

visited these cattle, and as he found they were not properly isolated he had them removed to the infirmary shed. Of these five one was sick, which had since recovered, and there were also three calves of which one died. The report then proceeds:—

It is a difficult matter to account for the introduction of the disease (murrain), and so far as I can see there are four ways in which it could have arisen, viz:—

- (1) That it was introduced through contact with diseased animals in Colombo.
- (2) That it was introduced with the cattle last imported.
- (3) That it originated spontaneously.
- (4) That it was maliciously introduced.

To these I may reply:—

(1) That so far as I am aware no disease has existed in Colombo or the district for some months previous to this outbreak.

(2) I am convinced that it was not introduced with the cows last imported. As previously explained, none of the animals exhibited symptoms or died of murrain.

They were shipped at Bombay on the 22nd December, and those which were in milk were removed from the quarantine shed to the dairy on January 6th, being six in number—"Bola" and "Koomarie" being amongst them. They had therefore fifteen days' quarantine, being five days beyond the average period of incubation of murrain, which is from four to eight or ten days. Further, there was no outbreak of murrain or rinderpest in Bombay until January 24th, being a period of thirty-three days after I left Bombay with the cattle, nor had there been any in Korachi or in the district where I purchased the cows since December, 1892.

(3) The highest authorities state that it does not arise spontaneously.

(4) This is merely a hypothesis, but in view of the fact of the known antipathy of the native to the dairy it is possible that the disease may have been maliciously introduced, which would not be a very difficult matter.

#### PRECAUTIONARY AND REMEDIAL MEASURES.

The first and most important point in outbreaks of infectious and contagious diseases is to take every possible precautionary measure to prevent its spread, and the stock must at once be divided into three heads, viz:—

- (1) Diseased cattle.
- (2) Cattle which have been in contact with the disease and, although they may not show signs of illness, must be regarded as suspected.
- (3) Convalescent cattle.

These three batches must have separated and thoroughly detached quarters: each must have separate utensils, and no communication must be allowed between one and the other either by the attendants employed or others.

This cannot be too strongly enforced, as the infection can quite easily be conveyed from the diseased to the healthy cattle by an utensil from the diseased quarters being used for the healthy, or even on the clothes or feet of the coolies.

Disinfectants to be freely used in all the enclosures. Refuse, fodder, dung, &c., soraged up and burnt twice daily. The system of isolation for outlying districts, which I suggested in my report of May, 1893, I still consider best, viz., a double ring fence to be erected for each of (1) diseased, (2) suspected, (3) convalescent.

For remedial measures the following prescriptions which were used with success during the recent outbreak at the Government Dairy, will be found useful when procurable. Prescription No. 1 to be given to animals showing the least signs of illness, and to be continued until purging commences, when No. 2 should be administered and continued until the animal is better or commences to pass blood with faeces, when No. 3 should be given until the animal is convalescent or dead.

Prescription No. 1. Tincture of aconite 1 drachm, or aconite leaves 1 drachm. Nitrate of potash 2 drachms. Chlorate of potash 2 drachms. Sulphate of magnesia 2 ounces. Carbolic acid 1 drachm. Tincture of quinine 1½ ounce, or quinine 1 drachm. Gruel or water 2 pints. To be given twice a day.

Prescription No. 2.—Tincture of aconite 1 drachm, or aconite leaves 1 drachm. Carbolic acid 1 drachm. Tanic acid 2 drachms. Tincture of belladonna 1½ ounce. Gruel or water 2 pints.—To be given twice a day.

Prescription No. 3.—Powdered ipecacuanha 2 drachms. Powdered opium 2 drachms. Acetate of lead 1 drachm. Powdered gentian 1 ounce.—To be given twice a day in a quart of gruel or water. Diet.—Rice, canary seeds, bael fruits, congee, bovinia and bran.

11. Convalescent cows were allowed good hay (when procurable) damped, or a little grass partially dry, and an increased supply of bovinia. The foregoing rules are equally applicable for the Government stock as for the protection and saving of the cattle of the general community.

12. In addition to this I would suggest that the Government Dairy be properly enclosed by a permanent ring fence erected, where possible, at a distance of 200 yards from the extremities of the dairy buildings and various exercising enclosures. This fence to be of sufficient height and material to prevent access through it of animals to the dairy, and to have two properly secured gates, one for access to the grass lands at the back and the principal one at the present main entrance to the dairy, situated at the top of the School drive. I would suggest that the key of the back gate be in charge of the Manager and that of the front gate be in charge of a watchman who would, besides watching the entrance, take delivery of all sundries for the dairy at the gate. This watchman to allow no messengers or carts inside the gates. I would also suggest that a substantial shed capable of holding 40 cattle be erected as far as possible from the dairy and from the high road, and to be surrounded by a fence at the same distance from the shed as that of the dairy fence. This shed to be used as an infirmary and as a quarantine shed as occasions may require.

I also have the honour to suggest that in future cases of sickness amongst the dairy stock the Manager be relieved of his supervision over the sick cattle immediately they are removed from the dairy.

I am glad to be able to report that the stock still continues in good health, and that, unless anything unforeseen occurs, the whole area of the School of Agriculture can be declared free from infection on the 17th of March.

#### VARIOUS PLANTING NOTES.

CALCUTTA BOTANIC GARDENS.—From the order of the Bengal Government on the Annual Report of the Royal Botanic Garden, Calcutta, for the year 1893-4, we learn that,—

Dr. King's report gives an interesting account of the operations during the past year. A severe storm occurred in May, and though in the conservatories little damage was done, several trees outside were completely uprooted. Among the principal improvements effected during the year may be mentioned the repairs to Colonel Kyd's monument—a beautiful urn and obelisk—raised in memory of the founder of the garden. Attention was given as usual to the cultivation and distribution of plants having an economic value, which are suitable for cultivation in the plains of India. Of these the principal were plants of the rice, of sisal hemp, of the cola nut, seeds of *bhabar* grass (*Ischamum anguristifolium*) and *coca*. Dr. King remarks with reference to the latter that this alkaloid can never come into general use, and that the demand is at present greatly below the supply. The Lieut. Governor shares his regret that his efforts to extend in Bengal the cultivation of the Japan-paper mulberry tree have met with so little success as this tree (of which a small stock still is available) provides an admirable fibre for paper. The collection in the Herbarium was increased by more than 16,000 specimens. During a portion of the year Dr. Prain was deputed to undertake an enquiry into the cultivation and storage of ganja, and he submitted an interesting and valuable report, the final orders of Government upon which have been postponed till the report of the Indian Hemp Drugs Commission has been received.

VANILLA CROP is just beginning; some small lots have arrived in town for preparation.—*Mada gascar News*, June 9.

OLD TREES.—In Upper Tonkin material for coffin boards, of which many are exported, is obtained from tree mines instead of from ordinary living forests. The trees are a kind of pine, very pitchy and very durable, and they are found buried in a sandy soil at a depth of 7 to 25 ft. The trunks, some of them more than 3 ft. in diameter, are in good preservation. Such evidence as can be found indicates that the trees grew in a large forest and were buried at no very remote time by an earthquake or other similar catastrophe.—*Indian Engineer*.

THE WASTE OF WATER POWER.—While he was away Mr. Todman noticed that there was an immense quantity of water running to waste in the Dimbula district, and he said that no doubt the same sort of thing went on in other districts. "It seems to me", he remarked, "a great pity that factories in the near vicinity of such fine waterfalls do not use the power of electrical transmission instead of the steam-engines that at present exist—and which are gradually denuding the country of forests. Firewood is terribly dear now on some estates and there is no need, with such plentiful water, to incur the expense. In the transmission of electrical power 75 per cent of the actual power obtained at the fall can be developed at the factory, and, as the prime cost is nothing, it is practically got for nothing but interest on capital and depreciation of the plant—which is very little. Mr. Todman says it is probable that Mr. W. Sandys Thomas will shortly adopt electrical transmission as a means of utilising the water on his estate at Lindula, where there is a good fall. Mr. Thomas questioned him about the matter while he was up-country, and seemed favorably impressed with the idea.

"PIONEERS OF THE COLONY."—It will be seen from the announcement in a special *Supplement* (issued with the last issue) that we purpose intermitting this series of biographies and portraits in our monthly periodical—to be resumed (D.V.) at a later date. Already in the first series, we have dealt with Sir Edward Barnes, G.C.B.; Major Skinner, C.M.G.; A. M. Ferguson, C.M.G.; C. Elliott, M.D.; R. B. Tytler; Andrew Nicol; John Walker; John Gavin; Gabriel and Maurice Worms; and Wm. Budd, senior; and we have yet to give James Taylor of cinchona and tea fame; Thomas Wood of Spring Valley as representing Uva; and perhaps Alex. Brown, one of the earliest and staunchest supporters, of the Planters' Association. We have also portraits ready of Alex. Campbell White, one of our earliest and most extensive proprietary planters and G. H. K. Thwaites, whose career as Director of the Peradeniya and Hakgalla Gardens was very closely identified with our Planting Enterprise, more especially with the beginnings in cinchona and tea. But these we may reserve along with, we hope, among others, F. R. Sabonadiere, Capt. Payne Gallwey, Capt. John Keith Jolly, F. Hadden, W. B. Swan, John Brown, of Engineering as well as Planting and Uva Company fame, R. B. Downall, Wm. Grant, and others of local fame in a bygone day, for a second series of Pioneers. The first volume—and a handsome if characteristic illustrated book, the separate collection should prove,—will thus consist of either 13 or 14 biographies and portraits. We regret being unable hitherto to obtain photograph or portrait of Geo. Bird or Major Rogers to colotype and we must therefore in the second series, give biographical notices of them without portraits.—The District Planting Gazetteer and Maps that are to follow should interest and edify every planter in the island as well as afford interesting reading to retired Colonists and other friends of the Colony.

THE TEA OUTPUT IN NATAL.—The tea report for the current season supplied by Mr. Drummond, of Kearsney, (see page 119) is, says the *Mercury*, highly satisfactory. The output from Kearsney alone totals 450,000 lb. and the total output for the Colony is calculated to reach the original estimate of 690,000 lb. This is a substantial increase on last year's output, and as two new factories will be established next September it is very likely that next year the increase will be even greater. As Mr. Drummond points out, however, there is a much more important thing to consider than a mere increase of quantity. Improved quality is the greatest of all desiderata and to this end every effort should be made. Quantity is a useless aim if the quality is inferior, and if the improvement in the output is gained at the expense of quality, so far from the tea industry progressing it will assuredly go back and finally be run out of the market by the superior quality of the imported article. This cannot be too strongly impressed upon our planters, and they will be wise if they banish from their minds all idea of the present protection they enjoy and work to improve the quality of their teas as conscientiously as they would if the imported article were free of duty.

COFFEE IN CENTRAL AFRICA: PULPERS SENT OUT BY GORDON & Co.—The interest taken in the future of Central Africa by your readers will not be lessened by the active part taken by your late Governor in the House of Peers, in discussing the East African railway project.\* Feeling this to be the case I have placed myself in communication with Messrs. John Gordon & Co., coffee merchants, who, I learn, have forwarded pulpers to the Blantyre Mission, and other parties located in the great Central plateau along which the African Lakes Trading Company of Glasgow is carrying on operations. This firm of engineers gladly informed me of all they knew in regard to coffee-planting operations in that as well as in other parts of the world, for the senior partner is brother to Wm. Gordon—formerly of Berradswella, in Malakal—with whom I made a voyage to London in 1850-1, under the care of Captain Linton, so that I needed but little introduction to the firm. Yes, they replied in answer to my enquiry they had shipped a number of pulpers to the African Lakes territory; but they were unable to give me any information as to the number of coffee plantations under cultivation. With regard to the age of the oldest coffee under European supervision, the first patch of coffee opened experimentally is now fully a dozen years old. It was planted by a member of the Blantyre Mission, mainly in order to supply their own wants, as coffee was better calculated to enable them to resist attacks of fever than tea; but as a matter of fact fever was scarcely known in the Lakes district, though there had been cases in other localities during the rainy season. They had no information as to the yield of coffee in the Blantyre district; but it should be very liberal now that a regular system of cultivation of the bushes was being carried on both there and in the adjacent districts. There did not appear to be any want of labour on the estates. Of course the question of transport was a serious matter over such a long distance; but the Shiré river had now cargo steamers on it, and beyond that roads had been cut, i.e., fairly passable tracks for porters, but not for vehicles. The state of things compelled them to make their machine castings of small size capable of being carried by one or two porters. In reply to my enquiry whether any peeling machinery had been forwarded to the Lakes country, I was informed that none had as yet gone, all the crop being carried to the coast in the parchment, as it would be risking damage to the coffee beans to send them on such a long and uncertain journey without the protection of the skin. There is a good deal of business done in London in cleaning Central African coffee for the market, and the article now commands upwards of a hundred shillings per cwt. for ordinary samples.—*Local "Times."*

\* East and Central Africa—Uganda and Blantyre are very wide apart.—*Ed. T.A.*

THE PRICE of Liberian coffee has risen to \$44.50 per picul, which is three times the price of Liberian coffee when it was first planted in Malaya.—*Straits Budget*.

**CALCUTTA TEA SALES.**—We call attention to the Market Report of Messrs. Wm. Moran & Co dated the 3rd ult. (see page 107). The splendid range of prices—1s 7½d to 2s 10½d—realized for Darjeeling, Assam and Docars teas, is enough to make the mouths water of Ceylon planters even in our high districts. Tea from the Docars realizing 2s per lb. for 145 packages is very notable. A Broker in calling our attention to the Calcutta circular and the fine prices, remarks:—"Very little doubt about India going in for quality this year." A merchant on the other hand remarks on the very backward place now taken by Ceylon teas in prices in the Lane. Clearly, improvement in quality must be looked to, or "Ceylon" (as a whole) will become a name for inferior teas.

**COCONUT BRISTLE FIBRE.**—A considerable degree of activity has marked the demand for bristle fibre of late, and we hear that enterprising natives are going in freely for the preparing industry. One such is reported to have erected works at Veyangoda on quite an elaborate scale, with iron tanks for the steeping of the husks, machines for clearing and cleaning the fibre, &c. The worst of it is that there is so little guarantee for permanence in the demand for fibre of any particular description. Either the fashion changes, or there is such a rush to meet an encouraging demand that the supply is overdone. We trust in the present case that the demand may keep fairly well up.—In this connection we may remark that we hear nothing now of the use of "coir" or "coir refuse" as a backing of plates or boarding in shipbuilding, about which so much was made a short time ago.

**ELECTRIC LIGHTING IN CEYLON: INSTALLATION ON MATTAKELLIE ESTATE.**—Mr. J. Torr Todman, the electrical engineer connected with the firm of Messrs. Bonstead Bros., kindly gave us some information relating to his recent trip upcountry for the purpose of putting up an electric installation on Mattakellie estate. The installation in question consists of two arc lamps, and thirty incandescent lamps, and, when Mr. Todman left, the work was nearly finished. There are two arc lamps placed in the factory main building, which they light up very brilliantly; while Mr. Todman says that a portable light he has invented for enabling the factory hands to examine the tea on the withering tets has already been found of use on Mattakellie. He will return there later and finish the work, which is at present in the hands of the carpenters on the estate working under Mr. Todman's instructions. The power used on Mattakellie is steam, and the two arc lamps and thirty incandescent lamps absorb about 4½ horse-power.

**COFFEE PEELING IN HAMBURG.**—The mention of coffee peeling in London led to my informant remarking that there was a large and growing business of coffee peeling in Hamburg, where several firms had extensive mills for the work. These were for cleaning coffee from Southern and Central America, such as from Mexico, Brazil, Costa Rica, Guatemala, &c.; the produce being shipped direct to Hamburg in German steamers. The firm of Gordon & Co. were large shippers of pulpers to all these countries; the difficulties of transport and the scarcity and high cost of labour have hitherto prevented the importation of peeling mills, at the same time necessitating the construction of pulpers in small sections, which involves an additional charge of £40 or £50, which is willingly paid for the additional convenience. For one machine sent to Central Africa a dozen are shipped to Central America, in addition to which better prices are obtained from planters in the latter country, where there is evidently more money than amongst English settlers in African countries.—*London Cor.*

THE SHEVAROY COFFEE BLOSSOM does not seem to be getting on so well as was expected. The continual drought has resulted in a good deal of burnt spike, and loss of young berries.—*S. of I. Observer*.

LIBERIAN COFFEE seems to be going ahead with a vim in the Mauritius. Mr. E. H. Edwardes, an old Ceylon planter, expects to get two tons per acre from his plantations!—*Ibid.* [That is in the Seychelles.—*F.D. T.A.*]

AN INSECT PEST.—His Excellency the Governor has formerly proclaimed the *Sebandria cerasi*, or pear and cherry slug, to be an insect within the meaning of the Vine, Fruit, and Vegetable Protection Act, and prohibited its introduction into the province.—*Adelaide Observer*.

CHINA TEA IN TIBET.—An interesting article appears in the *Glasgow Herald* dealing with the arrangement just completed with the Imperial Chinese Customs by which during the first five years of its operation, Indian tea will not be allowed entry at all into Tibet although after that period it will be admitted into Tibet under the same duty as Chinese tea will then be paying on entry into Great Britain. "This," it says, "is an important reservation, and it argues considerable astuteness on the part of the Chinese officials who made it for the Tibetans are probably the largest consumers of tea in the world. The markets of Tibet—hitherto monopolised by the 'brick tea' of Western China—have for many years been regarded with longing by the Indian tea-planters, among whom the failure of the Macaulay Mission a few years ago was acutely felt. The Chinese have evidently a keen appreciation of the same markets, and are not disposed to yield them without a *quid pro quo*." It then proceeds to say that the exports of China tea are increasing after a long term of steady decrease under the pressure of the competition of India and Ceylon, and that the fall in silver has given a stimulus to exports of all sorts from China; and discussing the question whether cheaper silver (as well as lower exchanges) will still leave it possible for China tea to be landed in larger quantities in London at lower prices than heretofore, but yet with a profit on the operation, says all the evidences are in support of the affirmative. It is the competition of all Indian and Ceylon tea that has driven down the price of China tea of late years though the Chinese were the first to put their product out of favour in our markets by shipping so much rubbish when prices were good. Had it not been for the present supplies from India it is quite certain that as exchange fell the silver price of China tea would have been put up in proportion to the decline in the gold value of silver. In conclusion it is said:—

So long, as China has no serious competitor in the Russian market, the probability seems to be that she will go on producing larger quantities of the cheaper teas at still lower prices—even now the price of common tea in China is from 25 to 30 per cent. lower than it was 15 or 20 years ago. On the other hand, the supplies of the very low grades from India and Ceylon last year were not up to expectations, a laudable desire to improve the quality and reputation of Indian tea having actuated many of the planters. For some years past China tea has been in our markets not much more than a make-weight. Many dealers do not keep it at all, and many more only to "blend" with Indian and Ceylon teas. We say nothing here about the comparative merits, but it is probable that few people now a days in this country ever taste genuine China tea, or would recognise the flavour of the "Bohea" that our grandmothers loved. But, according to present appearances, the wheel of fortune is revolving backwards and the closing of the Indian Mints seems destined to familiarise us once more with the unmixed leaf of the Flowery land.