

the delicate stem forces its way with difficulty through the dense brushwood, and rises a "tall and slender tree, varying from ten to twenty feet in height, and mostly under an inch in diameter, with its branches high up," and with large delicate leaves from four to nine inches long. So that these slender trees, as remarked by Mr. Bruce, when deprived of their support from the surrounding jingle,—which in some instances had been cut down,—seemed scarcely capable of sustaining their own weight. One of the largest trees Mr. Bruce found to be two cubits in circumference, and full forty cubits in height but he supposed that few attained that size.

The objections to Darjeeling apply, in a greater measure, to Kumaon—the latitude being higher. The elevation of Dehra Dhoon is not great—some 2000 feet—and so far is unobjectionable, but it partakes of the general character of the North Western climate, and lacks the moist heat of Bengal. Kumaon and Oude, again, are too dry for tea; the rainy season not commencing in those districts till July.

The climate of Chittagong, in one respect, is inferior to that of its rivals, Assam and Cachar, in as much as the rain is at times too heavy, and is on this account not so favorable as the generally lighter falls of Assam and Cachar, but more especially of the former. The climate found the most suitable at Java for the cultivation of tea, is that of the mountainous regions situated at 3,500 to 4000 feet above the sea; where the air is so cool that Fahrenheit's thermometer at sun-rise indicates 58° in the morning; and 70° at two o'clock in the afternoon. On still higher elevations, even 5,000 feet and more, the tea will be highly flavored; but in lower districts the flavor deteriorates as the situation is low.

A good tea soil should combine the three qualities of lightness, friability and richness; enough sand should be in it to prevent its "caking" or "balling," and yet not enough to prevent the adhesion of its component parts when wetted.

Mr. Jacobson states that the tea plant requires a moist soil, but still one where water filters freely.\* Mr. Bruce† also

\* The same writer is of opinion that a "temperature" and moderately fertile soil is the best for tea. This he says may consist of a half or two thirds of a foot of rich decayed vegetable matter or humus (which he also terms *moer-aarde* (peat-earth?) with a substratum of a compact crown clay earth, which is sometimes termed mountain ground, not rich but by no means poor, and which is of an adhesive character without sticking, when rolled between the forefinger and thumb. Mr. Gordon, who seems an acute observer, and whose description of the tea plantations he saw at Amoy is exceedingly valuable, comes to the conclusion that the tea plant needs absolutely a free soil, not wet and not dry, but of a texture to retain moisture, and the best site is one not so low as that at which water is apt to spring from the sides of the hill, nor so high as to be exposed to the violence of stormy weather.

† The discoverer of the tea tree in Assam.

observes "that one thing is worth of notice, that all the Assam tea grows near water, of which it appears to be very fond, for wherever there is a small stream or jheel, tea is sure to be there."

The perfection of soil exists in the Himalayas. There is nothing in Assam, Cachar, or Chittagong to equal the richness and depth of the vegetable deposit which has resulted from the gradual decay of the vast jungles of oak and rhododendrons that grow in such dense profusion on the lower slopes of the Himalayan ranges.

To enter into a detailed examination of the numerous expedients adopted by tea planters in the endeavour to carry out some pet system of their own, for there can hardly be found two factories where the process of manufacture is the same, would much exceed the limits of a short essay like the present. We shall therefore mention a few particulars relative to the preparation of the soil, and mode of planting, and then proceed to describe the manner in which the leaf is prepared previous to its becoming the tea of commerce.

It will be advisable to name here, (for the benefit of those whose knowledge of tea is confined to the aroma and taste of the infusion in their tea-cups,) the three known varieties or species of the tea plant—they are: the 'Indigenous,' which is still met with in Cachar, and in the adjoining province of Assam; the China species, chiefly cultivated in Kumaon and the Kanga valley; and the 'Hybrid,' which as its name indicates, combines the nature and qualities of the two first mentioned. The tea made from the indigenous shrub, speaking generally, is darker in the infusion it gives, much stronger, but not equal in delicacy of flavor to what is produced by the China plant. The hardihood of the two, again, is very different; the China shrub will stand great cold, (15 degrees below freezing will not injure it when it has once fairly taken root,) while the indigenous shrivels up at the least approach of frost.

When we compare the system of tea culture prevailing in China with that which is in vogue in British India, we find there is a wide difference between the two. In the former country each peasant or farmer grows a few shrubs on the land attached to his dwelling,—often in hedges between his fields,—commonly allotting such ground to their growth as is unproductive, hilly, or otherwise unprofitable; whereas in India the cultivation of tea is invariably undertaken on a large scale, the land and position carefully selected, and in many instances considerable science displayed in the management of the plantation. Still the probability is, that every province of the Celestial Empire, by means of its sheltered vallies is enabled to con-

tribute largely to its own domestic consumption; and thus possesses an advantage over Hindoostan, where the excessive heat of the climate and frequent long periods of drought, render the cultivation of tea a matter of great difficulty, save in certain districts which are well watered and at a considerable elevation above the plains.

From a prize essay on the cultivation and manufacture of tea in Cachar, in which the subject is most accurately described, (evidently from personal observation), we must beg leave to make some few quotations—and firstly: in regard to the preparation of the soil, the writer says that "the land should be hoed to a depth of 18 inches and a hole one foot deep and nine inches broad, should be dug for the reception of the transplant. The best mode of sowing the seeds he states, is by depositing a layer broadcast as close as the seeds will lie, and sprinkling them with soil to the depth of an inch, to be again succeeded by a layer of seed and an inch of soil." Then the surface should be lightly covered with mats, in order to prevent the seed from germinating too quickly, for the object is merely to swell the seed prior to permanently planting.

The time for forming nurseries is November, and they should be made on as level and low a site as possible; to be near water. The Hybrid and China seeds should be sown in rows four inches apart, but indigenous seeds should be sown five inches apart each way, to allow of their removal without injury to the roots. The best time for transplanting is that in which a drizzling rain is falling, or even a dull cloudy day with the prospect of rain. The pruning should be performed by trimming with the knife, (in preference to the shears, which unless used by those who thoroughly understand them, only break and jag the plant,) so as to give the lateral branches an upward tendency; all straggling branches should be closely trimmed, and a conical form given to the plant; the middle of the tree will then throw out a number of dark green succulent shoots, which should not be plucked until they are about nine inches high; if plucked before, there will be no young and green wood for the flushes of leaf to break out from. By pruning is here meant freeing the shrubs from dirt, dust and larvae of insects, and dead leaves, in addition to cutting and heading back. The plucking season commences about the end of April, and continues till the end of October, during which time a series of flushes occurs at intervals of twelve or fifteen days, according to the state of the weather; and thus twelve crops of leaf may be gathered in one season. The plant should not be plucked before the third year, and then only very lightly,