warm season, the slanting light of the descending sun, or the sobered translucency of twilight have subdued the vivacity of the early day. Yet under the influence of the benign stimulant many trains of thought which will bear recalling, may suggest themselves to some of our quiet circle, and prove not uninteresting to a certain number of readers."

Again at page 21 :—"Tea cups are not coffee-cups. They do not hold so much. Their pallid infusion is but a feeble stimulant compared with the black decoction served at the morning board. And so perhaps, if wisdom like yours were compatible with years like mine, I should drop my pen and make no further attempts upon your patience."

And at page 71.—"If the reader thinks that all these talking teacups came together by mere accident, as people meet at a boarding house, I may as well tell him at once that he is mistaken. Does he suppose we want to be known and talked about in public as 'Tea cups'? No: so far as we give to the community some records of the talks at our table our thoughts become public property, but the sacred personality of every Teacup must be properly respected. If any wonder at the presence of one of our number, whose eccentricities might seem to render him an undesirable associate of the company, he should remember that some people may have relatives whom they feel bound to keep their eye on; besides, the cracked Tea cup brings out the ring of the sound ones as nothing else does. Remember also that the soundest teacup does not always hold the best tea, nor the cracked teacup the worst."

I borrowed from the Library of the Royal Asiatic Society a book by G. C. Stent called "Entombed Alive,' and other songs and ballads, from the Chinese," as I thought there might be something about *Tea*, and I was not mistaken. There is a long poem on an earthen teapot that was made out of a murdered man's ashes, and that considerably startled its purchaser; for he was just going to use it "when a voice from within, Roared out 'Don't begin! That's my nose! What the deuce are you doing?" I may give you the whole of it some day, but at present I merely give the tea-extracts from another funny poem called "Inverted Facts," which tells you that "Killing a man is not considered a crime—so long as you kill him but *once at a time*." The following refer to tea :—

When a person gets tipsy it's always on tea;
The favourite perch of a mule is a tree.
* * * *

The tiger's an insect it lives in the sea,
Its chief occupation is gathering tea.
* * * *

If you wish to make tea, that is easily done,
Boil your water at night in the shade of the sun.
* * * *

A cat is a dog, and young kittens are pups;
Plates are tea-pots and kettles, but chopsticks are cups.

I have already sent you many slang terms connected with Tea. Here are some more. *Black tea pot*, A Negro footman. *Bun-struggle, bun-worry*, (military). A tea-meeting given to soldiers. And in Studenten-Sprache (German student's slang) *kondition* is Café, Thee-Gesellschaft (Coffee or Tea-meeting) Auf den Thee kommen, Von einer sache übel weg kommen (to come off badly from an affair.) The following instances of the use of *cat-lap* and *cold tea* are quoted from J. S. Farmer's 'slang and its analogues.'

CAT-LAP. 1824. Scott. Redgauntlet. Ch. xiii. "We have tea and coffee aboard . . . You are at the age to like such *cat-lap*." 1864. M. E. Braddon. Aurora Floyd. Ch. xvii. "I've washed the tea for 'ee" said the 'softy,' I thought you'd like a coop. "The Mariner shrugged his shoulders." "I can't say I'm particular attached to the *cat lap*," he said laughing.

COLD TEA. 1690. Dict. Cant. Crew. *Cold Tea*-Brandy. 1693. *Remonstrance of the bachelors* in *Harl. Misc* (ed. Park) iv. 505. "Since their sex has been so familiar with brandy (blasphemed by the name of *cold tea*.) 1838. C. J. Dumphie. *The Chameleon*. 235. It is worthy of remark that cold tea was a slang name for brandy in the 16th century."

Even as the Chinese have their Lie Tea, so I shall, I fear, under cover of my title smuggle in many a paragraph that has little resemblance to tea, but it may be taken as the sugar or milk, which some people cannot take their tea without. In Crowther's Yoruba (West African) Vocabulary the word OYA is said to mean "The wife of Thunder, a goddess to whom the river Niger is dedicated, which therefore is called Odò oya." Doesn't it remind one of our lovely Nanu Oya, which is the name by-the-bye, wherewith I have called our new house in Hampstead.

A. M. FERGUSON.

ECONOMIC PLANTS IN SOUTHERN INDIA.

From the latest Report of M. A. Lawson, Esq., Government Botanist and Director of Government Cinchona Plantations, &c., Nilgiris, we quote as follows :—

POLYGONUM SACHALINENSE.—This has been cracked up in many quarters a a fodder yielding an enormous crop. It is said that it will yield 95 to 190 tons of green stuff an acre per annum. But these figures cannot be taken seriously. There are many *Polygonums* on these hills, such as *P. rude, P. Nepalense, P. Chinense*, &c., which cattle eat freely, either fresh or when converted into silage; but they are all said to have a tendency to scour the animals when fed solely upon them.

CASSIA AURICULATA.—Messrs. Cooper, Allen and Co., of Cawnpore, asked for information respecting the cultivation of the *Cassia auriculata*, and were told that, so far as was known in this department the plan twas never cultivated, but was obtained as a minor forest product; but that if they wished to cultivate it, it was believed that it would not need irrigation, as in a wild state it grows in hot dry places. It was also pointed out to Messrs. Cooper, Allen and Co. that if they undertook its cultivation, they should allow it to grow for several years before barking the shrubs; as Mr. Cooper's analyses had conclusively proved that the bark taken from old stems was many times richer in tainning than that taken from young stems or branches.

IPOMŒA CYMOSA.—The District Forest-officer, Chingleput, sent specimens of a plant which was identified as the *Ipomœa cymosa*, called in Tamil *Pundi kodi*, and the fibres of the roots of which are said to be used extensively in the Chingleput district for making brushes used in white-washing.

RUBBER.—In January last Messrs. Raju and Co., a Madras firm, wrote for information respecting India-rubber. They wanted to know where it could be obtained in large quantities for commercial purposes. They were informed that beyond the production of an inferior kind which could be had from the Wynaad and Malabar, no rubber was produced in the Madras Presidency; and that their best plan was, therefore, to address the Conservator of Forests, Assam, where the better sorts are produced from the *Ficus elastica*. A specimen of the rubber from trees in the Wynaad was forwarded to them to experiment upon. They sent this sample to their agents in Europe, who reported that it was not a desirable article, and the utmost it might fetch in the London market was one penny a pound, so that for the present at least this inferior commercial product of Southern India may be regarded as lying outside the pale of all markets.

COFFEE HYBRIDS.—In July last a gentleman interested in coffee planting in the Wynaad asked if the Arabian coffee (*Coffea Arabica*) and the Liberian coffee (*Coffea Liberica*) when planted side by side would produce a hybrid that would be more likely to resist the attacks of *Hemeilia vastatrix* than either of the parents. It is not likely that this would be the case but it is a point which experiment alone could settle. Further, in the long run it is not likely that the Liberian coffee will prove any more immune to the attacks of the *Hemeilia* than the Arabian coffee.

RUBBER-YIELDING TREES.—In February last the *Ceara* and *Castilloa* trees growing in the Barliyar Gardens were again tapped, but with the most dis-

appointing results; neither of these trees would bleed freely; and the rubber contained in the latter was proportionately very meagre, though when purified by Mr. Hooper it was said by him to be of an exceptionally fine quality. The *Castilloa* operated upon is now over twelve years old, and the *Ceara* over sixteen, and both large trees. It would be well if Government was to apply to the Chief Commissioner of Assam for the loan of the services of an expert rubber-tapper; as it would then be settled, once for all, whether, or not, the want of success is due to the unskilfulness of the operator. If Government sanction this proposal, the best time for the rubber-tapper to be sent would be about the end of January, or the beginning of February.

Bluegum Oil.—The distillation of this oil in the Government Gardens has almost ceased, as it is now manufactured by private persons in sufficient quantities to supply all the demands of the Medical Stores Departments of Madras and Bombay and of private persons, and can be had wholesale from them at the rate of R2—4—0 to R2—8—0 per lb. The ten pounds of bluegum oil manufactured by Mr. Wallace, and mentioned in the last year's report as having been sent to the Imperial Institute, have just been reported upon by Sir Frederick Abel, whose letter upon the subject is as follows:—I have the honour to inform you that the Eucalyptus oil (No. 2924-93) prepared upon an experimental scale by the Government Botanist at Ootacamund has been submitted to two well known London firms (Messrs. Allan and Hanbury of Plough Court, Lombard Street and Bethnal Green, and Messrs. Figgis and Co., of 44, Frenchurch Street, E C.) for examination and report. The opinions of both the above named firms are favorable to the quality of the oil, which is considered likely to compete successfully with the many brands of oil from the Eucalyptus globulus, which are offered for sale in the London market. Messrs. Allan and Hanbury, however, notice the dark colour of the oil as being likely to effect its sale unfavourably; and I would, therefore, suggest that the attention of the Government Botanist at Ootacamund should be drawn to the importance of remedying that defect in future consignments. The value of the soil has been estimated by Messrs. Figgis and Co. at 1s 3d. to 1s. 6d. per lb., or perhaps even a little more.

Gaultheria Fragrantissima.—In July last the proprietors of a distillery at South Arcot asked if they could be supplied from these hills with the flowers of this plant, as they wished to distil the oil from them in order to mix it with their methylated spirit instead of oil distilled from rubber. The oil is not distilled from the flowers but from the leaves, of which an unlimited supply could be collected on the Nilgiris; but the oil extracted from them would not take the place of that distilled from rubber, as instead of making the spirit nauseous, it would give it, if anything a pleasant flavour.

Gum tragacanth and Gum ammoniacum.—A gentleman residing near Nedivattam asked the Board of Revenue to procure him the seed of the plants which produce the gum *tragacanth* and gum *ammoniacum* from the Consuls, or other English officials in Persia. The question as to whether they would be likely to grow in this region satisfactorily was referred by the Board to this department. The gum *ammoniacum* is the product of two species of *Dorema* and the gum *tragacanth* is collected from several species of *astragali*, all are lovers of high elevations, where the climate is hot and dry in summer and cold in winter. None of them would be likely to prove profitable on the western side of the Nilgiri plateaux, though they might possibly do better on the northern and eastern slopes.

Ipecacuanha.—In last year's report, page 5, paragraph 11, it was stated that a packet of seed was sent by Mr. Malcolm of the Vellera Mullays, who had collected it from the plants which had been sent to him in 1888. The seed was sown in one of the hot-houses in the Government Gardens, Ootacamund its germination was very slow, several months elapsing before the first seedling showed itself above the soil. There are in stock now 430 healthy young plants, which are growing vigorously; the majority will be sent to Mr. Malcolm, who intends increasing his plantation. The reports sent in by those to whom plants have been sent are, as usual, very varying. Mr. Hadfield, District Forest-officer, Nilambur, writes: "I have the honour to report that the Ipecacuanha plants are not doing well down here. They frequently die down and spring up again. There is something radically wrong with them. There are only 186 that look fairly healthy, 20 are sickly and 44 have died down, but may sprout up again." "Mr. Malcolm of the Vallera Mullays writes that his '*Ipecacuanha*' plants seem to have come to a standstill during the past year, so perhaps it is time to take them up and see what the results will be." Mr. F. Mackenzie of Atgram Sylhet writes that the *Ipecacuanhas*, which he had in January 1893 have come on so well, that he would be greatly obliged if 100 more could be sent to him. From Mr. Hadfield's report of 1892-93 it will be seen that the *Ipecacuanha* put out in 1884 are from two to three feet in height and are very thriving, from which it would appear that when grown in suitable places and under proper conditions, the cultivation of this plant may yet be expected to prove successful.

Erythroxylon Coca.—In accordance with the orders contained in G.O., No. 1,232, of 21st March 1894, Revenue, and G.O., No. 1,736, dated the 2nd May 1894, Revenue, fifty plants will be put out during the forthcoming season in the experimental garden at Gudalur; about two thousand cuttings are now being raised in the hot houses in the Government Gardens at Ootacamund, half of which may be expected to grow into plants fit for planting out in July 1895. The coca fruit freely and can be grown readily from cuttings, so that in a very few years a large area can be placed under cultivation. A present, it is not known to be attacked by any disease. Mr. Hooper some years ago made a small quantity of the hydrochlorate of cocaine, and reported that it could be easily manufactured in the Medical Stores Department, Madras; a sample of the chlorate, which he made, was sent to Dr. Drake-Brockman, formerly Superintendent of the Ophthalmic Hospital, Madras, who reported upon it favorably. There can be no doubt but that the *Erythroxylon coca* can be grown in abundance on the Nilgiris; but it is not likely that it would prove remunerative to planters (1) because so little of the drug *Cocaine* is used, and (2) because such an enormous number of the leaves (which have to be very carefully prepared) are required for the extraction of one pound (three to four hundred pounds of dried leaf being needed to produce one pound of *Cocaine*.

Jalap Ipomoea purya.—In May last two thousand pounds of dried jalap tuber were supplied to the Madras Medical Stores Department for R1,510, or at the rate of twelve annas per pound, the London market rate, at the period, being one shilling and six pence, or at the then rate of exchange one rupee three annas and four pies. The ground under cultivation was too small to yield so heavy a crop, and the result is that this year only five hundred pounds of the dry tuber have been lifted. No ring disease, such as that mentioned by Mr. W. Gollan, Superintendent, Botanical Gardens, Saharanpore in his report for the year 1892-93 has as yet been observed in any of the tubers, although it is too frequently met with in potatoes grown on land on all sides. The chief enemy to jalap, so far, has been the common earth-rat.

Radix Taraxaci.—195 lb. of Dandelion root was supplied to the Bombay Medical Stores Department for R84 7-0 or at the rate of six annas a pound. The Bombay Medical Department asked for 224 lb. but the extra 29 could not be procured. The roots were collected from wild plants; this year half an acre or thereabouts on the land adjoining the Crewe Hall estate has been broken up and will be planted during the present season with seedlings, which have been raised in the Goverment Gardens.

THE FARMER AND MODERN INVENTIONS.

In modern life one of the most striking features that has been and is being developed more and more rapidly is the interdependence of the members of the human family. As the population increases, the hermit or quasi-hermit life so frequent years ago, when the farmer for months in the winter saw hardly any faces except those of his own family, and when he conducted his farming operations in almost complete independence of the rest of the world, is fast becoming an impossibility. In old times the farm was a self-supporting world in itself. The wells, springs and cisterns supplied water; the domestic animals got all their food from it, and it produced its own fertilisers. By rotation of crops, by letting land lie fallow, and by the use of fertilising material produced on the farm, the land was kept fertile. Rain descended from the clouds without any human agency. Now the conditions are very different. The farmer's children wish to compete with city children in education and in general culture. But outside of the personal aspect, of which this is but one element, modern conditions affect his life in a much broader sense. The tendency now is to work the soil in large areas devoted to a single crop, and to use machinery in all farming operations. For many years past the American inventor has been busy inventing most ingenious machines for cultivating the ground, for sowing the seed, and for harvesting the crops. On account of the inventor's work the Western farms, with fields of wheat reaching to the horizon, cultivated by steam-drawn ploughs, and whose crops are harvested by great machines drawn by teams of many horses, have become a possibility. The great cereal crop of the United States is due to the mechanical inventor.

In the same order of things is the modern fertiliser. For different crops different fertilisers are made in factories. As the great natural sources of phosphoric acid were overdrawn, the European agriculturist has utilised the finely ground slag of the basic steel process. The farmer depends no longer on his barn yard, but purchases his plant food in the most approved form, made in factories from the most unpromising sources of supply The Atlantic coast is patrolled by steamers whose occupation is the catching of menhaden or bony fish. After the oil is extracted from these fish, the farmer has a claim on what is left as a source of nitrogen for his crops. South American nitrate of soda is another source of nitrogen. The German mines supply him with his potash, and the blending of all the elements is effected in the feriliser factories, whose process are guided by the most exact chemical analyses of their materials. Even in the matter of local transportation the farmer is being taken care of. The electric road, to whose operations, heedless of vested rights, so many highways have been surrendered, bids fair to revolutionise the aspects of rural life. It is believed by many that the electric road will eventually haul the farmer's products to the cities or railroad stations, and the improvement of country roads has actually been discouraged by those who believe in the highest development of this form of traction.

Where the process of development of modern life will end, it is hard to see. The farmer, who would seem to be the last to be subjected to modern scientific advancements, is really, speaking relatively, the one most affected. Mechanical, chemical, and electrical science have changed his entire status. Among inventors the farm is recognised as the field for most useful work in invention. Man may yet learn to dispense with call, and the steam-engine may be relegated to the past. The self-contained energies of the cosmic system may yet be used to replace the motor which during the last decades has replaced them. Windmills and water-wheels represent the utilisation of cosmic energy, and mankind may yet be driven to a more extensive use of the mechanical powers of nature. But for food production, it seems as if the soil for many years to come must be the only resource. Synthetic chemistry has to make enormous advances before it can produce palatable food. Already it has done something in producing glucose and saccharine as sugar substitutes, but until the synthesis on the large scale of carbon and hydrogen is effected, the synthetic chemisty will be inchoate. In the modern march of progress the farmer will hold his own. The changes in his processes, the abolishment of the quiet rural life, and of the farm as an almost self-contained unit of existence, are brought about by the devotion to his interests of the enlightenment of the world, and the world in its turn is more and more dependent on him.—*Scientific American.*

ECHOES OF SCIENCE.

Mr. Alexander McAdie, of the U. S. Department of Agriculture, states in a report just published that the danger from lightning is five times greater in the country than in a town. He recommends that the lightning rod, where it passes near gas or water mains, should be connected to them by soldered wire, and he prefers for the rod an independent connection with the earth or ground by an "earth-plate," to a connection by a water or gas pipe. Another recommendation, which we heartily endorse, and which cannot be too well known is that every person struck by lightning, and to all appearance dead, should be treated like a drowned person, and every effort made to restore him or her to life by artificial respiration and stimulating the circulation for an hour at least. Experiment and experience have shown that persons apparently killed by lightning and the electric shock are not always really dead, but in a condition of suspended animation. Probably many lives have been lost heretofore by mere ignorance of this fact, both in the case of lightning stroke and the electric shock.

Humboldt, the great German traveller and naturalist, argued with much force that ancient Mexican civilisation showed an Asiatic influence, and, as Dr. E. B. Tylor has recently pointed out, the Aztec picture writing of the Soul's Journey the Land of Spirits, as given in the Vatican Codex, is almost identical with scenes of the Buddhist purgatory in Japanese temples. The Aztec represented the soul crossing a river, then passing between two mountains that clashed together, then climbing a mountain bristling with knives of obsidian, and exposed to danger from other knives, hurled through the air. The Japanese depicts the soul wading across a river, then passing between two iron mountains which are pushed together by demons, then climbing a mountain of knives, and also blades flying through the air. For our own part, we think few can compare the human features to be seen on some Central American monuments in the South Kensington Museum with those of Japan without being struck with their remarkable likeness; and when we remember that even in historical times Japanese and other Asiatics have been driven by stress of weather to the West Coast of America, we need not be surprised at the fact.

Olivine is a neutral oil which does not become rancid, and of vegetable origin. Since its recent introduction, it has superseded olive oil in many quarters, not only for lubrication mechanism, but in perfumery, pharmacy, and so on. It comes from Marseilles, and its use is extending rapidly in France, Belgium, Germany, and the Levant.—*Globe.*