within the country itself as oak was once used in England. Except in the heart of the large towns, where brick and mortar are compulsory, the private houses and public buildings are built of it exclusively, and so is ordinary furniture, such as tables, chairs, and the like. This faith in the durability of the wood is more than justified. So solid and iron is its heart that the weather boards torn from huts rudely put together by the pioneers of fifty years ago, and lately demolished to make room for the improvements of progress, have been found in a perfect state of preservation, and are now exhibited as a curiosity. Kauri pillars sunk in the earth, or in fresh water, seem alike impervious to damp or the attacks of insect life. These merits having become known to the contractors who pave London streets, quite recently small blocks of the flexible, close-grained pine of the Antipodes were laid down in one of our great thoroughfares. If used before it is sufficiently dry, however, kauri timber is apt to shrink endways. Nor does the value of one of the royallest trees in the world end with its death. When it has exhausted the properties of the soil necessary to its existence, large stretches are left rich in the gum which dropped from its mighty arms and trunk. After the lapse of time it solidifies into a brown or sherry-coloured substance not unlike amber, from which the finest varnishes are made. So important has the trade in this article of commerce become that it far exceeds in value the export of kauri timber. At intervals in the forests, too, the bushman comes across a tree whose trunk, instead of being smooth and dark as an ebony column, is rough and knotty. It yields the most ornamental of all New Zealand woods, and is described as mottled kauri, to distinguish it from the ordinary kind. Creamy rather than white in colour, and beautifully marked in rich designs of a deep, warm brown, it takes on a very high polish, and is so much prised for artistic and decorative purposes that the fortunate possessor can clear a profit of from 500*l.* to 600*l.* without any difficulty. One of the colonels of the 73rd Regiment, of Maori war fame, bought an estate near the once-renowned Gate Pah, and discovered in it a mottled kauri, with the timber of which he was able to line the whole of his house, and to have made a duchesse dressing-table, coffee-table, eight chairs, a wash-stand, a work-table and a bedstead. The profit on an ordinary kauri tree, whose height is 50ft. and whose girth at base is 20ft., averages 100*l.*

This huge tree, whose trunk is more like a factory chimney than anything else, which is unequalled for size in the whole realm of nature, upon which, when laid low, a party of eight can dance a quadrille with ease and upon which a small house can be built, is sometimes the victim of an enemy before which it is as powerless as the veriest sapling. This is the rata, a parasite with a bright red blossom. In the woods, where it reigns supreme, perhaps as in the human would for mutual protection, its beautiful enemy dare not intrude. It is only when it stands alone among the mixed bush that it falls a prey. Against the coy advances of the ropes of verdure that swing so alluringly from the boughs of a neigbouring tree it is as vulnerable as one under the spell of a witching woman. But not until they twine themselves in serpent-like windings round the trunk is the doom of the monarch of the woods a certainty. Month after month and year after year the murderous embrace grows tighter until the rata proudly flaunts its scarlet flowers from the crown. Then the end comes. An equinoctial gale sweeps through the forest, and with fierce delight assails the kauri, which has defied it for a thousand years. Sapped of its strength, it rocks to and fro and shivers in agony. Then it falls to the earth, dragging down with it the beautiful parasite which has been its ruin. Sometimes the rata grows downwards from a fork of a woodland giant, when, rooting itself firmly in the ground, it shoots upwards, clasping the trunk in its arms. After the final decay of the support by which it has raised itself to the light, it develops into one of the most beautiful of New Zealand forest trees.—London *Standard*, Aug. 11.

LIME CULTIVATION IN THE WEST INDIES.

There is an interesting note on the West Indian lime in a recent number of the *Kew Bulletin*. The sour lime-tree (*Citrus medica*, L. var. *acida* Brandis) which yields the lime-juice and essential oil of lime familiar in the drug-trade was probably introduced into the West Indian islands from the East. Lime-juice is obtained by compressing the fresh ripe fruits between heavy rollers. It is exported in the raw state or concentrated. The concentrated variety is obtained by evaporating the raw juice in copper or enamelled-iron pans until it is reduced to about one-eighth or one-tenth of the original bulk. When exported it is a dark, viscid fluid of the consistence of treacle. From the rind of the fresh fruits there is obtained by the ecuelling hand-process a fine essence of limes exported in copper vessels. The process which is a slow one, is performed by women and girls. The task per day is measured in fluid ounces. By distilling the raw lime-juice a spirit is obtained known as oil of limes. The essential oil of limes extracted by hand is far more valuable than the oil of limes, as the perfume of the latter is injuriously affected by the heat necessary in distillation.

Lime-trees were abundant in Dominica as long ago as 1791, but at that period they appear to have been grown only for their fruit. The lime-juice industry appears to have been started in Dominica by the late Dr. Imray, but shortly after the commencement of that gentleman's venture the Messrs. Sturge of Birmingham, quite independently of Dr. Imray, and without any knowledge of his experiments set to work to establish similar plantations in the neighbouring island of Montserrat. The industry appears to hold out prospects of being a remunerative one, for, according to a Dominica planter it takes about 1000*l.* to purchase about twenty acres of land and plant them with lime trees, to build a house for the manager, to erect a mill with copper boilers to concentrate the juice, to pay for superintendence, and cover all expenses for seven years. At the end of this time the estate would yield forty hogsheads of concentrated lime-juice a year, worth 480*l.* The yearly cost of cultivation and manufacture would amount to 240*l.*, the rest being gross profit.—*Chemist and Druggist.*

CHEMICALS AS INSECTICIDES.

According to Professor Long, the agricultural station of the Pas de Calais has just published some particulars with regard to the materials used for the destruction of insects, from which it appears that insecticides are often used which really have no destructive power over insects of various kinds. He says some of these products, manifestly efficacious, not only destroy insects but the cultivated plants upon which they thrive; others he says, are extremely dear; while again, others, deadly to an insect of one order, have no effect upon those of another. Some insects, he remarks, have a resisting force which is really prodigious in face of the means of destruction which are commonly opposed to them. He gives an instance in which the larvæ of a destructive insect were plunged in pure sulphide of carbon, but after an immersion of five minutes the little creatures, having been again exposed to the air, acquired their first vigor. M. Huet has made some experiments u

order to ascertain the resisting power of certain caterpillars in the presence of poisonous matters. A single drop was placed upon the head of the insect in each case. A solution of alum produced no effect whatever; sulphide of calcium produced no effect; a solution of lime was not fatal in every case; nicotine failed to destroy the insect, while benzine and petroleum were not always effective. Other substances were tried, such as phenic acid, turpentine, and sulphate of copper, all of which produced negative results. M. Huet's experiments have been conducted with caterpillars of several kinds, but particularly with those which live upon cabbage leaves, and the results were almost always the same. The writer says that a universal insecticide does not in reality exist, for if petroleum, for example, kills a caterpillar of one variety it is found, on the contrary, to be without effect upon those of another variety. Caterpillars of the *Lepidoptera*, the natural order which includes the butterflies and the moths, have a greater power of resistance than the larvæ of the *Coleoptera*, the natural order to which the beetle belongs. These facts are all of supreme interest, and they will suggest to the cultivator, whether farmer or gardener, the importance of recognising that reliance cannot be placed upon any specific destroyer of dangerous insects, and more especially that prevention is better than cure.—*Chemical Trade Journal.*

THE COFFEE CROP IN COORG.

The following returns have been received from the Madras Local Administration:—

FORECAST OF THE COFFEE CROP FOR 1894-95.

		Tons.
Forecast of yield obtained from planters' returns...	Europeans...	1,907
Forecast estimated for area for which no returns have been furnished... ...	do ...	949
	Natives ...	2,498
Total forecast for 1894-95.. ...		... 5,354
Estimated average yield per acre of ordinarily well cultivated coffee in full bearing for 1894-95 ...		Cwt. 4½*
Return of export of coffee from Coorg last year 1893-94 taken from Toll gate returns... ...		Tons 3,873†
Return of export of coffee for 10 previous years...		36,802 or 3,680 tons, annual av.

TIMBERS OF WEST AFRICA.

Mr. W. Crowther, Curator of the Aburi Gardens, Gold Coast, writes:—

I have received the following interesting communication from a gentleman named Mr. R. B. W. Walker of Axim, regarding Camwood and Barwood. As there is still a doubt respecting the origin of these woods, it is very interesting. "As one who has purchased and shipped thousands of tons of Barwood and hundreds of tons of Camwood, I am able to answer your enquiry respecting these woods." "Barwood (commonly called Redwood."—Governor Moloney is wrong in thinking Redwood to be different from Barwood) is found chiefly in Gaboon and places in the immediate vicinity and as far south as Mayemba, —also in the Oil Rivers, where, and at Batanga, &c. it is used for making canoes. Its correct botanical name, is, I think Pterocarpies Angolinsis. It is totally distinct from Camwood which is a Baphia, but whether B. nitida or B. laurifolia, I am not quite certain, but on May or June 1876, I read a paper before the Society of Arts on "The Commerce of the Gaboon" in which after considerable enquiry and research, I gave the correct botanical names of both woods. Camwood is found from Sierra Leone, downwards as far as the Gold Coast, but I do not think it exists East of this colony certainly not in Gaboon. No one who has seen Barwood and Camwood could for a moment confound one with the other. "Having been forty-two years on the West Coast of Africa and knowing it from Goree to the Congo, you may be quite certain that I am correct in stating that Barwood and Camwood are different woods entirely."

"*P.S.*—I shall be happy to give you further information as to Barwood and Camwood if required. Barwood is practically inexhaustable, but Camwood has all been cut near the Coast. Sir A. Moloney displays ignorance in his remarks on the subject (*see* p. 139.) It is because it is so much more valuable than Barwood that it has nearly all been cut. The natives are quite wide awake, but the two woods do not grow in the same localities."

* The figure for 1893-94 was 4½ cwt. The quantity forecasted for 1894-95, viz., 5,354 tons being nearly equal to that of last year viz. 5,248 tons, the same figure has been retained.

† These figures are not accurate. The number of carts only are given in the accounts and it is roughly calculated that each cart takes half a ton of coffee, but as a matter of fact most carts carry more than this.

THE INDIAN TEA TRADE.

The following letters referring to the Indian tea trade appear in the *Times* of the 18th ultimo:—

Aug. 11th.

Sir,—Referring to a letter which we see published in your issue of the 10th inst. on Indian tea, we think that your correspondent "T" might have made his letter still stronger had he given a few figures to demonstrate the necessity of producers introducing Indian tea into the markets of the world, even at the expense of a considerable amount of money.

During the last three years the imports of Indian tea into this country have been 333,000,000lb., and the consumption 330,000,000lb. Had an extra demand for only a few million pounds per annum been introduced into the market, this almost even balance of supply and demand would have been destroyed, and instead of a fall in price of abont 1d. per pound, which has occurred during that period, we should doubtless have had an advance.

As was pointed out in the able article on the subject in your issue of the 6th inst., America consumes some 90,000,000lb. of China and Japan tea per annum. Surely it is worth while for Indian producers to expend money freely to secure even a fractional part of such a vast trade, when it is remembered that at the present annual rate of production every 1d. per pound rise or fall in the price of the Indian crop represents a sum of some £500,000.

Producers must remember that America is a country where, owing to vast distances and scattered population, an article, however good in itself, can only become known to the multitude by advertisement of same kind on a large scale; and we doubt whether much good can be done to the Indian tea industry, in which millions of money have been invested, with the insignificant sum mentioned in "T's" letter, a sum that a private firm of moderate size would think nothing of expending.—Yours faithfully,

INDIAN TEA BROKERS.

Sir,—I entirely agree with what has fallen from your correspondent "T," that the sum of £3,000 is quite inadequate for introducing the merits of Indian tea to America, but "T" seems not to be fully informed as to what is really intended. The Indian Tea Association, both at home and in Calcutta, are fully alive to the necessity of liberal expenditure so as to push the tea in foreign markets. There is no thought on their part of stinting their outlay for this purpose, but before spending freely the money of the producers they would like to feel their way a little. They have now a special commissioner in the States, whose business is not only to advertise the tea at shows and in large grocery establishments by means of his staff of Indian servants, but also to inquire and ascertain as to every possible way in which the tea can best be brought before the American public.