

# SAMUEL WHITE BAKER

EIGHT YEARS'

WANDERINGS IN CEYLON

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# Sir Samuel White Baker

## Eight Years' Wanderings in Ceylon

### CHAPTER I

Colombo—Dullness of the Town—Cinnamon Garden—A Cingalese Appo—Ceylon Sport—Jungle Fever—Newera Ellia—Energy of Sir E. Barnes—Influence of the Governor—Projected Improvements.

It was in the year 1845 that the spirit of wandering allured me toward Ceylon: little did I imagine at that time that I should eventually become a settler.

The descriptions of its sports, and the tales of hairbreadth escapes from elephants, which I had read in various publications, were sources of attraction against which I strove in vain; and I at length determined upon the very wild idea of spending twelve months in Ceylon jungles.

It is said that the delights of pleasures in anticipation exceed the pleasures themselves: in this case doubtless some months of great enjoyment passed in making plans of every description, until I at length arrived in Colombo, Ceylon's seaport capital.

I never experienced greater disappointment in an expectation than on my first view of Colombo. I had spent some time at Mauritius and Bourbon previous to my arrival, and I soon perceived that the far-famed Ceylon was nearly a century behind either of those small islands.

Instead of the bustling activity of the Port Louis harbor in Mauritius, there were a few vessels rolling about in the roadstead, and some forty or fifty fishing canoes hauled up on the sandy beach. There was a peculiar dullness throughout the town—a sort of something which seemed to say, "Coffee does not pay." There was a want of spirit in everything. The ill-conditioned guns upon the fort looked as though not intended to defend it; the sentinels looked parboiled; the very natives sauntered rather than walked; the very bullocks crawled along in the midday sun, listlessly dragging the native carts. Everything and everybody seemed enervated, except those frightfully active people in all countries and climates, "the custom-house officers:" these necessary plagues to society gave their usual amount of annoyance.

What struck me the most forcibly in Colombo was the want of shops. In Port Louis the wide and well-paved streets were lined with excellent "magasins" of every description; here, on the contrary, it was difficult to find anything in the shape of a shop until I was introduced to a soi-disant store, where everything was to be purchased from a needle to a crowbar, and from satin to sail-cloth; the useful predominating over the ornamental in all cases. It was all on a poor scale and after several inquiries respecting the best hotel, I located myself at that termed the Royal or Seager's Hotel. This was airy, white and clean throughout; but there was a barn-like appearance, as there is throughout most private dwellings in Colombo, which banished all idea of comfort.

A good tiffin concluded, which produced a happier state of mind, I ordered a carriage for a drive to the Cinnamon Gardens. The general style of Ceylon carriages appeared in the shape of a caricature of a hearse: this goes by the name of a palanquin carriage. Those usually hired are drawn by a single horse, whose natural vicious propensities are restrained by a low system of diet.

In this vehicle, whose gaunt steed was led at a melancholy trot by an equally small-fed horsekeeper, I traversed the environs of Colombo. Through the winding fort gateway, across the flat Galle Face (the race-course), freshened by the sea-breeze as the waves break upon its western side; through the Colpettytopes of cocoanut trees shading the road, and the houses of the better class of European residents to the right and left; then turning to the left—a few minutes of expectation—and behold the Cinnamon Gardens!

What fairy-like pleasure-grounds have we fondly anticipated! what perfumes of spices, and all that our childish imaginations had pictured as the ornamental portions of a cinnamon garden!

A vast area of scrubby, low jungle, composed of cinnamon bushes, is seen to the right and left, before and behind. Above, is a cloudless sky and a broiling sun; below, is snow-white sand of quartz, curious only in the possibility of its supporting vegetation. Such is the soil in which the cinnamon delights; such are the Cinnamon Gardens, in which I delight not. They are an imposition, and they only serve as an addition to the disappointments of a visitor to Colombo. In fact, the whole place is a series of disappointments. You see a native woman clad in snow-white petticoats, a beautiful tortoiseshell comb fastened in her raven hair; you pass her—you look back—wonderful! she has a beard! Deluded stranger, this is only another disappointment; it is a Cingalese Appo—a man—no, not a man—a something male in petticoats; a petty thief, a treacherous, cowardly villain, who would perpetrate the greatest rascality had he only the pluck to dare it. In fact, in this petticoated wretch you see a type of the nation of Cingalese.

On the morning following my arrival in Ceylon, I was delighted to see several persons seated at the "table-d'hôte" when I entered the room, as I was most anxious to gain some positive information respecting the game of the island, the best localities, etc., etc. I was soon engaged in conversation, and one of my first questions naturally turned upon sport.

"Sport!" exclaimed two gentlemen simultaneously—"sport! there is no sport to be had in Ceylon!"—"at least the race-week is the only sport that I know of," said the taller gentleman.

"No sport!" said I, half energetically and half despairingly. "Absurd! every book on Ceylon mentions the amount of game as immense; and as to elephants—"

Here I was interrupted by the same gentleman. "All gross exaggerations," said he—"gross exaggerations; in fact, inventions to give interest to a book. I have an estate in the interior, and I have never seen a wild elephant. There may be a few in the jungles of Ceylon, but very few, and you never see them."

I began to discover the stamp of my companion from his expression, "You never see them." Of course I concluded that he had never looked for them; and I began to recover from the first shock which his exclamation, "There is no sport in Ceylon!" had given me.

I subsequently discovered that my new and non-sporting acquaintances were coffee-planters of a class then known as the Galle Face planters, who passed their time in cantering about the Colombo race-course and idling in the town, while their estates lay a hundred miles distant, uncared for, and naturally ruining their proprietors.

That same afternoon, to my delight and surprise, I met an old Gloucestershire friend in an officer of the Fifteenth Regiment, then stationed in Ceylon. From him I soon learnt that the character of Ceylon for game had never been exaggerated; and from that moment my preparations for the jungle commenced.

I rented a good airy house in Colombo as headquarters, and the verandas were soon strewed with jungle-baskets, boxes, tent, gun-cases, and all the paraphernalia of a shooting-trip.

What unforeseen and apparently trivial incidents may upset all our plans for the future and turn our whole course of life! At the expiration of twelve months my shooting trips and adventures were succeeded by so severe an attack of jungle fever that from a naturally robust frame I dwindled to a mere nothing, and very little of my former self remained. The first symptom of convalescence was accompanied by a peremptory order from my medical attendant to start for the highlands, to the mountainous region of Newera Ellia, the sanitarium of the island.

A poor, miserable wretch I was upon my arrival at this elevated station, suffering not only from the fever itself, but from the feeling of an exquisite debility that creates an utter hopelessness of the renewal of strength.

I was only a fortnight at Newera Ellia. The rest-house or inn was the perfection of everything that was dirty and uncomfortable. The toughest possible specimen of a beef-steak, black bread and

potatoes were the choicest and only viands obtainable for an invalid. There was literally nothing else; it was a land of starvation. But the climate! what can I say to describe the wonderful effects of such a pure and unpolluted air? Simply, that at the expiration of a fortnight, in spite of the tough beef, and the black bread and potatoes, I was as well and as strong as I ever had been; and in proof of this I started instanter for another shooting excursion in the interior.

It was impossible to have visited Newera Ellia, and to have benefited in such a wonderful manner by the climate, without contemplating with astonishment its poverty-stricken and neglected state.

At that time it was the most miserable place conceivable. There was a total absence of all ideas of comfort or arrangement. The houses were for the most part built of such unsubstantial materials as stick and mud plastered over with mortar—pretty enough in exterior, but rotten in ten or twelve years. The only really good residence was a fine stone building erected by Sir Edward Barnes when governor of Ceylon. To him alone indeed are we indebted for the existence of a sanitarium. It was he who opened the road, not only to Newera Ellia, but for thirty-six miles farther on the same line to Badulla. At his own expense he built a substantial mansion at a cost, as it is said, of eight thousand pounds, and with provident care for the health of the European troops, he erected barracks and officers' quarters for the invalids.

Under his government Newera Ellia was rapidly becoming a place of importance, but unfortunately at the expiration of his term the place became neglected. His successor took no interest in the plans of his predecessor; and from that period, each successive governor being influenced by an increasing spirit of parsimony, Newera Ellia has remained "in statu quo," not even having been visited by the present governor.

In a small colony like Ceylon it is astonishing how the movements and opinions of the governor influence the public mind. In the present instance, however, the movements of the governor (Sir G. Anderson) cannot carry much weight, as he does not move at all, with the exception of an occasional drive from Colombo to Kandy. His knowledge of the colony and of its wants or resources must therefore, from his personal experience, be limited to the Kandy road. This apathy, when exhibited by her Majesty's representative, is highly contagious among the public of all classes and colors, and cannot have other than a bad moral tendency.

Upon my first visit to Newera Ellia, in 1847, Lord Torrington was the governor of Ceylon, a man of active mind, with an ardent desire to test its real capabilities and to work great improvements in the colony. Unfortunately, his term as governor was shorter than was expected. The elements of discord were at that time at work among all classes in Ceylon, and Lord Torrington was recalled.

From the causes of neglect described, Newera Ellia was in the deserted and wretched state in which I saw it; but so infatuated was I in the belief that its importance must be appreciated when the knowledge of its climate was more widely extended that I looked forward to its becoming at some future time a rival to the Neilgherries station in India. My ideas were based upon the natural features of the place, combined with its requirements.

It apparently produced nothing except potatoes. The soil was supposed to be as good as it appeared to be. The quality of the water and the supply were unquestionable; the climate could not be surpassed for salubrity. There was a carriage road from Colombo, one hundred and fifteen miles, and from Kandy, forty-seven miles; the last thirteen being the Rambodde Pass, arriving at an elevation of six thousand six hundred feet, from which point a descent of two miles terminated the road to Newera Ellia.

The station then consisted of about twenty private residences, the barracks and officers' quarters, the resthouse and the bazaar; the latter containing about two hundred native inhabitants.

Bounded upon all sides but the east by high mountains, the plain of Newera Ellia lay like a level valley of about two miles in length by half a mile in width, bordered by undulating grassy knolls at the foot of the mountains. Upon these spots of elevated ground most of the dwellings were

situated, commanding a view of the plain, with the river winding through its centre. The mountains were clothed from the base to the summit with dense forests, containing excellent timber for building purposes. Good building-stone was procurable everywhere; limestone at a distance of five miles.

The whole of the adjacent country was a repetition Of the Newera Ellia plain with slight variations, comprising a vast extent of alternate swampy plains and dense forests.

Why should this place lie idle? Why should this great tract of country in such a lovely climate be untenanted and uncultivated? How often I have stood upon the hills and asked myself this question when gazing over the wide extent of undulating forest and plain! How often I have thought of the thousands of starving wretches at home, who here might earn a comfortable livelihood! and I have scanned the vast tract of country, and in my imagination I have cleared the dark forests and substituted waving crops of corn, and peopled a hundred ideal cottages with a thriving peasantry.

Why should not the highlands Of Ceylon, with an Italian climate, be rescued from their state of barrenness? Why should not the plains be drained, the forests felled, and cultivation take the place of the rank pasturage, and supplies be produced to make Ceylon independent of other countries? Why should not schools be established, a comfortable hotel be erected, a church be built? In fact, why should Newera Ellia, with its wonderful climate, so easily attainable, be neglected in a country like Ceylon, proverbial for its unhealthiness?

These were my ideas when I first visited Newera Ellia, before I had much experience in either people or things connected with the island. My twelve months' tour in Ceylon being completed, I returned to England delighted with what I had seen of Ceylon in general, but, above all, with my short visit to Newera Ellia, malgre its barrenness and want of comfort, caused rather by the neglect of man than by the lack of resources in the locality.

## CHAPTER II

Past Scenes—Attractions of Ceylon—Emigration—Difficulties in Settling—Accidents and Casualties—An Eccentric Groom—Insubordination—Commencement of Cultivation—Sagacity of the Elephant—Disappointments—"Death" in the Settlement—Shocking Pasturage—Success of Emigrants—"A Good Knock-about kind of a Wife".

I had not been long in England before I discovered that my trip to Ceylon had only served to upset all ideas of settling down quietly at home. Scenes of former sports and places were continually intruding themselves upon my thoughts, and I longed to be once more roaming at large with the rifle through the noiseless wildernesses in Ceylon. So delightful were the recollections of past incidents that I could scarcely believe that it lay within my power to renew them. Ruminating over all that had happened within the past year, I conjured up localities to my memory which seemed too attractive to have existed in reality. I wandered along London streets, comparing the noise and bustle with the deep solitudes of Ceylon, and I felt like the sickly plants in a London parterre. I wanted the change to my former life. I constantly found myself gazing into gunmakers' shops, and these I sometimes entered abstractedly to examine some rifle exposed in the window. Often have I passed an hour in boring the unfortunate gunmakers to death by my suggestions for various improvements in rifles and guns, which, as I was not a purchaser, must have been extremely edifying.

Time passed, and the moment at length arrived when I decided once more to see Ceylon. I determined to become a settler at Newera Ellia, where I could reside in a perfect climate, and nevertheless enjoy the sports of the low country at my own will.

Thus, the recovery from a fever in Ceylon was the hidden cause of my settlement at Newera Ellia. The infatuation for sport, added to a gypsy-like love of wandering and complete independence, thus dragged me away from home and from a much-loved circle.

In my determination to reside at Newera Ellia, I hoped to be able to carry out some of those visionary plans for its improvement which I have before suggested; and I trusted to be enabled to effect such a change in the rough face of Nature in that locality as to render a residence at Newera Ellia something approaching to a country life in England, with the advantage of the whole of Ceylon for my manor, and no expense of gamekeepers.

To carry out these ideas it was necessary to set to work; and I determined to make a regular settlement at Newera Ellia, sanguinely looking forward to establishing a little English village around my own residence.

Accordingly, I purchased an extensive tract of land from the government, at twenty shillings per acre. I engaged an excellent bailiff, who, with his wife and daughter, with nine other emigrants, including a blacksmith, were to sail for my intended settlement in Ceylon.

I purchased farming implements of the most improved descriptions, seeds of all kinds, saw-mills, etc., etc., and the following stock: A half-bred bull (Durham and Hereford), a well-bred Durham cow, three rams (a Southdown, Leicester and Cotswold), and a thorough-bred entire horse by Charles XII.; also a small pack of foxhounds and a favorite greyhound ("Bran").

My brother had determined to accompany me; and with emigrants, stock, machinery, hounds, and our respective families, the good ship "Earl of Hardwick," belonging to Messrs. Green & Co., sailed from London in September, 1848. I had previously left England by the overland mail of August to make arrangements at Newera Ellia for the reception of the whole party.

I had as much difficulty in making up my mind to the proper spot for the settlement as Noah's dove experienced in its flight from the ark. However, I wandered over the neighboring plains and

jungles of Newera Ellia, and at length I stuck my walking-stick into the ground where the gentle undulations of the country would allow the use of the plough. Here, then, was to be the settlement.

I had chosen the spot at the eastern extremity of the Newera Ellia plain, on the verge of the sudden descent toward Badulla. This position was two miles and a half from Newera Ellia, and was far more agreeable and better adapted for a settlement, the land being comparatively level and not shut in by mountains.

It was in the dreary month of October, when the south-west monsoon howls in all its fury across the mountains; the mist boiled up from the valleys and swept along the surface of the plains, obscuring the view of everything, except the pattering rain which descended without ceasing day or night. Every sound was hushed, save that of the elements and the distant murmuring roar of countless waterfalls; not a bird chirped, the dank white lichens hung from the branches of the trees, and the wretchedness of the place was beyond description.

I found it almost impossible to persuade the natives to work in such weather; and it being absolutely necessary that cottages should be built with the greatest expedition, I was obliged to offer an exorbitant rate of wages. In about fortnight, however, the wind and rain showed flags of truce in the shape of white clouds set in a blue sky. The gale ceased, and the skylarks warbled high in air, giving life and encouragement to the whole scene. It was like a beautiful cool mid-summer in England.

I had about eighty men at work; and the constant click-clack of axes, the felling of trees, the noise of saws and hammers and the perpetual chattering of the coolies gave a new character to the wild spot upon which I had fixed.

The work proceeded rapidly; neat white cottages soon appeared in the forest; and I expected to have everything in readiness for the emigrants on their arrival. I rented a tolerably good house in Newera Ellia, and so far everything had progressed well.

The "Earl of Hardwick" arrived after a prosperous voyage, with passengers and stock all in sound health; the only casualty on board had been to one of the hounds. In a few days all started from Colombo for Newera Ellia. The only trouble was, How to get the cow up? She was a beautiful beast, a thorough-bred "shorthorn," and she weighed about thirteen hundredweight. She was so fat that a march of one hundred and fifteen miles in a tropical climate was impossible. Accordingly a van was arranged for her, which the maker assured me would carry an elephant. But no sooner had the cow entered it than the whole thing came down with a crash, and the cow made her exit through the bottom. She was therefore obliged to start on foot in company with the bull, sheep, horse and hounds, orders being given that ten miles a day, divided between morning and evening, should be the maximum march during the journey.

The emigrants started per coach, while our party drove up in a new clarence which I had brought from England. I mention this, as its untimely end will be shortly seen.

Four government elephant-carts started with machinery, farming implements, etc., etc., while a troop of bullock-bandies carried the lighter goods. I had a tame elephant waiting at the foot of the Newera Ellia Pass to assist in carrying up the baggage and maidservants.

There had been a vast amount of trouble in making all the necessary arrangements, but the start was completed, and at length we were all fairly off. In an enterprise of this kind many disappointments were necessarily to be expected, and I had prepared myself with the patience of Job for anything that might happen. It was well that I had done so, for it was soon put to the test.

Having reached Ramboddé, at the foot of the Newera Ellia Pass, in safety, I found that the carriage was so heavy that the horses were totally unable to ascend the pass. I therefore left it at the rest-house while we rode up the fifteen miles to Newera Ellia, intending to send for the empty vehicle in a few days.

The whole party of emigrants and ourselves reached Newera Ellia in safety. On the following day I sent down the groom with a pair of horses to bring up the carriage; at the same time I sent down the elephant to bring some luggage from Ramboddé.

Now this groom, "Henry Perkes," was one of the emigrants, and he was not exactly the steadiest of the party; I therefore cautioned him to be very careful in driving up the pass, especially in crossing the narrow bridges and turning the corners. He started on his mission.

The next day a dirty-looking letter was put in my hand by a native, which, being addressed to me, ran something in this style:

"Honord Zur

"I'm sorry to hinform you that the carrige and osses has met with a haccidint and is tumbled down a preccippice and its a mussy as I didn't go too. The preccippice isn't very deep bein not above heighy feet or therabouts—the hosses is got up but is very bad—the carrige lies on its back and we can't stir it nohow. Mr. – is very kind, and has lent above a hunderd niggers, but they aint no more use than cats at liftin. Plese Zur come and see whats to be done.

*"Your Humbel Servt,*

*"H. PERKES."*

This was pleasant, certainly—a new carriage and a pair of fine Australian horses smashed before they reached Newera Ellia!

This was, however, the commencement of a chapter of accidents. I went down the pass, and there, sure enough, I had a fine bird's-eye view of the carriage down a precipice on the road side. One horse was so injured that it was necessary to destroy him; the other died a few days after. Perkes had been intoxicated; and, while driving at a full gallop round a corner, over went the carriages and horses.

On my return to Newera Ellia, I found a letter informing me that the short-horn cow had halted at Amberpussé, thirty-seven miles from Colombo, dangerously ill. The next morning another letter informed me that she was dead. This was a sad loss after the trouble of bringing so fine an animal from England; and I regretted her far more than both carriage and horses together, as my ideas for breeding some thorough-bred stock were for the present extinguished.

There is nothing like one misfortune for breeding another; and what with the loss of carriage, horses and cow, the string of accidents had fairly commenced. The carriage still lay inverted; and although a tolerable specimen of a smash, I determined to pay a certain honor to its remains by not allowing it to lie and rot upon the ground. Accordingly, I sent the blacksmith with a gang of men, and Perkes was ordered to accompany the party. I also sent the elephant to assist in battling the body of the carriage up the precipice.

Perkes, having been much more accustomed to riding than walking during his career as groom, was determined to ride the elephant down the pass; and he accordingly mounted, insisting at the same time that the mahout should put the animal into a trot. In vain the man remonstrated, and explained that such a pace would injure the elephant on a journey; threats prevailed, and the beast was soon swinging along at full trot, forced on by the sharp driving-hook, with the delighted Perkes striding across its neck, riding, an imaginary race.

On the following day the elephant-driver appeared at the front door, but without the elephant. I immediately foreboded some disaster, which was soon explained. Mr. Perkes had kept up the pace for fifteen miles, to Ramboddé, when, finding that the elephant was not required, he took a little refreshment in the shape of brandy and water, and then, to use his own expression, "tooled the old elephant along till he came to a standstill."

He literally forced the poor beast up the steep pass for seven miles, till it fell down and shortly after died.

Mr. Perkes was becoming an expensive man: a most sagacious and tractable elephant was now added to his list of victims; and he had the satisfaction of knowing that he was one of the few men in the world who had ridden an elephant to death.

That afternoon, Mr. Perkes was being wheeled about the bazaar in a wheelbarrow, insensibly drunk, by a brother emigrant, who was also considerably elevated. Perkes had at some former time lost an eye by the kick of a horse, and to conceal the disfigurement he wore a black patch, which gave him very much the expression of a bull terrier with a similar mark. Notwithstanding this disadvantage in appearance, he was perpetually making successful love to the maidservants, and he was altogether the most incorrigible scamp that I ever met with, although I must do him the justice to say he was thoroughly honest and industrious.

I shortly experienced great trouble with the emigrants; they could not agree with the bailiff, and openly defied his authority. I was obliged to send two of them to jail as an example to the others. This produced the desired effect, and we shortly got regularly to work.

There were now about a hundred and fifty natives employed in the tedious process of exterminating jungle and forest, not felling, but regularly digging out every tree and root, then piling, and burning the mass, and leveling the cleared land in a state to receive the plough. This was very expensive work, amounting to about thirty pounds per acre. The root of a large tree would frequently occupy three men a couple of days in its extraction, which, at the rate of wages, at one shilling per diem, was very costly. The land thus cleared was a light sandy loam, about eighteen inches in depth with a gravel subsoil, and was considered to be far superior to the patina (or natural grass-land) soil, which was, in appearance, black loam on the higher ground and of a peaty nature in the swamps.

The bailiff (Mr. Fowler) was of opinion that the patina soil was the best; therefore, while the large native force was engaged in sweeping the forest from the surface, operations were commenced according to agricultural rules upon the patinas.

A tract of land known as the "Moon Plains," comprising about two hundred acres, was immediately commenced upon. As some persons considered the settlement at Newera Ellia the idea of a lunatic, the "Moon Plain" was an appropriate spot for the experiment. A tolerably level field of twenty acres was fenced in, and the work begun by firing the patina and burning off all the grass. Then came three teams, as follows:

Lord Ducie's patent cultivator, drawn by an elephant; a skim, drawn by another elephant, and a long wood plough, drawn by eight bullocks.

The field being divided into three sections, was thus quickly pared of the turf, the patent cultivator working admirably, and easily drawn by the elephant.

The weather being very dry and favorable for the work, the turf was soon ready for burning; and being piled in long rows, much trouble was saved in subsequently spreading the ashes. This being completed, we had six teams at work, two horse, two bullock, and two elephant; and the ploughing was soon finished. The whole piece was then sown with oats.

It was an interesting sight to see the rough plain yielding to the power of agricultural implements, especially as some of these implements were drawn by animals not generally seen in plough harness at home.

The "cultivator," which was sufficiently large to anchor any twenty of the small native bullocks, looked a mere nothing behind the splendid elephant who worked it, and it cut through the wiry roots of the rank turf as a knife peels an apple. It was amusing, to see this same elephant doing the work of three separate teams when the seed was in the ground. She first drew a pair of heavy harrows; attached to these and following behind were a pair of light harrows, and behind these came a roller. Thus the land had its first and second harrowing at the same time with the rolling.

This elephant was particularly sagacious; and her farming work being completed, she was employed in making a dam across a stream. She was a very large animal, and it was beautiful to witness her wonderful sagacity in carrying and arranging the heavy timber required. The rough trunks of trees from the lately felled forest were lying within fifty yards of the spot, and the trunks required for the dam were about fifteen feet long and fourteen to eighteen inches in diameter. These she carried in her mouth, shifting her hold along the log before she raised it until she had obtained the exact

balance; then, steadying it with her trunk, she carried every log to the spot, and laid them across the stream in parallel rows. These she herself arranged, under the direction of her driver, with the reason apparently of a human being.

The most extraordinary part of her performance was the arranging of two immense logs of red keenar (one of the heaviest woods). These were about eighteen feet long and two feet in diameter, and they were intended to lie on either bank of the stream, parallel to the brook and close to the edge. These she placed greatest with the care in their exact positions, unassisted by any one.<sup>1</sup> She rolled them gently over with her head, then with one foot, and keeping her trunk on the opposite side of the log, she checked its way whenever its own momentum would have carried it into the stream. Although I thought the work admirably done, she did not seem quite satisfied, and she presently got into the stream, and gave one end of the log an extra push with her head, which completed her task, the two trees lying exactly parallel to each other, close to the edge of either bank.

Tame elephants are constantly employed in building stone bridges, when the stones required for the abutments are too heavy to be managed by crowbars.

Many were the difficulties to contend against when the first attempts were made in agriculture at Newera Ellia. No sooner were the oats a few inches above ground than they were subjected to the nocturnal visits of elk and hogs in such numbers that they were almost wholly destroyed.

A crop of potatoes of about three acres on the newly-cleared forest land was totally devoured by grubs. The bull and stock were nearly starved on the miserable pasturage of the country, and no sooner had the clover sprung up in the new clearings than the Southdown ram got hoven upon it and died. The two remaining rams, not having been accustomed to much high living since their arrival at Newera Ellia, got pugnacious upon the clover, and in a pitched battle the Leicester ram killed the Cotswold, and remained solus. An epidemic appeared among the cattle, and twenty-six fine bullocks died within a few days; five Australian horses died during the first year, and everything seemed to be going into the next world as fast as possible.

Having made up my mind to all manner of disappointments, these casualties did not make much impression on me, and the loss of a few crops at the outset was to be expected; but at length a deplorable and unexpected event occurred.

The bailiff's family consisted of a wife and daughter; the former was the perfection of a respectable farmer's wife, whose gentle manners and amiable disposition had gained her many friends; the daughter was a very pretty girl of nineteen.

For some time Mrs. Fowler had been suffering from an illness of long standing, and I was suddenly called to join in the mournful procession to her grave. This was indeed a loss which I deeply deplored.

At length death left the little settlement, and a ray of sunshine shone through the gloom which would have made many despond. Fortune smiled upon everything. Many acres of forest were cleared, and the crops succeeded each other in rapid succession. I had, however, made the discovery that without manure nothing would thrive. This had been a great disappointment, as much difficulty lay in procuring the necessary item.

Had the natural pasturage been good, it would soon have been an easy matter to procure any amount of manure by a corresponding number of cattle; but, as it happened, the natural pasturage was so bad that no beast could thrive upon it. Thus everything, even grass-land, had to be manured; and, fortunately, a cargo of guano having arrived in the island, we were enabled to lay down some good clover and seeds.

The original idea of cultivation, driving the forests from the neighborhood of Newera Ellia, was therefore dispelled. Every acre of land must be manured, and upon a large scale at Newera Ellia that is impossible. With manure everything will thrive to perfection with the exception of wheat. There

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<sup>1</sup> Directed of course by her driver.

is neither lime nor magnesia in the soil. An abundance of silica throws a good crop of straw, but the grain is wanting: Indian corn will not form grain from the same cause. On the other hand, peas, beans, turnips, carrots, cabbages, etc., produce crops as heavy as those of England. Potatoes, being the staple article of production, are principally cultivated, as the price of twenty pounds per ton yields a large profit. These, however, do not produce larger crops than from four to six tons per acre when heavily manured; but as the crop is fit to dig in three months from the day of planting, money is quickly made.

There are many small farmers, or rather gardeners, at Newera Ellia who have succeeded uncommonly well. One of the emigrants who left my service returned to England in three years with three hundred pounds; and all the industrious people succeed. I am now without one man whom I brought out. The bailiff farms a little land of his own, and his pretty daughter is married; the others are scattered here and there, but I believe all are doing well, especially the blacksmith, upon whose anvil Fortune has smiled most kindly.

By the bye, that same blacksmith has the right stamp of a "better half" for an emigrant's wife. According to his own description she is a "good knock-about kind of a wife." I recollect seeing her, during a press of work, rendering assistance to her Vulcan in a manner worthy of a Cyclop's spouse. She was wielding an eighteen-pound sledgehammer, sending the sparks flying at every blow upon the hot iron, and making the anvil ring again, while her husband turned the metal at every stroke, as if attending on Nasmyth's patent steam hammer.

It has been a great satisfaction to me that all the people whom I brought out are doing well; even Henry Perkes, of elephant-jockeying notoriety, is, I believe, prospering as a groom in Madras.

## CHAPTER III

Task Completed—The Mountain-top—Change in the Face of Nature—Original Importance of Newera Ellia—"The Path of a Thousand Princes"—Vestiges of Former Population—Mountains—The Highlands of Ouva—Ancient Methods of Irrigation—Remains of Aqueducts—The Vale of Rubies—Ancient Ophir—Discovery of Gold-Mineral Resources—Native Blacksmiths.

In a climate like that of Newera Ellia, even twelve months make a great change in the appearance of a new settlement; plants and shrubs spring up with wonderful rapidity, and a garden of one year's growth, without attendance, would be a wilderness.

A few years necessarily made a vast change in everything. All kinds of experiments had been made, and those which succeeded were persevered in. I discovered that excellent beer might be made at this elevation (six thousand two hundred feet), and I accordingly established a small brewery.

The solitary Leicester ram had propagated a numerous family, and a flock of fat ewes, with their lambs, throve to perfection. Many handsome young heifers looked very like the emigrant bull in the face, and claimed their parentage. The fields were green; the axe no longer sounded in the forests: a good house stood in the centre of cultivation; a road of two miles in length cut through the estate, and the whole place looked like an adopted "home." All the trials and disappointments of the beginning were passed away, and the real was a picture which I had ideally contemplated years before. The task was finished.

In the interim, public improvements had not been neglected; an extremely pretty church had been erected and a public reading-room established; but, with the exception of one good house which had been built, private enterprise had lain dormant. As usual, from January to May, Newera Ellia was overcrowded with months of visitors, and nearly empty during the other months of the year.

All Ceylon people dread the wet season at Newera Ellia, which continues from June to December.

I myself prefer it to what is termed the dry season, at which time the country is burnt up by drought. There is never more rain at Newera Ellia than vegetation requires, and not one-fourth the quantity falls at this elevation, compared to that of the low country. It may be more continuous, but it is of a lighter character, and more akin to "Scotch mist." The clear days during the wet season are far more lovely than the constant glare of the summer months, and the rays of the sun are not so powerful.

There cannot be a more beautiful sight than the view of sunrise from the summit of Pedrotallagalla, the highest mountain in Ceylon, which, rising to the height of 8300 feet, looks down upon Newera Ellia, some two thousand feet below upon one side, and upon the interminable depths of countless ravines and valleys at its base.

There is a feeling approaching the sublime when a solitary man thus stands upon the highest point of earth, before the dawn of day, and waits the first rising of the sun. Nothing above him but the dusky arch of heaven. Nothing on his level but empty space,—all beneath, deep beneath his feet. From childhood he has looked to heaven as the dwelling of the Almighty, and he now stands upon that lofty summit in the silence of utter solitude; his hand, as he raises it above his head, the highest mark upon the sea-girt land; his form above all mortals upon this land, the nearest to his God. Words, till now unthought of, tingle in his ears: "He went up into a mountain apart to pray." He feels the spirit which prompted the choice of such a lonely spot, and he stands instinctively uncovered, as the first ray of light spreads like a thread of fire across the sky.

And now the distant hill-tops, far below, struggle through the snowy sheet of mist, like islands in a fairy sea; and far, how far his eye can scan, where the faint line upon the horizon marks the ocean! Mountain and valley, hill and plain, with boundless forest, stretch beneath his feet, far as his sight can

gaze, and the scene, so solemnly beautiful, gradually wakens to his senses; the birds begin to chirp; the dew-drops fall heavily from the trees, as the light breeze stirs from an apparent sleep; a golden tint spreads over the sea of mist below; the rays dart lightning-like upon the eastern sky; the mighty orb rises in all the fullness of his majesty, recalling the words of Omnipotence: "Let there be light!"

The sun is risen! the misty sea below mounts like a snowy wreath around the hill-tops, and then, like a passing thought, it vanishes. A glassy clearness of the atmosphere reveals the magnificent view of Nature, fresh from her sleep; every dewy leaf gilded by the morning sun, every rock glistening with moisture in his bright rays, mountain and valley, wood and plain, alike rejoicing in his beams.

And now, the sun being risen, we gaze from our lofty post upon Newera Ellia, lying at our feet. We trace the river winding its silvery course through the plain, and for many miles the alternate plains and forests joining in succession.

How changed are some features of the landscape within the few past years, and how wonderful the alteration made by man on the face of Nature! Comparatively but a few years ago, Newera Ellia was undiscovered—a secluded plain among the mountaintops, tenanted by the elk and boar. The wind swept over it, and the mists hung around the mountains, and the bright summer with its spotless sky succeeded, but still it was unknown and unseen except by the native bee-hunter in his rambles for wild honey. How changed! The road encircles the plain, and carts are busy in removing the produce of the land. Here, where wild forests stood, are gardens teeming with English flowers; rosy-faced children and ruddy countrymen are about the cottage doors; equestrians of both sexes are galloping round the plain, and the cry of the hounds is ringing on the mountain-side.

How changed! There is an old tree standing upon a hill, whose gnarled trunk has been twisted by the winter's wind for many an age, and so screwed is its old stem that the axe has spared it, out of pity, when its companions were all swept away and the forest felled. And many a tale that old tree could tell of winter's blasts and broken boughs, and storms which howled above its head, when all was wilderness around. The eagle has roosted in its top, the monkeys have gambled in its branches, and the elephants have rubbed their tough flanks against its stem in times gone by; but it now throws a shadow upon a Christian's grave, and the churchyard lies beneath its shade. The church-bell sounds where the elephant trumpeted of yore. The sunbeam has penetrated where the forest threw its dreary shade, and a ray of light has shone through the moral darkness of the spot.

The completion of the church is the grand improvement in Newera Ellia.

Although Newera Ellia was in the wild state described when first discovered by Europeans, it is not to be supposed that its existence was unknown to the Cingalese. The name itself proves its former importance to the kings of Kandy, as Newera Ellia signifies "Royal Plains." Kandy is termed by the Cingalese "Newera," as it was the capital of Ceylon and the residence of the king.

However wild the country may be, and in many portions unvisited by Europeans, still every high mountain and every little plain in this wilderness of forest is not only known to the natives of the adjacent low country, but has its separate designation. There is no feature of the country without its name, although the immense tracts of mountain are totally uninhabited, and the nearest villages are some ten or twelve miles distant, between two and three thousand feet below.

There are native paths from village to village across the mountains, which, although in appearance no more than deer-runs, have existed for many centuries, and are used by the natives even to this day. The great range of forest-covered Newera Ellia mountains divides the two districts of Ouva and Kotmalie, and these native paths have been formed to connect the two by an arduous ascent upon either side, and a comparatively level cut across the shoulders of the mountains, through alternate plain and forest, for some twenty-five miles. These paths would never be known to Europeans were it not for the distant runs of the hounds, in following which, after some hours of fatiguing jungle-work, I have come upon a path. The notches on the treestems have proved its artificial character, and by following its course I have learnt the country.

There is not a path, stream, hill, or plain, within many miles of Newera Ellia, that I do not know intimately, although, when the character of the country is scanned by a stranger from some mountain-top, the very act of traversing it appears impossible. This knowledge has been gained by years of unceasing hunting, and by perseveringly following up the hounds wherever they have gone. From sunrise till nightfall I have often ploughed along through alternate jungles and plains, listening eagerly for the cry of the hounds, and at length discovering portions of the country which I had never known to exist.

There is a great pleasure in thus working out the features of a wild country, especially in an island like Ceylon, which, in every portion, exhibits traces of former prosperity and immense population. Even these uninhabited and chilly regions, up to an elevation of seven thousand feet, are not blank pages in the book of Nature, but the hand of man is so distinctly traced that the keen observer can read with tolerable certainty the existence of a nation long since passed away.

As I before mentioned, I pitched my settlement on the verge of the highland, at the eastern extremity of the Newera Ellia plain, where the high road commences a sudden descent toward Badulla, thirty-three miles distant. This spot, forming a shallow gap, was the ancient native entrance to Newera Ellia from that side, and the Cingalese designation for the locality is interpreted "the Path of a Thousand Princes." This name assists in the proof that Newera Ellia was formerly of some great importance. A far more enticing name gives an interest to the first swampy portion of the plain, some three hundred paces beyond, viz., "the Valley of Rubies."

Now, having plainly discovered that Newera Ellia was of some great importance to the natives, let us consider in what that value consisted. There are no buildings remaining, no ruins, as in other parts of Ceylon, but a liquid mine of wealth poured from these lofty regions. The importance of Newera Ellia lay first in its supply of water, and, secondly, in its gems.

In all tropical countries the first principle of cultivation is the supply of water, without which the land would remain barren. In a rice-growing country like Ceylon, the periodical rains are insufficient, and the whole system of native agriculture depends upon irrigation. Accordingly, the mountains being the reservoirs from which the rivers spring, become of vital importance to the country.

The principal mountains in Ceylon are Pedrotallagalla, eight thousand two hundred and eighty feet; Kirigallapotta, seven thousand nine hundred; Totapella, eight thousand feet; and Adam's Peak, seven thousand seven hundred; but although their altitude is so considerable, they do not give the idea of grandeur which such an altitude would convey. They do not rise abruptly from a level base, but they are merely the loftiest of a thousand peaks towering from the highlands of Ceylon.

The greater portion of the highland district may therefore be compared to one vast mountain; hill piled upon hill, and peak rising over peak; ravines of immense depth, forming innumerable conduits for the mountain torrents. Then, at the elevation of Newera Ellia the heavings of the land appear to have rested, and gentle undulations, diversified by plains and forests, extend for some thirty miles. From these comparatively level tracts and swampy plains the rivers of Ceylon derive their source and the three loftiest peaks take their base; Pedrotallagalla rising from the Newera Ellia Plain, "Totapella" and Kirigallapotta from the Horton Plains.

The whole of the highland district is thus composed of a succession of ledges of great extent at various elevations, commencing with the highest, the Horton Plains, seven thousand feet above the sea.

Seven hundred feet below the Horton Plain, the Totapella Plains and undulating forests continue at this elevation as far as Newera Ellia for about twenty miles, thus forming the second ledge.

Six miles to the west of Newera Ellia, at a lower elevation of about nine hundred feet, the district of Dimboola commences, and extends at this elevation over a vast tract of forest-covered country, stretching still farther to the west, and containing a small proportion of plain.

At about the same elevation, nine miles on the north of Newera Ellia, we descend to the Elephant Plains; a beautiful tract of fine grass country, but of small extent. This tract and that of Dimboola form the third ledge.

Nine miles to the east of Newera Ellia, at a lower elevation of one thousand five hundred feet, stretches the Ouva country, forming the fourth ledge.

The features of this country are totally distinct from any other portion of Ceylon. A magnificent view extends as far as the horizon, of undulating open grassland, diversified by the rich crops of paddy which are grown in each of the innumerable small valleys formed by the undulations of the ground. Not a tree is to be seen except the low brushwood which is scantily distributed upon its surface. We emerge suddenly from the forest-covered mountains of Newera Ellia, and, from a lofty point on the high road to Badulla, we look down upon the splendid panorama stretched like a waving sea beneath our feet. The road upon which we stand is scarped out of the mountain's side. The forest has ceased, dying off gradually into isolated patches and long ribbon-like strips on the sides of the mountain, upon which rich grass is growing, in vivid contrast to the rank and coarse herbage of Newera Ellia, distant only five miles from the point upon which we stand.

Descending until we reach Wilson's Plain, nine miles from Newera Ellia, we arrive in the district of Ouva, much like the Sussex Downs as any place to which it can be compared.

This district comprises about six hundred square miles, and forms the fourth and last ledge of the high lands of Ceylon. Passes from the mountains which form the wall-like boundaries of this table-land descend to the low country in various directions.

The whole of the Ouva district upon the one side, and of the Kotmalee district on the other side, of tilt Newera Ellia range of mountains, are, with the exception of the immediate neighborhood of Kandy and Colombo, the most populous districts of Ceylon.

This is entirely owing, to the never-failing supply of water obtained from the mountains; and upon this supply the wealth and prosperity of the country depend.

The ancient history of Ceylon is involved in much obscurity, but nevertheless we have sufficient data in the existing traces of its former population to form our opinions of the position and power which Ceylon occupied in the Eastern Hemisphere when England was in a state of barbarism. The wonderful remains of ancient cities, tanks and water-courses throughout the island all prove that the now desolate regions were tenanted by a multitude—not of savages, but of a race long since passed away, full of industry and intelligence.

Among the existing traces of former population few are more interesting than those in the vicinity of Newera Ellia.

Judging from the present supply of water required for the cultivation of a district containing a certain population, we can arrive at a tolerably correct idea of the former population by comparing the present supply of water with that formerly required.

Although the district of Ouva is at present well populated, and every hollow is taken advantage of for the cultivation of paddy, still the demand for water in proportion to the supply is comparatively small.

The system of irrigation has necessarily involved immense labor. For many miles the water is conducted from the mountains through dense forests, across ravines, round the steep sides of opposing hills, now leaping into a lower valley into a reservoir, from which it is again led through this arduous country until it at length reaches the land which it is destined to render fertile.

There has been a degree of engineering skill displayed in forming aqueducts through such formidable obstacles; the hills are lined out in every direction with these proofs of industry, and their winding course can be traced round the grassy sides of the steep mountains, while the paddy-fields are seen miles away in the valleys of Ouva stretched far beneath.

At least eight out of ten of these watercourses are dry, and the masonry required in the sudden angles of ravines, has, in most cases, fallen to decay. Even those water-courses still in existence are

of the second class; small streams have been conducted from their original course, and these serve for the supply of the present population.

From the remains of deserted water-courses of the first class, it is evident that more than fifty times the volume of water was then required that is in use at present, and in the same ratio must have been the amount of population. In those days rivers were diverted from their natural channels; opposing hills were cut through, and the waters thus were led into another valley to join a stream flowing in, its natural bed, whose course, eventually obstructed by a dam, poured its accumulated waters into canals which branched to various localities. Not a river in those times flowed in vain. The hill-sides were terraced out in beautiful cultivation, which are now waving with wild vegetation and rank lemon grass. The remaining traces of stone walls point out the ancient boundaries far above the secluded valley now in cultivation.

The nation has vanished, and with it the industry and perseverance of the era.

We now arrive at the cause of the former importance of Newera Ellia, or the "Royal Plains."

It has been shown that the very existence of the population depended upon the supply of water, and that supply was obtained from the neighborhood of Newera Ellia. Therefore, a king in possession of Newera Ellia had the most complete command over his subjects; he could either give or withhold the supply of water at his pleasure, by allowing its free exit or by altering its course.

Thus, during rebellion, he could starve his people into submission, or lay waste the land in time of foreign invasion. I have seen in an impregnable position the traces of an ancient fort, evidently erected to defend the pass to the main water-course from the low country.

This gives us a faint clue to the probable cause of the disappearance of the nation.

In time of war or intestine commotion, the water may have been cut off from the low country, and the exterminating effects of famine may have laid the whole land desolate. It is, therefore, no longer a matter of astonishment that the present plain of Newera Ellia should have received its appellation of the "Royal Plain." In those days there was no very secure tenure to the throne, and by force alone could a king retain it. The more bloodthirsty and barbarous the tyrant, the more was he dreaded by the awe-stricken and trembling population. The power of such a weapon of annihilation as the command of the waters may be easily conceived as it invested a king with almost divine authority in the eyes of his subjects.

Now there is little doubt that the existence of precious gems at Newera Ellia may have been accidentally discovered in digging the numerous water-courses in the vicinity; there is, however, no doubt that at some former period the east end of the plain, called the "Vale of Rubies," constituted the royal "diggings." That the king of Kandy did not reside at Newera Ellia there is little wonder, as a monarch delighting in a temperature of 85 Fahrenheit would have regarded the climate of a mean temperature of 60 Fahrenheit as we should that of Nova Zembla.

We may take it for granted, therefore, that when the king came to Newera Ellia his visit had some object, and we presume that he came to look at the condition of his water-courses and to superintend the digging for precious stones; in the same manner that Ceylon governors of past years visited Arippe during the pearl-fishing.

The "diggings" of the kings of Kandy must have been conducted on a most extensive scale. Not only has the Vale of Rubies been regularly turned up for many acres, but all the numerous plains in the vicinity are full of pits, some of very large size and of a depth varying from three to seventeen feet. The Newera Ellia Plain, the Moonstone Plain, the Kondapallé Plain, the Elk Plains, the Totapella Plains, the Horton Plains, the Bopatalava Plains, the Augara Plains (translated "the Diggings"), and many others extending over a surface of thirty miles, are all more or less studded by deep pits formed by the ancient searchers for gems, which in those days were a royal monopoly.

It is not to be supposed that the search for gems would have been thus persevered in unless it was found to be remunerative; but it is a curious fact that no Englishmen are ever to be seen at work at this employment. The natives would still continue the search, were they permitted, upon the "Vale

of Rubies;" but I warned them off on purchasing the land; and I have several good specimens of gems which I have discovered by digging two feet beneath the surface.

The surface soil being of a light, peaty quality, the stones, from their greater gravity, lie beneath, mixed with a rounded quartz gravel, which in ages past must have been subjected to the action of running water. This quartz gravel, with its mixture of gems, rests upon a stiff white pipe-clay.

In this stratum of gravel an infinite number of small, and for the most part worthless, specimens of gems are found, consisting of sapphire, ruby, emerald, jacinth, tourmaline, chrysoberyl, zircon, cat's-eye, "moonstone," and "star-stone." Occasionally a stone of value rewards the patient digger; but, unless he thoroughly understands it, he is apt to pass over the gems of most value as pieces of ironstone.

The mineralogy of Ceylon has hitherto been little understood. It has often been suggested as the "Ophir" of the time of Solomon, and doubtless, from its production of gems, it might deserve the name.

It has hitherto been the opinion of most writers on Ceylon that the precious metals do not exist in the island; and Dr. Davy in his work makes an unqualified assertion to that effect. But from the discoveries recently made, I am of opinion that it exists in very large quantities in the mountainous districts of the island.

It is amusing to see the positive assertions of a clever man upset by a few uneducated sailors.

A few men of the latter class, who had been at the gold diggings both in California and Australia, happened to engage in a ship bound for Colombo. Upon arrival they obtained leave from the captain for a stroll on shore, and they took the road toward Kandy, and when about half-way it struck them, from the appearance of the rocks in the uneven bed of a river, called the Maha Oya, "that gold must exist in its sands." They had no geological reason for this opinion; but the river happened to be very like those in California in which they had been accustomed to find gold. They accordingly set to work with a tin pan to wash the sand, and to the astonishment of every one in Ceylon, and to the utter confusion of Dr. Davy's opinions, they actually discovered gold!

The quantity was small, but the men were very sanguine of success, and were making their preparations for working on a more extensive scale, when they were all prostrated by jungle fever—a guardian-spirit of the gold at Amberpussé, which will ever effectually protect it from Europeans.

They all returned to Colombo, and, when convalescent, they proceeded to Newera Ellia, naturally concluding that the gold which existed in dust in the rivers below must be washed down from the richer stores of the mountains.

Their first discovery of gold at Newera Ellia was on the 14th June, 1854, on the second day of their search in that locality. The first gold was found in the "Vale of Rubies."

I had advised them to make their first search in that spot for this reason: that, as the precious stones had there settled in the largest numbers, from their superior gravity, it was natural to conclude that, if gold should exist, it would, from its gravity, be somewhere below the precious stones or in their vicinity.

From the facility with which it has been discovered, it is impossible to form an opinion as to the quantity or the extent to which it will eventually be developed. It is equally impossible to predict the future discoveries which may be made of other minerals. It is well known that quicksilver was found at Cotta, six miles from Colombo, in the year 1797. It was in small quantities, and was neglected by the government, and no extended search was prosecuted. The present search for gold may bring to light mineral resources of Ceylon which have hitherto lain hidden.

The minerals proved to exist up to the present time are gold, quicksilver, plumbago and iron. The two latter are of the finest quality and in immense abundance. The rocks of Ceylon are primitive, consisting of granite, gneiss and quartz. Of these the two latter predominate. Dolomite also exists in large quantities up to an elevation of five thousand feet, but not beyond this height.

Plumbago is disseminated throughout the whole of both soil and rocks in Ceylon, and may be seen covering the surface in the drains by the road side, after a recent shower.

It is principally found at Ratnapoora and at Belligam, in large, detached kidney-shaped masses, from four to twenty feet below the surface. The cost of digging and the transport are the only expenses attending it, as the supply is inexhaustible. Its component parts are nineteen of carbon and one of iron.

It exists in such quantities, in the gneiss rocks that upon their decomposition it is seen in bright specks like silver throughout.

This gneiss rock, when in a peculiar stage of decomposition, has the appearance and consistency of yellow brick, speckled with plumbago. It exists in this state in immense masses, and forms a valuable buildingstone, as it can be cut with ease to any shape required, and, though soft when dug, it hardens by exposure to the air. It has also the valuable property of withstanding the greatest heat; and for furnace building it is superior to the best Stourbridge fire-bricks.

The finest quality of iron is found upon the mountains in various forms, from the small iron-stone gravel to large masses of many tons in weight protruding from the earth's surface.

So fine is that considered at Newera Ellia and the vicinity that the native blacksmiths have been accustomed from time immemorial to make periodical visits for the purpose of smelting the ore. The average specimens of this produce about eighty per cent. of pure metal, even by the coarse native process of smelting. The operations are as follows:

Having procured the desired amount of ore, it is rendered as small as possible by pounding with a hammer.

A platform is then built of clay, about six feet in length by three feet in height and width.

A small well is formed in the centre of the platform, about eighteen inches in depth and diameter, egg-shaped.

A few inches from the bottom of this well is an air-passage, connected with a pipe and bellows.

The well is then filled with alternate layers of charcoal and pulverized iron ore; the fire is lighted, and the process of smelting commences.

The bellows are formed of two inflated skins, like a double "bagpipe." Each foot of the "bellows-blower" is strapped to one skin, the pipes of the bellows being fixed in the air-hole of the blast. He then works the skins alternately by moving his feet up and down, being assisted in this treadmill kind of labor by the elasticity of two bamboos, of eight or ten feet in length, the butts of which, being firmly fixed in the ground, enable him to retain his balance by grasping one with either hand. From the yielding top of each bamboo, a string descends attached to either big toe; thus the downward pressure of each foot upon the bellows strains upon the bamboo top as a fish bears upon a fishing-rod, and the spring of the bamboo assists him in lifting up his leg. Without this assistance, it would be impossible to continue the exertion for the time required.

While the "bellows-blower" is thus getting up a blaze, another man attends upon the well, which he continues to feed alternately with fresh ore and a corresponding amount of charcoal, every now and then throwing in a handful of fine sand as a flux.

The return for a whole day's puffing and blowing will be about twenty pounds weight of badly-smelted iron. This is subsequently remelted, and is eventually worked up into hatchets, hoes, betel-crackers, etc., etc. being of a superior quality to the best Swedish iron.

If the native blacksmith were to value his time at only sixpence per diem from the day on which he first started for the mountains till the day that he returned from his iron-smelting expedition, he would find that his iron would have cost him rather a high price per hundredweight; and if he were to make the same calculation of the value of time, he would discover that by the time he had completed one axe he could have purchased ready made, for one-third the money, an English tool of superior manufacture. This, however, is not their style of calculation. Time has no value, according to their crude ideas; therefore, if they want an article, and can produce it without the actual outlay of cash, no matter how much time is expended, they will prefer that method of obtaining it.

Unfortunately, the expense of transit is so heavy from Newera Ellia to Colombo, that this valuable metal, like the fine timber of the forests, must remain useless.

## CHAPTER IV

Poverty of Soil—Ceylon Sugar—Fatality of Climate—Supposed Fertility of Soil—Native Cultivation—Neglect of Rice Cultivation—Abandoned Reservoirs—Former Prosperity—Ruins of Cities—Pollanarua—The Great Dagoba—Architectural Relics—The Rock Temple—Destruction of Population—Neglected Capabilities—Suggestions for Increasing Population—Progress of Pestilence—Deserted Villages—Difficulties in the Cultivation of Rice—Division of Labor—Native Agriculture.

From the foregoing description, the reader will have inferred that Newera Ellia is a delightful place of residence, with a mean temperature of 60 Fahrenheit, abounding with beautiful views of mountain and plain and of boundless panoramas in the vicinity. He will also have discovered that, in addition to the healthiness of its climate, its natural resources are confined to its timber and mineral productions, as the soil is decidedly poor.

The appearance of the latter has deceived every one, especially the black soil of the patina, which my bailiff, on his first arrival declared to be excellent. Lord Torrington, who is well known as an agriculturist, was equally deceived. He was very confident in the opinion that "it only required draining to enable it to produce anything." The real fact is, that it is far inferior to the forest-land, and will not pay for the working.

Nevertheless, it is my decided opinion that the generality of the forest-land at Newera Ellia and the vicinity is superior to that in other parts of Ceylon.

There are necessarily rich lots every now and then in such a large extent as the surface of the low country; but these lots usually lie on the banks of rivers which have been subjected to inundations, and they are not fair samples of Ceylon soil. A river's bank or a valley's bottom must be tolerably good even in the poorest country.

The great proof of the general poverty of Ceylon is shown in the failure of every agricultural experiment in which a rich soil is required.

Cinnamon thrives; but why? It delights in a soil of quartz sand, in which nothing else would grow.

Cocoa-nut trees flourish for the same reason; sea air, a sandy soil and a dry subsoil are all that the cocoa-nut requires.

On the other hand, those tropical productions which require a strong soil invariably prove failures, and sugar, cotton, indigo, hemp and tobacco cannot possibly be cultivated with success.

Even on the alluvial soil upon the banks of rivers sugar does not pay the proprietor. The only sugar estate in the island that can keep its head above water is the Peredinia estate, within four miles of Kandy. This, again, lies upon the bank of the Mahawelli river, and it has also the advantage of a home market for its produce, as it supplies the interior of Ceylon at the rate of twenty-three shillings per cwt. upon the spot.

Any person who thoroughly understands the practical cultivation of the sugar-cane can tell the quality of sugar that will be produced by an examination of the soil. I am thoroughly convinced that no soil in Ceylon will produce a sample of fine, straw-colored, dry, bright, large-crystaled sugar. The finest sample ever produced of Ceylon sugar is a dull gray, and always moist, requiring a very large proportion of lime in the manufacture, without which it could neither be cleansed nor crystalized.

The sugar cane, to produce fine sugar, requires a rich, stiff, and very dry soil. In Ceylon, there is no such thing as a stiff soil existing. The alluvial soil upon the banks of rivers is adapted for the growth of cotton and tobacco, but not for the sugar-cane. In such light and moist alluvial soil the latter will grow to a great size, and will yield a large quantity of juice in which the saccharometer

may stand well; but the degree of strength indicated will proceed from an immense proportion of mucilage, which will give much trouble in the cleansing during boiling; and the sugar produced must be wanting in dryness and fine color.

There are several rivers in Ceylon whose banks would produce good cotton and tobacco, especially those in the districts of Hambantotte and Batticaloa; such as the "Wallawé," the "Yallé river," the "Koombookanaar," etc.; but even here the good soil is very limited, lying on either bank for only a quarter of a mile in width. In addition to this, the unhealthiness of the climate is so great that I am convinced no European constitution could withstand it. Even the natives are decimated at certain seasons by the most virulent fevers and dysentery.

These diseases generally prevail to the greatest extent during the dry season. This district is particularly subject to severe droughts; months pass away without a drop of rain or a cloud upon the sky. Every pool and tank is dried up; the rivers forsake their banks, and a trifling stream trickles over the sandy bed. Thus all the rotten wood, dead leaves and putrid vegetation brought down by the torrent during the wet season are left upon the dried bed to infect the air with miasma.

This deadly climate would be an insurmountable obstacle to the success of estates. Even could managers be found to brave the danger, one season of sickness and death among the coolies would give the estate a name which would deprive it of all future supplies of labor.

Indigo is indigenous to Ceylon, but it is of an inferior quality, and an experiment made in its cultivation was a total failure.

In fact, nothing will permanently succeed in Ceylon soil without abundance of manure, with the exception of cinnamon and cocoa-nuts. Even the native gardens will not produce a tolerable sample of the common sweet potato without manure, a positive proof of the general poverty of the soil.

Nevertheless, Ceylon has had a character for fertility. Bennett, in his work entitled "Ceylon and its Capabilities," describes the island in the most florid terms, as "the most important and valuable of all the insular possessions of the imperial crown." Again he speaks of "its fertile soil, and indigenous vegetable productions," etc., etc. Again: "Ceylon, though comparatively but little known, is pre-eminent in natural resources." All this serves to mislead the public opinion. Agricultural experiments in a tropical country in a little garden highly manured may be very satisfactory and very amusing. Everything must necessarily come to perfection with great rapidity; but these experiments are no proof of what Ceylon will produce, and the popular idea of its fertility has been at length proved a delusion.

It is a dangerous thing for any man to sit down to "make" a book. If he has had personal experience, let him write a description of those subjects which he understands; but if he attempts to "make" a book, he must necessarily collect information from hearsay, when he will most probably gather some chaff with his grain.

Can any man, when describing the "fertility" of Ceylon, be aware that newly-cleared forest-land will only produce one crop of the miserable grain called korrakan? Can he understand why the greater portion of Ceylon is covered by dense thorny jungles? It is simply this—that the land is so desperately poor that it will only produce one crop, and thus an immense acreage is required for the support of a few inhabitants; thus, from ages past up to the present time, the natives have been continually felling fresh forest and deserting the last clearing, which has accordingly grown into a dense, thorny jungle, forming what are termed the "Chénars" of Ceylon.

So fully aware are the natives of the impossibility of getting more than one crop out of the land that they plant all that they require at the same time. Thus may be seen in a field of korrakan (a small grain), Indian corn, millet and pumpkins, all growing together, and harvested as they respectively become ripe.

The principal articles of native cultivation are rice, korrakan, Indian corn, betel, areca-nuts, pumpkins, onions, garlic, gingelly-oil seed, tobacco, millet, red peppers, curry seed and sweet potatoes.

The staple articles of Ceylon production are coffee cinnamon and cocoa-nut oil, which are for the most part cultivated and manufactured by Europeans.

The chief article of native consumption, "rice," should be an export from Ceylon; but there has been an unaccountable neglect on the part of government regarding the production of this important grain, for the supply of which Ceylon is mainly dependent upon importation. In the hitherto overrated general resources of Ceylon, the cultivation of rice has scarcely been deemed worthy of notice; the all-absorbing subject of coffee cultivation has withdrawn the attention of the government from that particular article, for the production of which the resources of Ceylon are both naturally and artificially immense.

This neglect is the more extraordinary as the increase of coffee cultivation involves a proportionate increase in the consumption of rice, by the additional influx of coolie labor from the coast of India; therefore the price and supply of rice in Ceylon become questions of similar importance to the price of corn in England. This dependence upon a foreign soil for the supply involves the necessary fluctuations in price caused by uncertain arrivals and precarious harvests; and the importance of an unlimited supply at an even rate may be imagined when it is known that every native consumes a bushel of rice per month, when he can obtain it.

Nevertheless, the great capabilities of Ceylon for the cultivation of this all-important "staff of life" are entirely neglected by the government. The tanks which afforded a supply of water for millions in former ages now lie idle and out of repair; the pelican sails in solitude upon their waters, and the crocodile basks upon their shores; the thousands of acres which formerly produced rice for a dense population are now matted over by a thorny and impenetrable jungle. The wild buffalo, descendant from the ancient stock which tilled the ground of a great nation, now roams through a barren forest, which in olden times was a soil glistening with fertility. The ruins of the mighty cities tower high above the trees, sad monuments of desolation, where all was once flourishing, and where thousands dwelt within their walls.

All are passed away; and in the wreck of past ages we trace the great resources of the country, which produced sufficient food to support millions; while for the present comparatively small population Ceylon is dependent upon imports.

These lakes, or tanks, were works of much art and of immense labor for the purpose of reservoirs, from the supply of which the requisite amount of land could be irrigated for rice cultivation. A valley of the required extent being selected, the courses of neighboring or distant rivers were conducted into it, and the exit of the waters was prevented by great causeways, or dams, of solid masonry, which extended for some miles across the lower side of the valley thus converted into a lake. The exit of the water was then regulated by means of sluices, from which it was conducted by channels to the rice-lands.

These tanks are of various extent, and extremely numerous throughout Ceylon. The largest are those of Minneria, Kandellai, Padavellkiellom, and the Giant Tank. These are from fifteen to twenty-five miles in circumference; but in former times, when the sluices were in repair and the volume of water at its full height, they must have been much larger.

In those days the existence of a reservoir of water was a certain indication of a populous and flourishing neighborhood; and the chief cities of the country were accordingly situated in those places which were always certain of a supply. So careful were the inhabitants in husbanding those liquid resources upon which their very existence depended that even the surplus waters of one lake were not allowed to escape unheeded. Channels were cut, connecting a chain of tanks of slightly varying elevations, over an extent of sixty or seventy miles of apparently flat country, and the overflow of one tank was thus conducted in succession from lake to lake, until they all attained the desired level.

In this manner was the greater portion of Ceylon kept in the highest state of cultivation. From the north to the south the island was thickly peopled, and the only portions which then remained in the hands of nature were those which are now seen in the state of primeval forest.

Well may Ceylon in those times have deserved the name of the "Paradise of the East." The beauties which nature has showered upon the land were heightened by cultivation; the forest-capped mountains rose from a waving sea of green; the valleys teemed with wealth; no thorny jungles gave a barren terminable prospect, but the golden tints of ripening crops spread to the horizon. Temples stood upon the hill-tops; cities were studded over the land, their lofty dagobas and palaces reflected on the glassy surface of the lakes, from which their millions of inhabitants derived their food, their wealth and their very life.

The remains of these cities sufficiently attest the former amount of population and the comparative civilization which existed at that remote era among the progenitors of the present degraded race of barbarians. The ruins of "Anaradupoorā," which cover two hundred and fifty-six square miles of ground, are all that remain of the noble city which stood within its walls in a square of sixteen miles. Some idea of the amount of population may be arrived at, when we consider the present density of inhabitants in all Indian houses and towns. Millions must, therefore, have streamed from the gates of a city to which our modern London was comparatively a village.

There is a degree of sameness in the ruins of all the ancient cities of Ceylon which renders a description tedious. Those of "Anaradupoorā" are the largest in extent, and the buildings appear to have been more lofty, the great dagoba having exceeded four hundred feet in height; but the ruins do not exhibit the same "finish" in the style of architecture which is seen in the remains of other towns.

Among these, "Toparé," anciently called "Pollanarua," stands foremost. This city appears to have been laid out with a degree of taste which would have done credit to our modern towns.

Before its principal gate stretched a beautiful lake of about fifteen miles circumference (now only nine). The approach to this gate was by a broad road, upon the top of a stone causeway, of between two and three miles in length, which formed a massive dam to the waters of the lake which washed its base. To the right of this dam stretched many miles of cultivation; to the left, on the farther shores of the lake, lay park-like grass-lands, studded with forest trees, some of whose mighty descendants still exist in the noble "tamarind," rising above all others. Let us return in imagination to Pollanarua as it once stood. Having arrived upon the causeway in the approach to the city, the scene must have been beautiful in the extreme: the silvery lake, like a broad mirror, in the midst of a tropical park; the flowering trees shadowing its waters; the groves of tamarinds sheltering its many nooks and bays; the gorgeous blossoms of the pink lotus resting on its glassy surface; and the carpet-like glades of verdant pasturage, stretching far away upon the opposite shores, covered with countless elephants, tamed to complete obedience. Then on the right, below the massive granite steps which form the causeway, the water rushing from the sluice carries fertility among a thousand fields, and countless laborers and cattle till the ground: the sturdy buffaloes straining at the plough, the women, laden with golden sheaves of corn and baskets of fruit, crowding along the palm-shaded road winding toward the city, from whose gate a countless throng are passing and returning. Behold the mighty city! rising like a snow-white cloud from the broad margin of the waters. The groves of cocoa-nuts and palms of every kind, grouped in the inner gardens, throwing a cool shade upon the polished walls; the lofty palaces towering among the stately areca trees, and the gilded domes reflecting a blaze of light from the rays of a midday sun. Such let us suppose the exterior of Pollanarua.

The gates are entered, and a broad street, straight as an arrow, lies before us, shaded on either side by rows of palms. Here stand, on either hand, the dwellings of the principal inhabitants, bordering the wide space, which continues its straight and shady course for about four miles in length. In the centre, standing in a spacious circle, rises the great Dagoba, forming a grand coup d'oeil from the entrance gate. Two hundred and sixty feet from the base the Dagoba rears its lofty summit. Two circular terraces, each of some twenty feet in height, rising one upon the other, with a width of fifty feet, and a diameter at the base of about two hundred and fifty, form the step-like platform upon which the Dagoba stands. These are ascended by broad flights of steps, each terrace forming a circular promenade around the Dagoba; the whole having the appearance of white marble, being covered with

polished stucco ornamented with figures in bas-relief. The Dagoba is a solid mass of brickwork in the shape of a dome, which rises from the upper terrace. The whole is covered with polished stucco, and surmounted by a gilded spire standing upon a square pedestal of stucco, highly ornamented with large figures, also in bas-relief; this pedestal is a cube of about thirty feet, supporting the tall gilded spire, which is surmounted by a golden umbrella.

Around the base of the Dagoba on the upper terrace are eight small entrances with highly-ornamented exteriors. These are the doors to eight similar chambers of about twelve feet square, in each of which is a small altar and carved golden idol. This Dagoba forms the main centre of the city, from which streets branch off in all directions, radiating from the circular space in which it stands.

The main street from the entrance-gate continues to the further extremity of the city, being crossed at right angles in the centre by a similar street, thus forming two great main streets through the city, terminating in four great gates or entrances to the town—north, south, east and west. Continuing along the main street from the great Dagoba for about a mile, we face another Dagoba of similar appearance, but of smaller dimensions, also standing in a spacious circle. Near this rises the king's palace, a noble building of great height, edged at the corner by narrow octagon towers.

At the further extremity of this main street, close to the opposite entrance-gate, is the rock temple, with the massive idols of Buddha flanking the entrance.

This, from the form and position of the existing ruins, we may conceive to have been the appearance of Pollanarua in its days of prosperity. But what remains of its grandeur? It has vanished like "a tale that is told;" it is passed away like a dream; the palaces are dust; the grassy sod has grown in mounds over the ruins of streets and fallen houses; nature has turfed them in one common grave with their inhabitants. The lofty palms have faded away and given place to forest trees, whose roots spring from the crumbled ruins; the bear and the leopard crouch in the porches of the temples; the owl roosts in the casements of the palaces; the jackal roams among the ruins in vain; there is not a bone left for him to gnaw of the multitudes which have passed away. There is their handwriting upon the temple wall, upon the granite slab which has mocked at Time; but there is no man to decipher it. There are the gigantic idols before whom millions have bowed; there is the same vacant stare upon their features of rock which gazed upon the multitudes of yore; but they no longer stare upon the pomp of the glorious city, but upon ruin, and rank weeds, and utter desolation. How many suns have risen and how many nights have darkened the earth since silence has reigned amidst the city, no man can tell. No mortal can say what fate befell those hosts of heathens, nor when they vanished from the earth. Day and night succeed each other, and the shade of the setting sun still falls from the great Dagoba; but it is the "valley of the shadow of death" upon which that shadow falls like a pall over the corpse of a nation.

The great Dagoba now remains a heap of mouldering brickwork, still retaining its form, but shorn of all its beauty. The stucco covering has almost all disappeared, leaving a patch here and there upon the most sheltered portions of the building. Scrubby brushwood and rank grass and lichens have for the most part covered its surface, giving it the appearance rather of a huge mound of earth than of an ancient building. A portion of the palace is also standing, and, although for the most part blocked up with ruins, there is still sufficient to denote its former importance. The bricks, or rather the tiles, of which all the buildings are composed, are of such an imperishable nature that they still adhere to each other in large masses in spots where portions of the buildings have fallen.

In one portion of the ruins there are a number of beautiful fluted columns, with carved capitals, still remaining in a perfect state. Among these are the ruins of a large flight of steps; near them, again, a stone-lined tank, which was evidently intended as a bath; and everything denotes the former comfort and arrangement of a first-class establishment. There are innumerable relics, all interesting and worthy of individual attention, throughout the ruins over a surface of many miles, but they are mostly overgrown with jungle or covered with rank grass. The apparent undulations of the ground

in all directions are simply the remains of fallen streets and buildings overgrown in like manner with tangled vegetation.

The most interesting, as being the most perfect, specimen, is the small rock temple, which, being hewn out of the solid stone, is still in complete preservation. This is a small chamber in the face of an abrupt rock, which, doubtless, being partly a natural cavern, has been enlarged to the present size by the chisel; and the entrance, which may have been originally a small hole, has been shaped into an arched doorway. The interior is not more than perhaps twenty-five feet by eighteen, and is simply fitted up with an altar and the three figures of Buddha, in the positions in which he is usually represented—the sitting, the reclining and the standing postures.

The exterior of the temple is far more interesting. The narrow archway is flanked on either side by two inclined planes, hewn from the face of the rock, about eighteen feet high by twelve in width. These are completely covered with an inscription in the old Pali language, which has never been translated. Upon the left of one plain is a kind of sunken area hewn out of the rock, in which sits a colossal figure of Buddha, about twenty feet in height. On the right of the other plane is a figure in the standing posture about the same height; and still farther to the right, likewise hewn from the solid rock, is an immense figure in the recumbent posture, which is about fifty-six feet in length, or, as I measured it, not quite nineteen paces.

These figures are of a far superior class of sculpture to the idols usually seen in Ceylon, especially that in the reclining posture, in which the impression of the head upon the pillow is so well executed that the massive pillow of gneiss rock actually appears yielding to the weight of the head.

This temple is supposed to be coeval with the city, which was founded about three hundred years before Christ, and is supposed to have been in ruins for upward of six hundred years. The comparatively recent date of its destruction renders its obscurity the more mysterious, as there is no mention made of its annihilation in any of the Cingalese records, although the city is constantly mentioned during the time of its prosperity in the native history of Ceylon. It is my opinion that its destruction was caused by famine.

In those days the kings of Ceylon were perpetually at war with each other. The Queen of the South, from the great city of Mahagam in the Hambantotte district, made constant war with the kings of Pollanarua. They again made war with the Arabs and Malabars, who had invaded the northern districts of Ceylon; and as in modern warfare the great art consists in cutting off the enemy's supplies, so in those days the first and most decisive blow to be inflicted was the cutting off the "water." Thus, by simply turning the course of a river which supplied a principal tank, not only would that tank lose its supply, but the whole of the connected chain of lakes dependent upon the principal would in like manner be deprived of water.

This being the case, the first summer or dry season would lay waste the country. I have myself seen the lake of Minneria, which is twenty-two miles in circumference, evaporate to the small dimensions of four miles circuit during a dry season.

A population of some millions wholly dependent upon the supply of rice for their existence would be thrown into sudden starvation by the withdrawal of the water. Thus have the nations died out like a fire for lack of fuel. This cause will account for the decay of the great cities of Ceylon. The population gone, the wind and the rain would howl through the deserted dwellings, the white ants would devour the supporting beams, the elephants would rub their colossal forms against the already tottering houses, and decay would proceed with a rapidity unknown in a cooler clime. As the seed germinates in a few hours in a tropical country, so with equal haste the body of both vegetable and animal decays when life is extinct. A perpetual and hurrying change is visible in all things. A few showers, and the surface of the earth is teeming with verdure; a few days of drought, and the seeds already formed are falling to the earth, springing in their turn to life at the approach of moisture. The same rapidity of change is exhibited in their decay. The heaps of vegetable putridity upon the banks of rivers, when a swollen torrent has torn the luxuriant plants from the loosened soil, are but

the effects of a few hours' change. The tree that arrives at maturity in a few years rots in as short a time when required for durability: thus it is no mystery, that either a house or a city should shortly fall to decay when the occupant is gone.

In like manner, and with still greater rapidity, is a change effected in the face of nature. As the flowers usurp the place of weeds under the care of man, so, when his hand is wanting, a few short weeks bury them beneath an overwhelming mass of thorns. In one year a jungle will conceal all signs of recent cultivation. Is it, therefore, a mystery that Ceylon is covered with such vast tracts of thorny jungle, now that her inhabitants are gone?

Throughout the world there is a perpetual war between man and nature, but in no country has the original curse of the earth been carried out to a fuller extent than in Ceylon: "thorns also and thistles shall it bring forth to thee." This is indeed exemplified when a few months neglect of once-cultivated land renders it almost impassable, and where man has vanished from the earth and thorny jungles have covered the once broad tracts of prosperous cultivation.

A few years will thus produce an almost total ruin throughout a deserted city. The air of desolation created by a solitude of six centuries can therefore be easily imagined. There exists, however, among the ruins of Pollanarua a curious instance of the power of the smallest apparent magnitude to destroy the works of man. At some remote period a bird has dropped the seed of the banyan tree (*ficus Indicus*) upon the decaying summit of a dagoba. This, germinating has struck its root downward through the brickwork, and, by the gradual and insinuating progress of its growth, it has split the immense mass of building into two sections; the twisted roots now appearing through the clefts, while the victorious tree waves in exultation above the ruin: an emblem of the silent growth of "civilization" which will overturn the immense fabric of heathen superstition.

It is placed beyond a doubt that the rice-growing resources of Ceylon have been suffered to lie dormant since the disappearance of her ancient population; and to these neglected capabilities the attention of government should be directed.

An experiment might be commenced on a small scale by the repair of one tank—say Kandellai, which is only twenty-six miles from Trincomalee on the highroad to Kandy. This tank, when the dam and sluices were repaired, would rise to about nine feet above its present level, and would irrigate many thousand acres.

The grand desideratum in the improvement of Ceylon is the increase of the population; all of whom should, in some measure, be made to increase the revenue.

The government should therefore hazard this one experiment to induce the emigration of the industrious class of Chinese to the shores of Ceylon. Show them a never-failing supply of water and land of unlimited extent to be hid on easy terms, and the country would soon resume its original prosperity. A tax of five per cent. upon the produce of the land, to commence in the ratio of 0 per cent. for the first year, three per cent. for the second and third, and the full amount of five for the fourth, would be a fair and easy rent to the settler, and would not only repay the government for the cost of repairing the tank, but would in a few years become a considerable source of revenue, in addition to the increased value of the land, now worthless, by a system of cultivation.

Should the first experiment succeed, the plan might be continued throughout Ceylon, and the soil of her own shores would produce a supply for the island consumption. The revenue would be derived direct from the land which now produces nothing but thorny jungle. The import trade of Ceylon would be increased in proportion to the influx of population, and the duties upon enlarged imports would again tend to swell the revenue of the country.

The felling and clearing of the jungle, which cultivation would render necessary, would tend, in a great measure, to dispel the fevers and malaria always produced by a want of free circulation of air. In a jungle-covered country like Ceylon, diseases of the most malignant character are harbored in these dense and undisturbed tracts, which year after year reap a pestilential harvest from the thinly-scattered population. Cholera, dysentery, fever and small-pox all appear in their turn and annually

sweep whole villages away. I have frequently hailed with pleasure the distant tope of waving cocoa-nut trees after a long day's journey in a broiling sun, when I have cantered toward these shady warders of cultivation in hopes of a night's halt at a village. But the palms have sighed in the wind over tenantless abodes, and the mouldering dead have lain beneath their shade. Not a living soul remaining; all swept away by pestilence; huts recently fallen to decay, fruits ripening, on the trees, and no hand left to gather them; the shaddock and the lime falling to the earth to be preyed upon by the worm, like their former masters. All dead; not one left to tell the miserable tale.

The decay of the population is still progressing, and the next fifty years will see whole districts left uninhabited unless something can be done to prevent it. There is little doubt that if land and water could be obtained from government in a comparatively healthy and populous neighborhood, many would migrate to that point from the half-deserted districts, who might assist in the cultivation of the country instead of rotting in a closing jungle.

One season of pestilence, even in a large village, paves the road for a similar visitation in the succeeding year, for this reason:

Say that a village comprising two hundred men is reduced by sickness to a population of one hundred. The remaining one hundred cannot keep in cultivation the land formerly open; therefore, the jungle closes over the surface and rapidly encroaches upon the village. Thus the circulation of air is impeded and disease again halves the population. In each successive year the wretched inhabitants are thinned out, and disease becomes the more certain as the jungle continues to advance. At length the miserable few are no longer sufficient to cultivate the rice-lands; their numbers will not even suffice for driving their buffaloes. The jungle closes round the village; cholera finishes the scene by sweeping off the remnant; and groves of cocoa-nut trees, towering over the thorny jungle, become monuments sacred to the memory of an exterminated village.

The number of villages which have thus died out is almost incredible. In a day's ride of twenty miles, I have passed the remains of as many as three or four, how many more may have vanished in the depths of the jungle!

Wherever the cocoa-nut trees are still existing, the ruin of the village must have been comparatively recent, as the wild elephants generally overturn them in a few years after the disappearance of the inhabitants, browsing upon the succulent tops, and destroying every trace of a former habitation.

There is no doubt that when sickness is annually reducing the population of a district, the inhabitants, and accordingly the produce of the land, must shortly come to an end. In all times of pestilence the first impulse among the natives is to fly from the neighborhood, but at present there is no place of refuge. It is, therefore, a matter of certainty that the repair of one of the principal tanks would draw together in thousands the survivors of many half-perished villages, who would otherwise fall victims to succeeding years of sickness.

The successful cultivation of rice at all times requires an extensive population, and large grazing-grounds for the support of the buffaloes necessary for the tillage of the land.

The labor of constructing dams and forming watercourses is performed by a general gathering, similar to the American principle of a "bee;" and, as "many hands make light work," the cultivation proceeds with great rapidity. Thus a large population can bring into tillage a greater individual proportion of ground than a smaller number of laborers, and the rice is accordingly produced at a cheaper rate.

Few people understand the difficulties with which a small village has to contend in the cultivation of rice. The continual repairs of temporary dams, which are nightly trodden down and destroyed by elephants; the filling up of the water-courses from the same cause; the nocturnal attacks upon the crops by elephants and hogs; the devastating attacks of birds as the grain becomes ripe; a scarcity of water at the exact moment it is required; and other numerous difficulties which are scarcely felt by a large population.

By the latter the advantage is enjoyed of the division of labor. The dams are built of permanent material; every work is rapidly completed; the night-fires blaze in the lofty watch-house, while the shouts of the watchers scare the wild beasts from the crops. Hundreds of children are daily screaming from their high perches to scare away the birds. Rattles worked by long lines extend in every direction, unceasingly pulled by the people in the watch-houses; wind-clackers (similar to our cherry-clackers) are whirling in all places; and by the division of the toil among a multitude the individual work proceeds without fatigue.

Every native is perfectly aware of this advantage in rice cultivation; and were the supply of water ensured to them by the repair of a principal tank, they would gather around its margin. The thorny jungles would soon disappear from the surface of the ground, and a densely-populated and prosperous district would again exist where all has been a wilderness for a thousand years.

The system of rice cultivation is exceedingly laborious. The first consideration being a supply of water, the second is a perfect level, or series of levels, to be irrigated. Thus a hill-side must be terraced out into a succession of platforms or steps; and a plain, however apparently flat, must, by the requisite embankments, be reduced to the most perfect surface.

This being completed, the water is laid on for a certain time, until the soil has become excessively soft and muddy. It is then run off, and the land is ploughed by a simple implement, which, being drawn by two buffaloes, stirs up the soil to a depth of eighteen inches. This finished, the water is again laid on until the mud becomes so soft that a man will sink knee-deep. In this state it is then trodden over by buffaloes, driven backward and forward in large gangs, until the mud is so thoroughly mixed that upon the withdrawal of the water it sinks to a perfect level.

Upon this surface the paddy, having been previously soaked in water, is now sown; and, in the course of a fortnight, it attains a height of about four inches. The water is now again laid on, and continued at intervals until within a fortnight of the grain becoming ripe. It is then run off; the ground hardens, the ripe crop is harvested by the sickle, and the grain is trodden out by buffaloes. The rice is then separated from the paddy or husk by being pounded in a wooden mortar.

This is a style of cultivation in which the Cingalese particularly excel; nothing can be more beautifully regular than their flights of green terraces from the bottoms of the valleys to the very summits of the hills: and the labor required in their formation must be immense, as they are frequently six feet one above the other. The Cingalese are peculiarly a rice-growing nation; give them an abundant supply of water and land on easy terms, and they will not remain idle.

## CHAPTER V

Real Cost of Land—Want of Communication—Coffee-planting—Comparison between French and English Settlers—Landslips—Forest-clearing—Manuring—The Coffee Bug—Rats—Fatted Stock—Suggestions for Sheep-farming—Attack of a Leopard—Leopards and Chetahs—Boy Devoured—Traps—Musk Cats and the Mongoose—Vermin of Ceylon.

What is the government price of land in Ceylon? and what is the real cost of the land? These are two questions which should be considered separately, and with grave attention by the intending settler or capitalist.

The upset price of government land is twenty shillings per acre; thus, the inexperienced purchaser is very apt to be led away by the apparently low sum per acre into a purchase of great extent. The question of the real cost will then be solved at his expense. There are few colonies belonging to Great Britain where the government price of land is so high, compared to the value of the natural productions of the soil.

The staple commodity of Ceylon being coffee, I will assume that a purchase is concluded with the government for one thousand acres of land, at the upset price of twenty shillings per acre. What has the purchaser obtained for this sum? One thousand acres of dense forest, to which there is no road. The one thousand pounds passes into the government chest, and the purchaser is no longer thought of; he is left to shift for himself and to make the most of his bad bargain.

He is, therefore, in this position: He has parted with one thousand pounds for a similar number of acres of land, which will not yield him one penny in any shape until he has cleared it from forest. This he immediately commences by giving out contracts, and the forest is cleared, lopped and burnt. The ground is then planted with coffee and the planter has to wait three years for a return. By the time of full bearing the whole cost of felling, burning, planting and cleaning will be about eight pounds per acre; this, in addition to the prime cost of the land, and about two thousand pounds expended in buildings, machinery etc., etc., will bring the price of the land, when in a yielding condition, to eleven pounds an acre at the lowest calculation. Thus before his land yields him one fraction, he will have invested eleven thousand pounds, if he clears the whole of his purchase. Many persons lose sight of this necessary outlay when first purchasing their land, and subsequently discover to their cost that their capital is insufficient to bring the estate into cultivation.

Then comes the question of a road. The government will give him no assistance; accordingly, the whole of his crop must be conveyed on coolies' heads along an arduous path to the nearest highway, perhaps fifteen miles distant. Even this rough path of fifteen miles the planter must form at his own expense.

Considering the risks that are always attendant upon agricultural pursuits, and especially upon coffee-planting, the price of rough land must be acknowledged as absurdly high under the present conditions of sales. There is a great medium to be observed, however, in the sales of crown land; too low a price is even a greater evil than too high a rate, as it is apt to encourage speculators in land, who do much injury to a colony by locking up large tracts in an uncultivated state, to take the chance of a future rise in the price.

This evil might easily be avoided by retaining the present bona fide price of the land per acre, qualified by an arrangement that one-half of the purchase money should be expended in the formation of roads from the land in question. This would be of immense assistance to the planters, especially in a populous planting neighborhood, where the purchases of land were large and numerous, in which case the aggregate sum would be sufficient to form a carriage road to the main highway, which might be kept in repair by a slight toll. An arrangement of this kind is not only fair to the planters, but would

be ultimately equally beneficial to the government. Every fresh sale of land would ensure either a new road or the improvement of an old one; and the country would be opened up through the most remote districts. This very fact of good communication would expedite the sales of crown lands, which are now valueless from their isolated position.

Coffee-planting in Ceylon has passed through the various stages inseparable from every "mania."

In the early days of our possession, the Kandian district was little known, and sanguine imaginations painted the hidden prospect in their ideal colors, expecting that a trace once opened to the interior would be the road to fortune.

How these golden expectations have been disappointed the broken fortunes of many enterprising planters can explain.

The protective duty being withdrawn, a competition with foreign coffee at once reduced the splendid prices of olden times to a more moderate standard, and took forty per cent. out of the pockets of the planters. Coffee, which in those days brought from one hundred shillings to one hundred and forty shillings per hundred-weight, is now reduced to from sixty shillings to eighty shillings.

This sudden reduction created an equally sudden panic among the planters, many of whom were men of straw, who had rushed to Ceylon at the first cry of coffee "fortunes," and who had embarked on an extensive scale with borrowed capital. These were the first to smash. In those days the expenses of bringing land into cultivation were more than double the present rate, and, the cultivation of coffee not being so well understood, the produce per acre was comparatively small. This combination of untoward circumstances was sufficient cause for the alarm which ensued, and estates were thrust into the market and knocked down for whatever could be realized. Mercantile houses were dragged down into the general ruin, and a dark cloud settled over the Cinnamon isle.

As the after effects of a "hurricane" are a more healthy atmosphere and an increased vigor in all vegetation, so are the usual sequels to a panic in the commercial world. Things are brought down to their real value and level; men of straw are swept away, and affairs are commenced anew upon a sound and steady basis. Capital is invested with caution, and improvements are entered upon step by step, until success is assured.

The reduction in the price of coffee was accordingly met by a corresponding system of expenditure and by an improved state of cultivation; and at the present time the agricultural prospects of the colony are in a more healthy state than they have ever been since the commencement of coffee cultivation.

There is no longer any doubt that a coffee estate in a good situation in Ceylon will pay a large interest for the capital invested, and will ultimately enrich the proprietor, provided that he has his own capital to work his estate, that he gives his own personal superintendence and that he understands the management. These are the usual conditions of success in most affairs; but a coffee-estate is not unfrequently abused for not paying when it is worked with borrowed capital at a high rate of interest under questionable superintendence.

It is a difficult thing to define the amount which constitutes a "fortune:" that which is enough for one man is a pittance for another; but one thing is certain, that, no matter how small his first capital, the coffee-planter hopes to make his "fortune."

Now, even allowing a net profit of twenty per cent. per annum on the capital invested, it must take at least ten years to add double the amount to the first capital, allowing no increase to the spare capital required for working the estate. A rapid fortune can never be made by working a coffee estate. Years of patient industry and toil, chequered by many disappointments, may eventually reward the proprietor; but it will be at a time of life when a long residence in the tropics will have given him a distaste for the chilly atmosphere of old England; his early friends will have been scattered abroad, and he will meet few faces to welcome him on his native shores. What cold is so severe as a cold

reception?—no thermometer can mark the degree. No fortune, however large, can compensate for the loss of home, and friends, and early associations.

This feeling is peculiarly strong throughout the British nation. You cannot convince an English settler that he will be abroad for an indefinite number of years; the idea would be equivalent to transportation: he consoles himself with the hope that something will turn up to alter the apparent certainty of his exile; and in this hope, with his mind ever fixed upon his return, he does nothing for posterity in the colony. He rarely even plants a fruit tree, hoping that his stay will not allow him to gather from it. This accounts for the poverty of the gardens and enclosures around the houses of the English inhabitants, and the general dearth of any fruits worth eating.

How different is the appearance of French colonies, and how different are the feelings of the settler! The word "adieu" once spoken, he sighs an eternal farewell to the shores of "La belle France," and, with the natural light-heartedness of the nation, he settles cheerfully in a colony as his adopted country. He lays out his grounds with taste, and plants groves of exquisite fruit trees, whose produce will, he hopes, be tasted by his children and grandchildren. Accordingly, in a French colony there is a tropical beauty in the cultivated trees and flowers which is seldom seen in our possessions. The fruits are brought to perfection, as there is the same care taken in pruning and grafting the finest kinds as in our gardens in England.

A Frenchman is necessarily a better settler; everything is arranged for permanency, from the building of a house to the cultivation of an estate. He does not distress his land for immediate profit, but from the very commencement he adopts a system of the highest cultivation.

The latter is now acknowledged as the most remunerative course in all countries; and its good effects are already seen in Ceylon, where, for some years past, much attention has been devoted to manuring on coffee estates.

No crop has served to develop the natural poverty of the soil so much as coffee; and there is no doubt that, were it possible to procure manure in sufficient quantity, the holes should be well filled at the time of planting. This would give an increased vigor to the young plant that would bring the tree into bearing at an earlier date, as it would the sooner arrive at perfection.

The present system of coffee-planting on a good estate is particularly interesting. It has now been proved that the best elevation in Ceylon to combine fine quality with large crops is from twenty-five hundred to four thousand feet. At one time it was considered that the finest quality was produced at the highest range; but the estates at an elevation of five thousand feet are so long at arriving at perfection, and the crop produced is so small, that the lower elevation is preferred.

In the coffee districts of Ceylon there is little or no level ground to be obtained, and the steep sides of the hills offer many objections to cultivation. The soil, naturally light and poor, is washed by every shower, and the more soluble portions, together with the salts of the manure applied to the trees, are being continually robbed by the heavy rains. Thus it is next to impossible to keep an estate in a high state of cultivation, without an enormous expense in the constant application of manure.

Many estates are peculiarly subject to landslips, which are likewise produced by the violence of the rains. In these cases the destruction is frequently to a large extent; great rocks are detached from the summits of the hills, and sweep off whole lines of trees in their descent.

Wherever landslips are frequent, they may be taken as an evidence of a poor, clay subsoil. The rain soaks through the surface; and not being able to percolate through the clay with sufficient rapidity, it lodges between the two strata, loosening the upper surface, which slides from the greasy clay; launched, as it were, by its own gravity into the valley below.

This is the worst kind of soil for the coffee tree, whose long tap-root is ever seeking nourishment from beneath. On this soil it is very common to see a young plantation giving great promise; but as the trees increase in growth the tap-root reaches the clay subsoil and the plantation immediately falls off. The subsoil is of far more importance to the coffee-tree than the upper surface; the latter may be improved by manure, but if the former is bad there is no remedy.

The first thing to be considered being the soil, and the planter being satisfied with its quality, there is another item of equal importance to be taken into consideration when choosing a locality for a coffee estate. This is an extent of grazing land sufficient for the support of the cattle required for producing manure.

In a country with so large a proportion of forest as Ceylon, this is not always practicable; in which case land should be cleared and grass planted, as it is now proved that without manure an estate will never pay the proprietor.

The locality being fixed upon, the clearing of the forest is commenced. The felling is begun from the base of the hills, and the trees being cut about half through, are started in sections of about an acre at one fall. This is easily effected by felling some large tree from the top, which, falling upon its half-divided neighbor, carries everything before it like a pack of cards.

The number of acres required having been felled, the boughs and small branches are all lopped, and, together with the cleared underwood, they form a mass over the surface of the ground impervious to man or beast. This mass, exposed to a powerful sun, soon becomes sufficiently dry for burning, and, the time of a brisk breeze being selected, the torch is applied.

The magnificent sight of so extensive a fire is succeeded by the desolate appearance of blackened stumps and smouldering trunks of trees: the whole of the branches and tinderwood having been swept away by the mighty blaze, the land is comparatively clear.

Holes two feet square are now dug in parallel lines at a distance of from six to eight feet apart throughout the estate, and advantage being taken of the wet season, they are planted with young coffee trees of about twelve inches high. Nothing is now required but to keep the land clean until the trees attain the height of four feet and come into bearing. This, at an elevation of three thousand feet, they generally do in two years and a half. The stem is then topped, to prevent its higher growth and to produce a large supply of lateral shoots.

The system of pruning is the same as with all fruit trees; the old wood being kept down to induce fruit bearing shoots, whose number must be proportioned to the strength of the tree.

The whole success of the estate now depends upon constant cleaning, plentiful manuring and careful pruning, with a due regard to a frugal expenditure and care in the up-keep of buildings, etc., etc. Much attention is also required in the management of the cattle on the estate, for without a proper system the amount of manure produced will be proportionately small. They should be bedded up every night hock deep with fresh litter and the manure thus formed should be allowed to remain in the shed until it is between two and three feet deep. It should then be treated on a "Geoffrey" pit (named after its inventor).

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