials in the Thannas are provided for it; till Bengal shall be put on an equal footing in this respect with the rest of India. Now no change of names, no shifting of offices will have any tendency to increase the constabulary force, or to give Bengal trusty native officials in the Thannas." What guarantee therefore is there that a Committee sitting six years hence may not undo all again? Mr. Grant does not deny that there is an objection to the inexperience of Magistrates. He only denies that the objection consists in the disunion of the offices. It sprung from the objectionable manner in which Government performed that task. They allotted the light task to a man on high pay, and the heavy task to the man on low pay. Mr. Grant had never heard "a practical objection to the present system which would not be avoided immediately and certainly, by the simple process of transposing the salaries of the two offices, of course with due regard to the public interests in making the appointments to each class of office." The arguments adduced in favour of the scheme from the analogy of other parts of India are unsound. In Bengal the Collector neither has nor ought to have any influence by reason of his office, moreover the wealth of Bengal makes a style of protection necessary which is not required in any other province, and as a simple matter of fact the Magistrates in Bengal, call them boy Magistrates or what you will are more zealous, often more capable, than the Collector-Magistrates pronounced inefficient twenty years ago. There seems no reason to expect a better result now. One-fourth certainly of the gentlemen who make decent Collectors would make very bad Magistrates, and would have been totally incompetent to the double office. Are one-fourth the districts to be entrusted to incapable men? "or are we to have in so many districts the old man and the young man, both in one and the same line of official subordination, the young man at the top, and the old man, until the expiration of his 35th year of service at the bottom?" For these reasons Mr. Grant would oppose the reunion of the offices.

Further though recognizing the excellence of the Governor's scheme, and especially that portion of it which contemplates the creation of provincial Judges, he still disapproves portions of the plan. Mr. Grant holds that the first object should be to dissociate the office of chief catcher and prosecutor from that of criminal Judge; when this end is accomplished the Magistrate and Collector will be found to have been raised too high. Even as it is the power of a Judge is five times as great as that of the Magistrate. "We ought, in my opinion, to attract the soundest heads we can get to this office of Judge, on which in Bengal,



as in all other wealthy and highly civilized countries, the prosperity of agriculture and commerce depends more than on any other single office. In thinking of this subject, we should think not merely of the fact of the wealth and civilisation of Bengal, but also of the cause of it,—the institution of private property in land. The reasons which have induced the wise English people to make their courts all in all, to convert their Exchequer into an ordinary tribunal of justice, and to make their 'Collectors' mere taxgatherers, have already operated to a notable extent in Bengal. I am all for progress in this direction. I protest against going backwards." In a few years, judging from experience under the new scheme it would be rare to see a Judge of capacity. It would be so difficult to get officers to work the Magistracy and Collectorate, and a bad officer in that position would be so troublesome that the refuse of the service only would be made Judges. The Government looks to the Magistrate and Collector, the people look to the Judge. Mr. Grant is unable to "support that part of the scheme which would place the Judge under the revenue and police Commissioner." The Judge should be independent, but he is not independent while his decisions are subject to the control of the Commissioner in any respect. The remark applies still more strongly to the subordinate Judges. The Sudder Court alone is competent to superintend all interior judicial officers.

Mr. Grant proceeds to submit his own scheme. He believes the evil of modern reforms in Bengal to be the accumulation of officers at the Sudder station. He would therefore give every Moonsiff criminal powers up to the extent of three months' imprisonment. The thannas should be reduced in size, and over every few a head thannadar placed. Over every few head thannadars, there should be a Deputy Magistrate selected from among the thannadars. The Sudder Ameens should be sent into the district with criminal powers say up to one year's imprisonment, and the officer now called Magistrate, deprived of all judicial powers whatever, should remain at the Sudder station and watch over the whole of the police. Mr. Grant would adapt the arrangements of the service to this system. "I would make the Assistants work at first in the departments of revenue minor criminal justice, and minor civil justice. In these departments they would gain their first increase to 500 rupees. Afterwards they might either take charge of a subdivision or work on at the station, with higher powers in those three departments. At every station I would have an officer on 700 rupees of the grade now called a 2d grade Joint Magistrate, and Deputy Collector, as the Lieutenant of the Magistrate, and of the Collector; working

under both, and ready to assume temporarily the place of either." From thence he would rise either to a chiefship of Police or to a Magistracy. There should be three grades of pay Rs. 1000, Rs. 1500, and Rs. 2500 promotion being by merit. Men incapable of high office but capable of Collectorate work, would then be left on either of the two higher grades, and incapable men would not be made Judges. From both these offices good men should be selected to be Judges. "From both these offices I would promote the good men, and none others to be Judges. If any one objects that I make men Judges who have never been Judges before, I reply, that so must all Judges be first made. But if any one objects that I make men Judges who have not had the opportunities of acquiring in the course of their previous training the knowledge and practice best adapted to form a good Judge in India, I affirm the contrary and I join issue on that question. As the affirmative has been demonstrated over and over again by the greatest authorities on Indian subjects, I will not stop to argue it here. The real fact is that whatever post-office an Indian civil servant is in, he begins doing essentially the work of a Judge when he first quits College; and he never leaves off doing it till he takes his annuity." From a Judgeship the promotion would be to a provincial Judgeship or a Commissionership, and thence in the regular line. This Mr. Grant believes would prove a working plan.

On 26th October, 1854, the Secretary to the Government of Bengal submits an application for permission to unite the offices of Collectors and Magistrate in Bengal, as vacancies may occur. On 3rd January, 1855 the Governor General in Council advises that the whole question of the Police in Bengal should be submitted to the Lieutenant Governor of Bengal, as his office has come into existence during the discussion of the question. The permission requested is declined pending a decision of the question.

On 1st March, 1855, the Lieut. Governor of Bengal records his opinion on the objections to the reunion of Magistrate and Collector offered by Mr. Grant. His Honour considers that the measure may be taken alone, that it has no necessary connection with the other measures of reform, though proposed at the same time.

"I suppose that every body will agree with the Honourable Member of Council in desiring that the constabulary force should be as large, and the pay of the police as high as the nature of the service requires, and the Government finances can afford. But I do not see why this expensive improvement, whenever the Government may be in a condition to make it, should not be made just as easily under Collector-Magistrates as

under separate Magistrates; or what the change in the superior functionary has to do with the pay and numbers of the subordinates."

Even if the measure were contrary to sound principle it is all over India successful in practice. In Bengal especially no unsoundness in principle can exist, for the revenue is fixed, and the work of collection almost a mechanical routine.

"The question of the introduction or non introduction of the proposed measure seems to me mainly one of economy of power. We have Collectors whose duties are of a nature involving heavy responsibility, and requiring a certain maturity of discretion. They must, therefore, be persons of sufficient experience, and must be paid in proportion. Yet it is certain that their time is only partially occupied by the duties of their offices, and there is nothing in the nature of their duties which forms a reasonable objection to their employment as Magistrates. On the other hand, we have Magistrates overworked, and of immature experience, who, though they require naturally the immediate control of more experienced seniors, are practically very much left to themselves; and who nevertheless exercise functions upon the punctual and discreet discharge of which more of the happiness of the people depends than upon the conduct of any other civil officers of the Government. To give these duties, or (as is proposed) a large portion of them, to the older and more experienced functionary, for whom occupation is declaredly wanting, and to place the junior in immediate subordination to the senior, seems to me a proposition most obviously and necessarily arising out of the circumstances—most sound, expedient, and right."

The objection that a fourth of the service are incompetent to perform the double duties, is an objection to the constitution of the service. There will always be a certain number of incompetents and the only remedy is to supersede them. The Lieut. Governor is therefore heartily in favour of the proposed union.

As to the other changes His Honour assents to the proposal for a grade of chief provincial Judges, and objects to the equalization of the salaries of the Judge and Collector. He also objects to the plan by which the Judge would in certain portions of his work be responsible to the Commissioner. His Honour considers the plan proposed by Mr. Grant for the redistribution of the service too expensive. "My plan would involve scarce any change in the number of officers now employed, or in the amount expended but would slightly reduce both. I would make all the present larger Collectorships, 22 in number, Collector-Magistracies on 24,000 per annum. I would make all the smaller Collectorships, such as Monghyr or Beerbhoom and all the independent Joint Magistracies and Deputy Col-

lectorships such as Pubna or Malda, Collector-Magistracies on 18,000. The total number of these would be eleven. (This would accord with the principle of the Honourable Member's plan of gradations of Magistrates and Collectors.) The Cuttack Collector-Magistracies, which are also Salt Agencies, I would have as at present, viz., 3 on 28,000. I would have 22 Joint Magistrates and Deputy Collectors on the present salaries of Magistrates, viz., 10,800, and, as at present 11 such officers on the lower salary of 8400. My total of officers employed would be 96, and the expense 19,20,000." He agrees that the zillah officers should be scattered, and fully concurs in the expediency of increasing the pay of the Police. On 8th May the Hon'ble J. P. Grant corrects certain misapprehensions as to his meaning, and affirms that his plan would not be expensive, considers that the Darogahs are as a class bad, and that their pay ought to be increased.

On 8th May, 1855, the Honorable J. Doirin observes :—" With projects for fresh outlay constantly before us, and these appeals for the correction of the general administration of the country that can hardly be resisted, we find ourselves with an excess of expenditure over income largely increasing, and which in the present year, or rather I should say the year just past, is estimated to amount to no less a sum than two millions and three quarters sterling."

On 19th May, the Honorable General Low believes either plan would work well, provided Government in the event of the continued division of the offices can afford to give adequate salaries to both.

On 15th May, 1856, the Honorable B. Peacock records his opinion that the reunion of the officers of Collector and Magistrate would be inexpedient, as the principle is obviously unsound.

On 30th April, 1856, the Honorable F. J. Halliday, Lieutenant Governor of Bengal, gives his opinion on Police and Criminal Justice in Bengal. For a long series of years, "complaints have been handed down from administration to administration regarding the badness of the mofussil police under the Government of Bengal, and as yet very little has been done to improve it." For although the pay of Darogahs has been increased, and the enormous size of certain Magistracies reduced, still the "establishments do not comprise more than seventy Executive Magistrates, Covenanted and Uncovenanted, over four hundred and eighty-four Thannahs, being at the average rate of about seven and a quarter Thannahs to each Magistrate, a proportion much below what is requisite; and the distribution of even this number of Magistrates is extremely irregular." The

village police though always believed to be the basis of a good Police Administration, "are kept in a permanent state of starvation, and though in former days Magistrates battled for them with unwilling Zemindars and villagers and were encouraged by Government to do so, it has been discovered in later times that this is all against the Law; and Magistrates, contrary to the doctrine of earlier times, have been actually prohibited from interfering in favour of village watchmen, it being ruled that this is altogether an affair of the people themselves, who may pay watchmen or not, just as they think fit. Village watchmen are now declared to have no legal right to remuneration for service, and (the help of the Magistrate being withdrawn,) they have no power to enforce their rights even if they had any rights to enforce. Hence they are all thieves or robbers or leagued with thieves and robbers, insomuch that when any one is robbed in a village, it is most probable that the first person suspected will be the village watchmen." In 1842, Mr. Millet was of opinion that it was optional with the villagers to pay the village watchmen, and though the Sudder Court have since decided that the Zemindar is bound to fill up the vacancy, they are still divided as to whether they are competent to enforce fulfilment of the obligation by a fine. Mr. Bethune on 27th May, 1851, adduced some strong figures to prove the corrupt state of the village Police, "it appears that the whole number of Chowkeedars, (with the exception of six districts from which accounts had not been received when the table was compiled,) was 1,30,305, and, therefore, were they no worse than the rest of the population, the number of persons among them guilty of every kind of offence known to the calendar, at the rate of one in 1,219, would be under 107 annually, or 321 in the three years included in the return. What were the facts? The whole number of Chowkeedars dismissed for misbehaviour in those three years, instead of 321, is 1,130.

Of whom, for Murder and Thuggce, ... ..	19
Burglary, ... ..	39
Robbery and Theft, ... ..	357
	<hr/>
Total, ... ..	415

that is to say :—

‘Nearly one-fourth more, in proportion to their number, for these heinous crimes, than were convicted in all the Lower Provinces of Bengal for all offences of every kind.’” On 11th July, 1853, the Marquis of Dalhousie suggested a bill which extended the system now applicable to towns in which a Covenant Magistrate is stationed over the whole country. Mr. Peacock proved that such a measure would be an infringement

of the perpetual settlement; but observed that the villages were evidently by their constitution bound to support their watchmen. "With this view he suggested that a local investigation should be made in every village, throughout every zillah, of the liabilities to which the village is subject in respect of the maintenance of village police, in order to found thereon a legislative measure for the improvement of that institution. That investigation has now been completed."

The means of trying criminals however require as much improvement as the Police which "certainly do not command the confidence of the people." The people are singularly unwilling to prosecute partly perhaps from apathy but chiefly from dread of the police, and of the uncertainty of the proceeding in our Courts. This fear is well founded as it appears from the returns that of 14 burglaries committed only one is punished, and even in thefts the average of convictions to offences is three to eight. In more heinous cases which come before the Judges' Courts, the average of convictions is two to three of acquittals. And this although a very small proportion of heinous offenders are ever brought to trial.

One great cause of this evil is the inexperience of our Magistrates "whereas in 1850 the average standing of Magistrates was nine years and eight months, it had sunk in 1854 to eight years and five months, and is now, in 1856, so low as six years and ten months. 'In 1850,' says Mr. Grey, 'there were only two Magistrates below the standing of seven years. Now there are 15 such. The youngest officer officiating as a Magistrate in 1850 was of five years' standing. The youngest officer now officiating as Magistrate is of less than three years' standing.'" This evil is increasing. For these reasons the Lieutenant Governor would propose the following measures of reform:—

*Chowkedars.*—The following important table shows how the village Chowkedars are appointed throughout Bengal:—

Division.	DISTRICT.	Number of Villages.	Number of Houses.	Number of Chowkeedars.	Number of Houses to each Chowkeedar.	HOW APPOINTED.	HOW PAID.
PATNA.	Chumparan, ...	3,578	1,81,881	3,809	48	By Gomastahs and head villagers.	Annually by grain ; some have from 5 cottahs to 20 beegahs of land each.
	Saran, ...	4,347	2,10,425	5,926	36	Zemindars.	Ditto by cash, from 4 annas to 36 rupees, a few having cloths given them ; by grain from 2 to 24 maunds ; by land from 10 cottahs to 11 beegahs each.
	Patna, ...	3,908	1,32,122	4,380	30	Zemindars and villagers, confirmed by Magistrate.	Ditto by cash, from 8 annas to 36 rupees each ; by grain from 2 to 21 maunds each ; by land from 4 cottahs to 12 beegahs.
	Shahabad, ...	4,948	2,19,949	6,283	35	Zemindars or head villagers, or both.	Ditto cash, 4 annas to 36 ; grain 20 seers to 30 maunds ; land 10 cottahs to 24 beegahs each.
	Behar, ...	4,343	1,42,229	4,582	31	Landholder's omrah and the villagers.	Ditto cash, 12 annas to 36 rupees ; grain 2 to 25 maunds ; land 1 beegah to 5 beegahs each.
	Total, ...	21,124	8,86,606	24,980	—	—	—

Division.	DISTRICT.	Number of Villages.	Number of Houses.	Number of Chow-keedars.	Number of Houses to each Chow-keedar.	HOW APPOINTED.	HOW PAID.
BHAUGULPORE.	Tirhoot, ...	5,473	3,33,485	7,895	42	Zemindars and some by villagers.	Annually by cash, 1 rupee 4 annas to 45 rupees, or land 1 cottah to 2 beegahs each, and a few receive a little grain.
	Purneah, ...	5,267	2,45,181	7,841	31	Landholders or villagers.	Ditto cash, 12 annas to 36 rupees each; some receive a little grain.
	Monghyr, ...	2,642	1,32,514	3,086	43	Zemindars.	Ditto cash, 1 rupee 2 annas to 36 rupees; land 8 cottahs to 15 beegahs each.
	Rhaugulpore, ...	3,740	1,71,482	3,687	47	Ditto.	Ditto cash, from 8 annas to 57 rupees; land from 1 beegah to 20 beegahs each.
	Total, ..	17,122	8,82,662	22,509	—		



Division.	DISTRICT.	Number of Villages.	Number of Houses.	Number of Chow-keedars.	Number of Houses to each Chow-keedar.	HOW APPOINTED.	HOW PAID.
KASIMABAYE.	Maldah, ...	1,950	91,817	1,568	58	By the head villagers.	Annually cash, 1 to 48 rupees each, some have grain.
	Dinapore, ...	8,517	2,05,051	5,592	37	Zemindars or head villagers.	Ditto cash, from 4 annas to 42 rupees each.
	Rangpore, ...	3,383	2,17,471	5,077	43	Some by headman, generally by zemindar's omrah, confirmed by the Magistrate.	Ditto cash, from 2 to 36 rupees each; in one thannah a little paddy is added.
	Bograh, ...	4,964	1,23,982	3,100	40	Head villagers, a few by the zemindars.	Ditto cash, from 1 to 36 rupees each.
	Pubnah, ...	3,526	1,81,811	3,611	50	Headmen.	Ditto ditto, 3 to 52 rupees each; a little grain given to some.
	Rajshahye, ...	3,416	1,41,913	3,839	37	Ditto.	Ditto ditto, 6 to 48 rupees each; one man has 15 beegahs of Chakeran.
	Total, ...	25,756	9,62,045	22,787	—		

Division.	DISTRICT.	Number of Villages.	Number of Houses.	Number of Chowkeedars.	Number of Houses to each Chowkeedar.	HOW APPOINTED.	HOW PAID.
Dacca.	Mymensing,	13,162	3,06,133	4,080	75	Head Villagers or police.	Annually cash, from 3 to 54 rupees each.
	Sylhet, ...	6,937	2,24,386	3,259	69	Landholders and village.	Ditto ditto, 1 to 30 rupees.
	Dacca, ...	3,163	2,32,023	4,026	58	Head villagers.	Ditto ditto, 6 to 36 rupees each, and a few are said to be paid monthly from 1 to 3 rupees each.
	Backergunge,	2,357	1,78,104	3,051	58	Landholders.	Ditto cash, from 7 to 42 rupees each.
	Furzedpore,	1,987	1,27,972	1,773	72	Headmen.	Ditto 1 to 52 rupees each ; some have grain.
	Total, ...	27,606	10,68,618	16,189	—		

Division.	DISTRICT.	Number of Villages.	Number of Houses.	Number of Chowkedars.	Number of Houses to each Chowkeedar.	HOW APPOINTED.	HOW PAID.
CHITTAGONG.	Tipperah, ...	5,884	2,37,733	2,768	86	Headmen.	Annually cash, from 2 rupees 8 annas 9 pie to 57 rupees 8 annas each.
	Noacolly, ...	977	90,833	1,867	49	Ditto and polica,	Cash, each Chowkeedar receives 12 annas per house monthly.
	Chittagong, ...	944	1,79,763	2,431	74	Head villagers.	Annually cash, from 6 to 30 rupees, some get grain too; and a few monthly at 2 rupees 8 annas each.
	Total, ...	7,805	5,08,329	7,066	—		
CUTTACK.	Pooree, ...	4,584	1,10,814	2,822	39	By Gomastashs and headmen.	Annually, by cash from 1 to 48 rupees; land 1 beegah to 65 beegahs each.
	Cuttack, ...	6,630	2,13,207	5,072	42	Zemindars, confirmed by the Magistrate.	Ditto cash, 1 to 55 rupees; land from 1 beegah to 40 beegahs each.
	Balasure, ...	4,317	96,457	1,978	49	Zemindars.	Ditto cash, 4 annas to 25 rupees; land 1 beegah to 25 beegahs each.
	Total, ...	15,531	4,20,478	9,872	—		

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District.	Number of Villages.	Number of Houses.	Number of Chowkedars.	Number of Houses to each Chowkedar.	HOW APPOINTED.	HOW PAID.
Midnapore,	11,198	2,95,145	9,123	32	Headmen or the Magistrate.	Annually cash, 2 to 61 rupees; land from 4 beegahs to 143 beegahs each.
Howrah, ...	1,412	98,756	1,465	67	Zemindars.	Ditto cash, from 19 rupees 4 annas to 39 rupees 12 annas, with some grain each.
Hooghly, ...	3,168	2,80,493	5,194	54	Zemindar and Magistrate.	Ditto cash, 3 to 60 rupees; land 1 beegah to 36 beegahs.
Burdwan, ...	2,873	2,13,036	8,848	24	Ditto.	Ditto cash, from 12 annas to 72 rupees, some have some land.
Beerbhoom,	6,928	1,88,182	10,850	17	Ditto, and some by Sirdar Ghatwals.	Ditto cash, from 12 annas to 136 rupees each; or land from 3 cottahs to 238 beegahs each; or land and grain, producing an estimated income from 25 to 42 rupees each.
<p>The Chowkedars and the Ghatwals (who in Beerbhoom hold of the zemindar, but in Bancoorah of the Government) should have been distinguished.</p>						
Bancoorah.						
Villages,		2,879	1,25,618	32	Zemindars or villagers, confirmed by the Magistrate.	Ditto, from 8 annas to 71 rupees, and also in kind.
{ Ghats, ...		1,127	28,388	7	By the Magistrate.	By land held of Government under engagements with the old Rajah of Bishenpore, at from 2½ beegahs to 4,152 beegahs per man,
Total,		29,585	12,29,619	43,739		

BURDWAN.

Division.	DISTRICT.	Number of Villages.	Number of Houses.	Number of Chowkedars.	Number of Houses to each Chowkedar.	HOW APPOINTED.	HOW PAID.
NUDDEA.	24-Pergunahs.	2,605	1,53,905	2,788	55	Headmen.	Annually cash, from 3 to 220 rupees 11 annas, also in kind.
	Nuddea, ...	3,054	2,13,576	4,134	52	Ditto.	Ditto cash, from 1 rupee 8 annas to 60 rupees; grain added in some parts.
	Jessore, ...	4,126	2,16,256	4,189	52	Ditto.	Ditto cash, 1 rupee 8 annas to 48 rupees, and ditto ditto.
	Moorshedabad	3,014	1,89,871	4,467	43	Zemindars or villagers or both.	Ditto cash, from 1 to 48 rupees each, and must have some land or grain added.
	Baraset, ...	1,981	96,901	2,157	45	Headmen.	Ditto cash, from 11 rupees to 60 rupees each.
	Total, ...	14,780	8,70,509	17,785	—		
	Grand Total, ...	1,59,309	6,28,686	1,64,877	—		

Usually then, particularly in Bengal Proper, the Chowkeedar is appointed by the Zemindar. The average receipts of each man will be understated at Rs. 2 per month, and one rupee for presents. That is we have "a total for the annual receipts of 59,35,572 rupees; and, calculating at five for each house in these returns, the population would be 3,41,44,330, upon whom the above amount of taxation would fall at the rate of 2½ pie per head per annum, which is certainly a very light taxation, even at the high rate of receipts above assumed."

It is however necessary to enable the Magistrate to fill up a vacancy in the office of a Chowkeedar or to compel payment of his wages. "It has been objected by some very competent advisers on such subjects, that even when all this shall have been done, we shall be as far as ever from our object; that the village Chowkeedars, at the best, are an untrustworthy, unorganised rabble, and that no real improvement will be effected unless we get rid of them altogether, and organise a rural police according to the newest forms of occidental civilisation. And it is common with those who advocate this method of reform to point to the 34,000,000 or 36,000,000 of the population, and to urge how easily a sum might be raised from them, not greater than they now pay for their imperfect village watchmen which, in the hands of a skilful organiser, might be made to provide for the establishment in each zillah of a well-paid, dressed, and disciplined force, inferior in numbers to the present rural police, but far superior in trustworthiness and efficiency." Some such plan may one day be carried out, but at present it is impracticable. The pay of the Police must also be increased, some 10 or 15 Darogahs being rewarded by places of Rs. 150 each, and ten more with Rs. 200 each. The salaries of the lower grades must also be increased a measure which according to a plan previously submitted will cost Rs. 3,38,609 a year.

The inexperience of Magistrates can best be corrected by the union of the Collectorate and Magistracy, but all improvement is vain unless we can increase the number of the Magistrates. Their paucity is admitted. The proper extent of a Deputy Magistracy is about three thannahs. There are in practice 400 thannahs in Bengal requiring 133 Deputy Magistrates. There are already 33, so that 100 more are required who on a proper scale of remuneration would cost Rs. 4,60,801, or with establishment six lakhs. Even then, with the necessary increase of pay to the Police costing Rs. 3,38,609, the Police charges of Bengal would be little more than those of the North West.

Further says the Lieutenant Governor:—"I am very sure that our mofussil administration will, *ceteris paribus*, be generally efficient, while it is certain to be also acceptable to the

people according to the degree in which it conforms to the simple or Oriental, in preference to the complex or European model. The European idea of Provincial Government is by a minute division of functions and offices, and this is the system which we have introduced into our older territories. The Oriental idea is to unite all powers into one centre. The European may be able to comprehend and appreciate how and why he should go to one functionary for justice of one kind and to another for justice of another kind. The Asiatic is confused and aggrieved by hearing that this tribunal can only redress a particular sort of injury, but that, if his complaint be of another nature, he must go to another authority, and to a third or a fourth kind of judicature, if his case be, in a manner incomprehensible to himself, distinguishable into some other kinds of wrong or injury. He is unable to understand why there should be more than one hakim, and why the hakim to whom he goes, according to his own expression, as to a father for justice, should be incapable of rendering him justice, whatever be the nature of his grievance, or whatever be the position of his adversary." To this principle he would steadily adhere in all arrangements. As to arranging that the Deputy Magistrate should commit cases to the Moonsiff, who should be invested with criminal judicial powers, it is impracticable. There is antagonism often enough between the Judge and the Magistrate "conceive this local antagonism not merely at each zillah station, but all over every district, and the antagonism in each case, not of two liberally-educated Englishmen, but of two half-educated and Orientally-civilised natives, and let those who know the country and people declare what would be the practical result. Conceive every Darogah opposed perhaps to an antagonist local Moonsiff, and every native Deputy Magistrate to a native Sudder Ameen at an out-station; imagine the bickerings, the criminations and recriminations that would ensue. For, though under the greatest provocation, corruption is the last thing which a native ever imputes to an English Judge or Magistrate, it is the first imputation which a native casts on a native, on great provocation, slight provocation, or no provocation at all."

The Lieutenant Governor approves the suggestions of the Law Commission, but would extend trial by Jury to all heinous cases in the interior, would diminish the practice of appeal, and enable the Appellate Court to enhance sentences, and would reduce generally the right of criminal appeal. His Honour considers some other doubtful recommendations of the Law Commission, notices the important bearing of roads on criminal justice, and recommends the institution of a Civil Order of

Merit. Finally the Lieutenant Governor notices a plan for the creation of honorary Magistrates, a plan which has much to recommend it, but to which he is not fully prepared to give his adhesion. Notes by the Secretaries are added, but they contain only the details, the results from which have already been given.

On 18th February, 1857 the Right Hon'ble the Governor General recapitulates the correspondence, and with reference to a general Police Reform for all India observes :—“ We shall, therefore, in my opinion, be far more likely to arrive at a sound practical result, and to provide effectually for the protection of life and property throughout India, if we treat each Presidency and Lieutenant-Governorship separately, according to its own wants, of course bearing in mind certain leading principles which must necessarily be common to all, than if we postpone consideration of the Bengal question until replies are received from the other Presidencies, and endeavour to frame one scheme which, with minor modifications, shall be equally applicable to all.” His Lordship is decidedly of opinion that the appointment of a single Superintendent of Police is inexpedient, and observes as to a semi Military Police “ the nucleus of a semi-military force, sufficient for the occasional support of the ordinary police, as well as for other duties, already exists in the Patna Station Guards, the Bhagulpore Hill Rangers, and the corps which has recently been raised for police service in the Sontal Pergunnahs. The Patna Guards have been organised on their present footing since 1848. They supply personal guards to the Commissioner of the division and the Judges, of the districts. They also furnish jail, treasury, and opium guards for these districts, and escort for treasure and prisoners.” If the Bhagulpore Hill Rangers were burned into a purely Military Corps, and two more police corps organized the existing force is sufficient for Bengal. The scheme proposed by the Lieutenant Governor of Bengal for increasing the salaries of the Civil Police should at once be sanctioned, as also the creation of ten prize appointments of Rs. 150 a month, and 10 more of Rs. 200 a month for specially qualified Darogahs. His Lordship also believes the appointment of additional Deputy Magistrates as to raise the total number to 200 absolutely necessary. He would divide them thus :—



" First Class, ..	10 at 700,	..	..	Rs. 7,000
Second Class, ..	15 at 600,	..	..	9,000
Third Class, ..	25 at 500,	..	..	12,500
Fourth Class, ..	40 at 400,	..	..	16,000
Fifth Class, ..	50 at 300,	..	..	15,000
Sixth Class, ..	60 at 200;	..	..	12,000
	<hr/>			
Total,	200			71,500
	<hr/>			12
				<hr/>

• Rs. 8,58,000"

His Lordship is of opinion that reason no less than experience points to the expediency of uniting the executive offices of a district, and therefore approves the reunion of the Collectorate and Magistracy. "I do not think that the case would be met by raising the salaries of the Magistrates and reducing those of the Collectors, or by putting them upon an equality. An inexperienced Collector may be as mischievous as an inexperienced Magistrate, and it is not desirable that any man should exercise independent authority of any kind over a whole district until he is ripe for it. And even if experience could be secured in both offices, the division of authority is to be avoided rather than sought. As regards the people, I fully believe that what has been called the patriarchal form of Government is, in their present condition, most congenial to them; and best understood by them: and as regards the governing power, the concentration of all responsibility upon one officer cannot fail to keep his attention alive, and to stimulate his energy in every department to the utmost, whilst it will preclude the growth of those obstructions to good Government which are apt to spring up where two co-ordinate officers divide the authority." The Joint Magistrate in each district should however, be charged with the immediate control of the Police. "I incline strongly to the opinion that the proceedings of the subordinate criminal court should be of the simplest possible description. I am also of opinion that there should be no appeal of right from the sentence of a subordinate court in criminal matters; but that the Magistrate should have authority to revise or modify the decision of every Assistant or officer exercising the powers of Assistant within his jurisdiction, and that the Judge should in like manner, have authority to revise or modify the decision of every Magistrate or officer exercising the powers of a Magistrate. The review would take place as a matter of course, and any person would be competent to call the attention of the Magistrate or Judge to any point upon which the decision had

done wrong to any one." His Lordship is in favour of the creation of an honorary Magistracy and "should be disposed to authorise the Lieutenant-Governor to vest with the powers of an Assistant Magistrate, under Act No. XV. of 1843, scarcely equivalent to those of a Justice of the Peace under the English law, any persons of respectability whom he may consider fit to be entrusted with such power." The Hon'ble J. A. Dorin, and the Hon'ble Genl. Low, on 21st and 23rd February generally concur.

On 9th April, 1857, the Honourable J. P. Grant concurs generally but observes:—"I feel doubtful whether two additional police corps, as proposed, would quite suffice to protect Bengal as it should be protected, considering the remarkably small number of regular troops which are now or hereafter are likely to be cantoned within its limits. I fear one corps at Dacca will be an insufficient provision for Eastern Bengal. The Sontal side of Bengal is now amply provided for. There is no reason to suppose that because the last outbreak was there, the next will be there also. I look upon the Sontal Pergunnahs as quieted for ever; but I regard the Ferazy population of Eastern Bengal, filling extensive and populous districts now wholly unprotected, as a source of very serious danger, though a danger which requires only the securities provided in every part of India except Bengal, in order to be fully guarded against." Mr. Grant would rely wholly on the semi-Military Police for the work now performed by Burkundazes. He considers the expense to be incurred for new Deputy Magistrates too great, and would in preference grant criminal powers to civil subordinate Judges. Mr. Grant considers that the result of the Torture Commission strengthens the case against the union of the Collectorate and Magistracy. As to the general question of the union of all executive powers in one hand. "One has only to read a native or English newspaper with a mofussil circulation, to see that those for whom such mental food is provided have no filial regard for Government officers. They are past the patriarchal epoch. What they ask for are good laws, well administered by as many functionaries as the country can fairly claim with reference to its general circumstances, and the taxes it pays. These classes want nothing from Government more paternal than this; less than this they will not accept, and all this they have a right to have. My mature conviction is, that they never can have this, unless incongruous functions are kept in separate hands, and every functionary is required to mind his own proper business." As to the example of the Punjab. "The Punjab has been fortunate in the selection of its work-

men ; but its peculiar good fortune has consisted in this, that its workmen have not been required to make bricks without straw.

For 19 districts of moderate size, containing a population of something upwards of 10,000,000, 7 police battalions of foot, and 27 troops of mounted police, have been provided, at a cost of about 16½ lakhs of rupees a year. Altogether, for the civil duties of this territory, 8½ battalions and 38 troops, consisting of 12,000 men in organised bodies, are set apart. Besides these, for the same territory, there are about 10,000 men called detective policemen, maintained at a cost of about 8½ lakhs of rupees a year, and all this is besides the old village Chowkedars, or watchmen of the country. Knowing this, I was prepared to hear that the extinction of dacoity, and of all crimes of organised violence, in the central districts of the Punjab, may be pronounced complete." On 30th April, 1857, the Honorable B. Peacock records his general assent, but would deprive the Deputy Magistrates of all judicial powers leaving them to the Moonsiffs.



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