

**NOTES ON ALOE, SISAL,
AND RAMIE FIBRES, DYE
AND TANNING
PRODUCTS, DRUGS, ETC**

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Notes on aloe, sisal, and ramie fibres, dye and tanning products, drugs, etc by J. Ferguson

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J. FERGUSON

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ALOE, SISAL, ^{AND} RAMIE FIBRES,
DYE AND TANNING PRODUCTS,
DRUGS, ETC.

COMPILED BY

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A. M. & J. FERGUSON.

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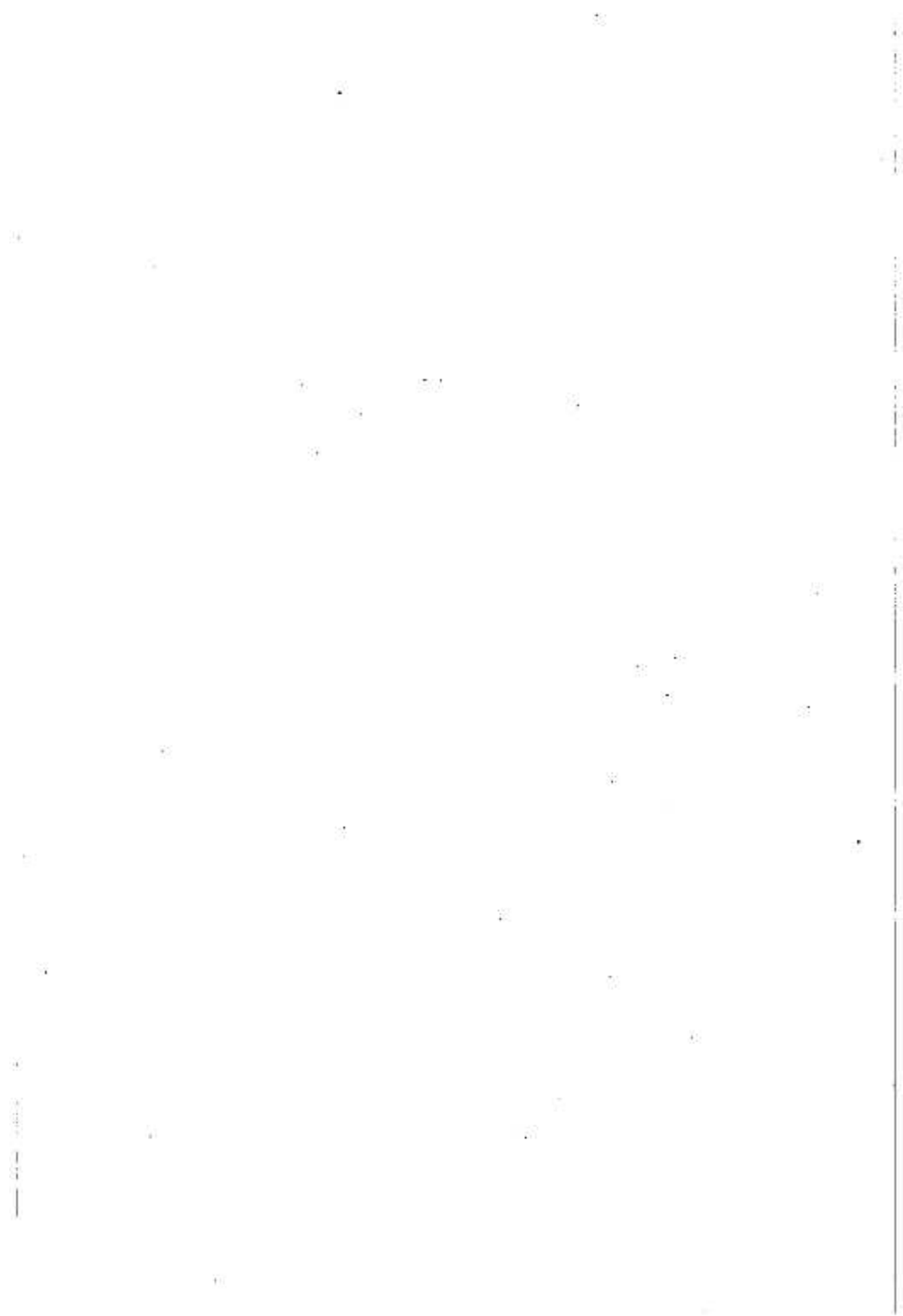
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PREFATORY NOTE.

THE main object in publishing this little pamphlet is to embody information about the Aloe Fibre Industry in Mauritius and a paper written on the minor products and resources of Ceylon about fifty years ago by the late Mr. Henry Meade. The latter will be found on pages 27-45. We have had in view the encouragement, if possible, of a new local industry in some one or other fibre-plant, such as has been successfully established in Mauritius, and under the name of "Sisal Fibre or Hemp" (see page 47) in the Bahamas and other parts of the West Indies and Mexico, and Yucatan. Mr. D. Morris's paper on Ramie and China Grass, page 46, is well worthy of local attention.

We trust to see a growing trade in Fibres beyond those now included in our Customs list, established ere long in Ceylon.

COLOMBO, 1st October, 1901.



PREPARATION OF AND TRADE IN ALOE FIBRE IN MAURITIUS.

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WE are printing on page 2 *et seq.*, a pamphlet published in Mauritius in 1882 and translated for us in that year. Its publication has been delayed in consequence of the very discouraging results of trials with the "Death" machinery to obtain fibre cheaply from the leaves of *Fourcroya gigantea*, the very species of aloe which has been so successful in Mauritius. There it seems to spread and grow spontaneously and to be cultivated and prepared on a large scale, the export of aloe fibre from the sugar island having attained extensive dimensions. The plant could be grown to any extent in Ceylon, and the whole question hinges on the use of machines which will do good work and cheaply. Such machines seem to be available in Mauritius. In 1882, it will be observed, M. de Chazal stated that 3 per cent of the weight of leaves in fibre or $1\frac{1}{2}$ ton of fibre per acre would pay him. As tea cultivation seems likely to be overdone, some of our readers may wish to turn their attention to the cultivation of fibre-yielding plants and to the preparation of the fibres. We therefore publish the long delayed translation, and we hope soon to get further information from Mauritius, especially as to the machinery and appliances (chemicals being deemed objectionable) used in extracting the fibre from the leaves. The mode in which manila hemp (*Musa textilis*) is dealt with in the Philippines is thus described by Mr. Wilkinson, British Consul at Manila:—

"Two strong uprights are firmly fixed in the ground and connected by a cross bar, in the centre of which a large broad-bladed knife is fixed downwards on a block of wood fastened lengthwise on the bar; the knife has a strong handle, which is connected by a cord to a long bamboo made to act as a spring by being tied in the middle and the butt parallel and above the bar; the free end thus forms a supple and powerful spring and holds the edge of the knife firmly against the block; below the bar there is a treadle attached by a cord to the handle of the knife: the mode of operation is for the worker to stand opposite the knife placing either foot on the treadle, which he depresses, thus forcing the knife handle down and the blade up; he then places a strip of stalk (called locally *sifa*) between the blade and the block leaving only enough to wrap round a stock on the near side; he then releases the treadle and the knife by the action of the bamboo spring, nips the strip firmly against the block, and on the workman drawing the strip through the pulp is left behind. The apparatus is extremely simple and inexpensive."

"In the *Bulletin* for April 1887 (No. 4) published by the authorities of Kew, there is a great deal of interesting information regarding the Manila hemp. It is there stated that the whole supply comes from the Philippine Islands; the imports to Great Britain amount to about 170,000 bales and to the United States about 160,000 bales, equal to about 50,000 tons per annum. The imports to Calcutta are comparatively insignificant being probably less

than 300 tons per annum. It is stated in the Kew report that a labourer working under pressure "can clean nearly 20 lb. of hemp per diem; but, as a rule, the quantity cleaned by one man working steadily day by day averages about 12 lb.; usually two men work together, one cutting down the stems and splitting them, while the other cleans the fibre. At the current rate of wages in 1879 one labourer's earnings were 7½d. to 8d. per diem."

ALOE FIBRE AND ITS PREPARATION.*

BY EVENOR DE CHAZAL

(Translated by "Károly Fördö.")

PREFACE TO THE SECOND EDITION.

The cordial welcome which this little book has met with at the hands of the public since its first edition, which was brought out at the expense and by the order of the Chamber of Agriculture, the sustained demand of which it has been the object in various directions,—a demand which has led to its exhaustion,—above all, the growing favour which the new industry enjoys, have encouraged me to bring out a second edition.

The only pretention to which this essay has aspired has been to call public attention to a new product, till then little known, but destined, in the opinion of a small number of followers, to march side by side, in the near future, with the great sugar industry in this colony. Its appearance has coincided with the discovery of new appliances, which have given a considerable impulse to the manufacture, because they lower the net cost of the fibres, and also with a rise of the article in the London Market. These two causes united have brought about quite a revolution among us. Important affairs have been seen to take place in a few months; new companies have been formed; large extents of ground have been bought at prices which the former proprietors of land long depreciated no longer hoped to secure; works have been erected; and motion and life have all at once flowed into those vast solitudes of the coast, deserted since the disappearance of the cane.

It has been thought fit to accord to this pamphlet the honour of this transformation.

I will not have the false modesty to think that it has not helped towards it; but I believe that my duty is to make known the true causes of the industrial revolution which has just taken place, and to name the authors of it:—it is those who were not afraid, at the first news of the progress realised, to invest their funds in the new companies,—who, as partisans convinced of the great future reserved for the hardy plant, have not hesitated to devote themselves entirely to it,—and who, sympathizing spectators of the struggles of the early days,

* De la Fibre d'Aloës, et des Récents Perfectionnements apportés dans les Procédés d'Extraction. Etude lue à la Réunion de la Chambre d'Agriculture du 19 Janvier 1882. Deuxième édition. Maurice: *The Merchants and Planters' Gazette*. 1882.

have understood that the moment had come for them to lend their effective co-operation to a work which was to endow the country with an important source of wealth, and have contributed in a large measure in overcoming the last obstacles.

One is, indeed, astonished on ascertaining what immense progress this extraction of aloe fibre, so long despised, has realised in so short a time. To be convinced one has only to cast his eyes over the list of societies formed in these last six months, all of which also are in a flourishing condition, though of recent formation.

The following are the principal in the order of their appearance :—

1. *Rouge Terre Hemp Estate Society Limited*, established with a capital of R140,000, and producing about 1,500 lb. per day ;
2. *Palmyre Hemp and Sugar Estate Society Limited*, established with a capital of R180,000, and also producing 1,500 lb. of fibre per day, but lime and sugar besides ;
3. *Massilia Hemp Society Limited*, established with a capital of R120,000, and producing 20 tons of fibre per month ;
4. *Mon Choisy Hemp Company Limited*, established with a capital of R400,000, and producing 30 tons per month ;
5. *Vale and Black River Hemp Company Limited*, established with a capital of R450,000, and producing 40 tons of fibre per month ;
6. *The Mauritius Hemp Company Limited*, started with a capital of R180,000, and producing 1,500 lb. per day ;
7. *La Société de Yemen*, R300,000, and producing fibre and vanilla ;
8. *The Albion and Gros Cailloux Sugar and Hemp Company Limited*, established with a capital of R1,500,000.

Beside these joint stock Societies, a great number of private concerns have been set up, of which the principal are :—

1. *Vertou*, by M. de Mars, producing from 12 to 15 tons per month ;
2. *Palms*, by M. Bonicoux ;
3. P. Toulet at La Montagne Longue ;
4. D'Unienville, at Beau Bassin, one of the promoters of the industry, and long at work ;
5. Vally, at La Petite Riviere, producing a superior quality ; and extremely particular as to the article that he delivers ;
6. J. Cauvin, at Les Pailles ;
7. M. Vigoureux, at Les Bambous, who not only cultivates vast extents of land covered with magnificent aloes, but is also planting up on a very large scale ;
8. *Balaktava*, by Messrs. Samuel Baker & Co., whose machines are put into motion by means of a powerful hydraulic apparatus ;
9. Lastly, *St. Antoine*, which combines the latest improvements and will soon begin producing.

All are active ; many produce over one ton per day—and some

are already yielding dividends. This is not all. Everywhere planting is going on, and after a lapse of less than five years all that shore where nothing grew beside the "old maid" will be found valuable and entirely covered with aloes.

But it is not in Mauritius alone that the industrial and commercial world has been moved; our neighbours of the sister-isle, prompt to follow us in our advance, have adopted our processes, and have set themselves seriously to work. Less enterprising, less assisted, but as courageous and active as those creoles of Mauritius who were lately dubbed 'Lotus Eaters,' and whom people in certain circles persist in considering as attacked by *lethargy*, they have in their turn, with the help of some of our compatriots, acclimatized in their country our apparatuses, and are to enter upon a severe but happy competition with us.

If we look further afield, we see that in Ceylon they are giving us attention—as witness this letter which I have received by the mail from the editor of the *Ceylon Observer* at Colombo:—"We should deem it a great favour if you would send us a copy of your work on Aloe Manipulation.—Signed: A. M. & J. Ferguson." It is the same in Australia, the Cape, Natal, America. From all quarters our experiments are followed with interest, and our mode of procedure is sought to be adopted. Aloe fibre has henceforth its distinct place in commercial transactions, and it is to the island of Mauritius that modern civilization will be indebted for this important article, which will always make its way, forcing itself more and more, at first to the brush manufactory, to the makers of ropes, to the navy, and afterwards to the manufacturers of the finest and choicest textures. We have the right then of being proud of the result obtained, and that of hoping in the immense future which is opened out to us.

Every medal, however, has its obverse: and ours lies in the enthusiasm with which the birth of the new industry was received. We must be on our guard against the danger which may result from a hasty and badly-finished manufacture. If it is true that we have ended by winning the first place, it is no less true that we have only reached it by the force of patience and pain. Now-a-days, in order to bleach the fibre, some have lost sight of this fundamental warning, incessantly formulated by our buyers in the English market: "No chemical process." They also add, it is true: "The longest, the whitest, and the softest possible," and it is to obtain one of these *desiderata* that sulphurous acid has sometimes been employed, or chlorine and its derivatives, such as the hypochloride or the chloride of calcium, in order to bleach the fibre. These means are bad, and they cannot but lead to a fall in the price of our manufacture. And the day that we sow distrust in the market we shall have great difficulty in restoring the paying prices that we are now actually realizing.

We must guard then against employing any chemical means which may be of such a nature as to diminish the strength of resist-