

# Himalayan Journals

Or, Notes of a Naturalist in Bengal, the  
Sikkim and Nepal Himalayas, the Khasia  
Mountains, &c



JOSEPH DALTON HOOKER

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# HIMALAYAN JOURNALS.

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## CHAPTER I.

Sunderbunds vegetation—Calcutta Botanic Garden—Leave for Burdwan  
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Glass, manufacture of—Atmospheric vapours—Temperature, &c.—  
Mahowa oil and spirits—Maddaobund—Jains—Ascent of Paramath  
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I LEFT England on the 11th of November, 1847, and performed the voyage to India under circumstances which have been detailed in the Introduction. On the 12th of January, 1848, the "Moozuffer" was steaming amongst the low swampy islands of the Sunderbunds. These exhibit no tropical luxuriance, and are, in this respect, exceedingly disappointing. A low vegetation covers them; growing in brackish swamps, chiefly made up of a dwarf-palm and small mangroves, with a few scattered trees on the higher bank that runs along the water's edge, consisting of fan and toddy-palms. Every now and then, the paddles of the steamer tossed up the large fruits of *Nipa fruticans*, a low stemless palm that grows in the tidal waters of the Indian ocean,



and bears a large head of nuts. It is a plant of no interest to the common observer, but of much to the geologist, from the nuts of a similar plant abounding in the tertiary formations at the mouth of the Thames, having floated about there in as great profusion as here, till buried deep in the silt and mud that now form the island of Sheppey.\*

Higher up, the river Hoogly is entered, and large trees, with villages and cultivation, replace the sandy spits and marshy jungles of the great Gangetic delta. A few miles below Calcutta, the scenery becomes beautiful, beginning with the Botanic Garden, once the residence of Roxburgh and Wallich, and now of Falconer,—classical ground to the naturalist. Opposite are the gardens of Sir Lawrence Peel; unrivalled in India for their beauty and cultivation, and fairly entitled to be called the Chatsworth of Bengal. A little higher up, Calcutta opened out, with the batteries of Fort William in the foreground, thundering forth a salute, and in a few minutes more all other thoughts were absorbed in watching the splendour of the arrangements made for the reception of the Governor-General of India.

During my short stay in Calcutta, I was principally occupied in preparing for an excursion with Mr. Williams of the Geological Survey, who was about to move his camp from the Damooda valley coal-fields, near Burdwan, to Beejaghur on the banks of the Soane, where coal was reported to exist, in the immediate

\* Bowerbank "On the Fossil Fruits and Seeds of the Isle of Sheppey," and Lyell's "Elements of Geology," 3rd ed. p. 201.

vicinity of water-carriage, the great desideratum of the Burdwan fields.

My time was spent partly at Government-House, and partly at Sir Lawrence Peel's residence. The former I was kindly invited to consider as my Indian home, an honour which I appreciate the more highly, as the invitation was accompanied with the assurance that I should have entire freedom to follow my own pursuits; and the advantages which such a position afforded me, were, I need not say, of no ordinary kind.

At the Botanic Gardens I received every assistance from Dr. McLelland, who was very busy, superintending the publication of the botanical papers and drawings of his friend, the late Dr. Griffith, for which native artists were preparing copies on lithographic paper.

I was surprised to find the Botanic Gardens looked upon by many of the Indian public, and even by some of the better informed official men, as rather an extravagant establishment, more ornamental than useful. These persons seemed astonished to learn that its name was renowned throughout Europe, and that during the first twenty years especially of Dr. Wallich's superintendence, it had contributed more useful and ornamental tropical plants to the public and private gardens of the world than any other establishment before or since. I speak from a personal knowledge of the contents of our English gardens, and our colonial ones at the Cape, and in Australia, and from an inspection of the ponderous volumes of distribution lists, to which Dr. Falconer is daily adding. The botanical public of Europe and India is no less indebted than the

horticultural to the liberality of the Hon. East India Company, and to the energy of the several eminent men who have carried their views into execution. The Indian government itself, has already profited largely by this garden, directly and indirectly, and might have done so still more, had its efforts been better seconded either by the European or native population of the country. Amongst its greatest triumphs may be considered the introduction of the tea-plant from China, a fact I allude to, as many of my English readers may not be aware that the establishment of the tea-trade in the Himalaya and Assam is almost entirely the work of the superintendents of the gardens of Calcutta and Seharunpore.

From no one did I receive more kindness than from Sir James Colville, President of the Asiatic Society, who not only took care that I should be provided with every comfort, but presented me with a completely equipped palkee, which, for strength and excellence of construction, was everything that a traveller could desire. Often *en route* did I mentally thank him when I saw other palkees breaking down, and travellers bewailing the loss of those forgotten necessaries, with which his kind attention had furnished me.

I left Calcutta to join Mr. Williams' camp on the 28th of January, driving to Hoogly on the river of that name, and thence following the grand trunk-road westward towards Burdwan. The novelty of palkee-travelling at first renders it pleasant: the neatness with which everything is packed, the good-humour of the bearers, their merry pace, and the many more comforts

than could be expected in a conveyance *horsed by men*, the warmth when the sliding doors are shut, and the breeze when they are open, are all fully appreciated on first starting; but soon the novelty wears off, and the discomforts are so numerous, that it is pronounced, at best, a barbarous conveyance. The greedy cry and gestures of the bearers, when, on changing, they break a fitful sleep by poking a torch in your face, and vociferating "Bucksheesh, Sahib;" their discontent at the most liberal largesse, and the sluggishness of the next set who want bribes, put the traveller out of patience with the natives. The dust when the slides are open, and the stifling heat when shut during a shower, are conclusive against the vehicle; and on getting out with aching bones and giddy head at my journey's end, I shook off the dust, and wished never to see a palkee again.

On the following morning I was passing through the straggling villages close to Burdwan, consisting of native hovels by the road side, with mangos and figs planted near them, and palms waving over their roofs. Crossing the nearly dry bed of the Damooda, I was set down at Mr. M'Intosh's (the magistrate of the district), and never more thoroughly enjoyed a hearty welcome and a breakfast.

In the evening we visited the Rajah of Burdwan's palace and pleasure-grounds, where I had the first glimpse of oriental gardening: the roads were generally raised, running through rice fields, now dry and hard, and bordered with trees of Jack, Bamboo, "Pride of India," &c. Tanks were the prominent features: chains

of them, full of Indian water-lilies, being fringed with rows of the fan-palm, and occasionally the Indian date. Close to the house was a rather good menagerie, where I saw, amongst other animals, a pair of kangaroos in high health and condition, the female with young in her pouch. Before dark I was again in my palkee, and hurrying onwards, refreshed by the cool and clear night air, so different from the damp and foggy atmosphere I had left at Calcutta. On the following morning I found myself travelling over a flat and apparently rising country, along an excellent road, with groves of bamboos and stunted trees on either hand, few villages or palms, a sterile soil, with stunted grass and but little cultivation; altogether a country as unlike what I had expected to find in India as well might be. All around was a dead flat or table-land, out of which a few conical hills rose in the west, about 1000 feet high, covered with a low forest of dusky green or yellow, from the prevalence of bamboo. The lark was singing merrily at sunrise, and the accessories of a fresh air and dewy grass more reminded me of some moorland in the north of England than of the torrid regions of the East.

At 10 P.M. I arrived at Mr. Williams' camp, near the western limit of the coal basin of the Damooda valley. His operations being finished, he was prepared to start, having kindly waited a couple of days for my arrival.

Early on the morning of the last day of January, a motley group of natives was busy striking the tents, and loading the bullocks, bullock-carts and elephants;

which then proceeded on the march, occupying in straggling groups nearly three miles of road.

The coal crops out at the surface; but the shafts worked are sunk through thick beds of alluvium. The age of these coal-fields is quite unknown, and I regret to say that my examination of their fossil plants throws no material light on the subject. Upwards of thirty species of these have been procured from them, the majority of which are referred by Dr. McLelland\* to the inferior oolite epoch of England: most of these are ferns, some of which are supposed to be the same as occur in the coal-fields of Sind and of Australia. I cannot, however, think that botanical evidence of such a nature is sufficient to warrant a satisfactory reference of these Indian coal-fields to the same epoch as those of England or of Australia: in the first place the outlines of the fronds of ferns and their nervation are frail characters if employed alone for the determination of existing genera, and much more so of fossil fragments: in the second place recent ferns are so widely distributed, that an inspection of the majority affords little clue to the region or locality they come from: and in the third place, considering the wide difference in latitude and longitude of Yorkshire, India, and Australia, the natural conclusion is that they could not have supported a similar vegetation at the same epoch. In fact, finding similar fossil plants at places widely different in latitude, and therefore in climate, is, in the present state of our knowledge, rather an argument against than for their having existed coterminously.

\* Reports of the Geological Survey of India. Calcutta, 1850.

But, even supposing that specific identity of their contained fossils be considered as fair evidence of the cotemporaneous origin of beds; amongst the many collections of fossil plants that I have examined, there is hardly a specimen, belonging to any epoch, sufficiently perfect to warrant the assumption that the species to which it belonged can be recognised. The botanical evidences which geologists too often accept as proofs of specific identity, are such as no botanist would attach any importance to in the investigation of existing plants.

A number of women were here employed in making gunpowder, grinding the usual materials on a stone, with the addition of water from the Hookah; a custom for which they have an obstinate prejudice. The charcoal here used is made from an *Acacia*: the Seiks, I believe, employ *Justicia Adhatoda*, which is also in use all over India; at Aden the Arabs prefer the *Calotropis*, probably because it is most easily procured. The grain of all these plants is open, whereas in England, closer-grained and more woody trees, especially willows, are preferred.

The jungle I found to consist chiefly of thorny bushes, Jujube of two species, an *Acacia* and *Butea frondosa*, the twigs of the latter often covered with lurid red tears of Lac, which is here collected in abundance. As it occurs on the plants and is collected by the natives it is called Stick-lac, but after preparation Shell-lac. In Mirzapore, a species of *Celtis* yields it, and the Peepul very commonly in various parts of India. The elaboration of this dye, whether by the

same or many species of insect, from plants so widely different in habit and characters, is a very curious fact; the more so since none of these plants have red, but some have milky and others limpid juices.

After breakfast, Mr. Williams and I started on an elephant, following the camp. The docility of these animals is an old story, but it loses so much in the telling, that their gentleness, obedience, and sagacity seemed as strange to me as if I had never heard or read of these attributes. The swinging motion, under a hot sun, is very oppressive, but compensated for by being so high above the dust. The mahout or driver guides by poking his great toes under either ear, enforcing obedience with an iron goad, with which he hammers the animal's head with quite as much force as would break a cocoa-nut, or drives it through his thick skin down to the quick. Our elephant was an excellent one, when he did not take obstinate fits, and so intelligent as to pick up pieces of stone when desired, and with a jerk of the trunk throw them over his head for the rider to catch, thus saving the trouble of dismounting to geologise!

We met many pilgrims to Juggernath, most of whom were on foot, while a few were in carts or pony gigs of rude construction. The vehicles from the upper country are distinguished by a far superior build, their horses are caparisoned with jingling bells, and the wheels and other parts are bound with brass. The kindness of the people towards animals, and in some cases towards their suffering relations, is very remarkable, and may in part have given rise to the prevalent



idea that they are less cruel and stern than the majority of mankind; but that the "mild" Hindoo, however gentle on occasion, is cruel and vindictive to his brother man and to animals, when his indolent temper is roused or his avarice stimulated, no one can doubt who reads the accounts of Thuggee, Dacoitee, and poisoning, and witnesses the cruelty with which beasts of burthen are treated. A child carrying a bird, kid, or lamb, is not an uncommon sight, and a woman with a dog in her arms is still more frequently seen. Occasionally too, a group will bear an old man to see Juggernath before he dies, or a poor creature with elephantiasis, who hopes to be allowed to hurry himself to his paradise, in preference to lingering in helpless inactivity, and at last crawling up to the second heaven only. The costumes are as various as the religious castes, and the many countries to which the travellers belong. The most thriving-looking wanderer is the bearer of Ganges' holy water, who drives a profitable trade, his gains increasing as his load lightens, since the further he wanders from the sacred stream, the more he gets for the contents of his jar.

The Ganges being still the main channel of communication between north-west India and Bengal, we passed very little merchandise; such as there was, principally consisted of cotton, which, clumsily packed in ragged bags, dirty, and deteriorating every day, even at this dry season, proved in how bad a state it must arrive at the market during the rains, when the low waggons are dragged through the streams.

Occasionally a string of camels was seen, but, owing

to the damp climate, these are rare, and east of the meridian of Calcutta altogether unknown. The roads here are all mended with a curious stone, called Kunker, which is a nodular concretionary deposit of limestone, abundantly imbedded in the alluvial soil of a great part of India; and often occurring in strata, like flints. It resembles a coarse gravel, each pebble being often as large as a walnut, and tuberculated on the surface: it binds admirably, and forms excellent roads, but pulverises into a most disagreeable impalpable dust.

The vegetation of this part of the country was very poor, consisting of a low stunted jungle, and no good-sized trees being visible: even grasses were few, and dried up, except in the beds of the rivulets. Bamboos were however common, and the Cowage plant, now with over-ripe pods, by shaking which, in passing, there often falls such a shower of its irritating microscopic hairs, as to make the skin tingle for an hour.

On the 1st of February, we moved on to Gyra, an insignificant village. The air was cool, and the atmosphere clear; the temperature, at three in the morning, being  $65^{\circ}$ . As the sun rose, Parasnath appeared against the clear grey sky, in the form of a beautiful broad cone, with a rugged peak, of a deeper grey than the sky. It is a remarkably handsome mountain, sufficiently lofty to be imposing, rising out of an elevated country, the slope of which, upward to the base of the mountain, though imperceptible, is really considerable; and it is surrounded by lesser hills

of just sufficient elevation to set it off. The atmosphere, too, of these regions is peculiarly favourable for views: it is very dry at this season; but still the hills are clearly defined, without the harsh outlines so characteristic of a moist air. The skies are bright, the sun powerful; and there is an almost imperceptible haze that seems to soften the landscape, and keep every object in true perspective.

Our route led towards the picturesque hills and valleys in front. There was little cultivation, and that little of the most wretched kind; even rice-fields were few and scattered; there was no corn, nor lentiles, nor Castor-oil, no Poppy, Cotton, Safflower, nor other crops of the richer soils that flank the Ganges and Hoogly; a very little Sugar-cane, Dhal (a small pea), Mustard, Linseed, and Rape, the three latter cultivated for their oil. Hardly a Palm was to be seen; and it was seldom that the cottages could boast of a Banana, Tamarind, Orange, Cocoa-nut, or Date. The Mahowa (*Bassia latifolia*) and Mango were the commonest trees. There being no Kunker in the soil here, the roads were mended with angular quartz, much to the elephant's annoyance.

The country around the base of Parasnath is rather pretty, the hills covered with bamboo and brushwood, and as usual, rising rather suddenly from the elevated plains. The jungle affords shelter to a few bears and tigers, jackals in abundance, and occasionally foxes; the birds seen are chiefly pigeons. Insects are very scarce; those of the locust tribe being most prevalent, indicative of a dry climate.

The temperature varied from 65° at night, to 82° at 3 P.M., from which there was no great variation during the whole time we spent at these elevations. The clouds were rare, and always light and high, except a little fleecy spot of vapour condensed close to the summit of Parasnath. Though the nights were clear and starlight, no dew was deposited, owing to the great dryness of the air.

On the 2nd of February we proceeded to Tofe-Choney, the hills increasing in height to nearly 1000 feet, and the country becoming more picturesque. We passed some tanks covered with *Villarsia*, and frequented by flocks of white egrets. The existence of artificial tanks so near a lofty mountain, from whose sides innumerable water-courses descend, indicates the great natural dryness of the country during one season of the year. The hills and valleys were richer than I expected, though far from luxuriant.

This being the most convenient station whence to ascend Parasnath, we started at 6 A.M. for the village of Maddaobund, at the north base of the mountain, or opposite side from that on which the grand trunk-road runs. After following the latter for a few miles to the west, we took a path through beautifully wooded plains, with scattered trees of the Mahowa, resembling good oaks: the natives distil a kind of arrack from its fleshy flowers, which are also eaten raw. The seeds, too, yield a concrete oil, by expression, which is used for lamps and occasionally for frying.

Some villages at the west base of the mountain occupy a better soil, and are surrounded with richer

cultivation; palms, mangos, and the tamarind, the first and last rare features in this part of Bengal, appeared to be common, with fields of rice and broad acres of flax and rape, through the latter of which the blue Indian Broom rape (*Orobanche indica*) swarmed. The short route to Maddaobund, through narrow rocky valleys, was impracticable for the elephant, and we had to make a very considerable détour, only reaching that village at 2 P.M. All the hill people we observed were a fine-looking athletic race; they disclaimed the tiger being a neighbour, which every palkee-bearer along the road declares to carry off the torch-bearers, torch and all. Bears they said were scarce, and all other wild animals, but a natural jealousy of Europeans often leads the natives to deny the existence of what they know to be an attraction to the proverbially sporting Englishman.

The site of Maddaobund, elevated 1230 feet, in a clearance of the forest, and the appearance of the snow-white domes and bannerets of its temples through the fine trees by which it is surrounded, are very beautiful; and the situation is so sheltered that the tamarind, peepul, and banyan trees are superb. A fine specimen of the latter stands at the entrance to the village, not a broad-headed tree, as is usual in the prime of its existence, but a mass of trunks irregularly throwing out immense branches in a most picturesque manner; the original trunk is apparently gone, and the principal mass of root-stems is fenced in. This, with two magnificent tamarinds, forms a grand clump. The ascent of the mountain is immediately from the

village up a pathway worn by the feet of many a pilgrim from the most remote parts of India.



OLD TAMARIND TREES.

Parasnath is a mountain of peculiar sanctity, to which circumstance is to be attributed the flourishing state of Maddaobund. The name is that of the twenty-third incarnation of Jinna (Sanscrit "Conqueror"), who was born at Benares, lived one hundred years, and was buried on this mountain, which is the eastern metropolis of Jain worship, as Mount Aboo is the western (where are their libraries and most splendid temples). The origin of the Jain sect is obscure,

though its rise appears to correspond with the wreck of Boodhism throughout India in the eleventh century. The Jains form in some sort a transition-sect between Boodhists and Hindoos, differing from the former in acknowledging castes, and from both in their worship of Parasnath's foot, instead of that of Munja-gosha of the Boodhs, or Vishnoo's of the Hindoos. As a sect of Boodhists their religion is considered pure, and free from the obscenities so conspicuous in Hindoo worship; whilst, in fact, perhaps the reverse is the case; but the symbols are fewer, and indeed almost confined to the feet of Parasnath, and the priests jealously conceal their esoteric doctrines.

The temples, though small, are well built, and carefully kept. No persuasion could induce the Brahmins to allow us to proceed beyond the vestibule without taking off our shoes, to which we were not inclined to consent. The bazaar was for so small a village large, and crowded to excess with natives of all castes, colours, and provinces of India, very many from the extreme W. and N. W., Rajpootana, the Madras Presidency, and Central India. Numbers had come in good cars, well attended, and appeared men of wealth and consequence; while the quantities of conveyances of all sorts standing about, rather reminded me of an election, than of anything I had seen in India.

The natives of the place were a more Negro-looking race than the Bengalees to whom I had previously been accustomed; and the curiosity and astonishment they displayed at seeing (probably many of them for the first time) a party of Englishmen, were sufficiently

amusing. Our coolies not having come up, and it being two o'clock in the afternoon, I having had no breakfast, and being ignorant of the exclusively Jain population of the village, sent my servant to the bazaar, for some fowls and eggs; but he was mobbed for asking for these articles, and parched rice, beaten flat, with some coarse sugar, was all he could obtain; together with sweetmeats so odiously flavoured with various herbs, and sullied with such impurities, that we quickly made them over to the elephants.

In the evening a very gaudy poojah was performed. The car, filled with idols, was covered with gilding and silk, and drawn by noble bulls, festooned and garlanded. A procession was formed in front; and it opened into an avenue, up and down which gaily dressed dancing-boys paced or danced, shaking castanets, the attendant worshippers singing in discordant voices, beating tomtoms, cymbals, &c. Images (of Boodh apparently) abounded on the car, in front of which a child was placed. The throng of natives was very great and perfectly orderly, indeed, sufficiently apathetic: they were remarkably civil and willing to explain what they understood of their own worship.

Having provided doolies, or little bamboo chairs slung on four men's shoulders, in which I put my papers and boxes, we next morning commenced the ascent; at first through woods of the common trees, with large clumps of bamboo, over slaty rocks of gneiss, much inclined and sloping away from the mountain. The view from a ridge 500 feet high was superb, of the village, and its white domes half buried



in the forest below, the latter of which continued in sight for many miles to the northward. Descending to a valley some ferns were met with, and a more luxuriant vegetation, especially of the nettle tribe. Wild bananas formed a beautiful, and to me a novel feature in the woods.

The conical hills of the white ants were very abundant. The structure appears to me not an independent one, but the débris of clumps of bamboos, or of the trunks of large trees, which these insects have destroyed. As they work up a tree from the ground, they coat the bark with particles of sand glued together, carrying up this artificial sheath or covered way as they ascend. A clump of bamboos is thus speedily killed; and the dead stems fall away, leaving the mass of stumps coated with sand, which the action of the weather soon fashions into a cone of earthy matter.

Ascending again, the path struck through a thick forest of Sal (*Vateria robusta*) and other trees, spanned with cables of scandent *Bauhinia* stems. At about 3000 feet above the sea, the vegetation became more luxuriant, and by a little stream I collected five species of ferns and some mosses,—all in a dry state, however. The white ant apparently does not enter this cooler region. At 3500 feet the vegetation again changed, the trees all becoming gnarled and scattered; and as the dampness also increased, more mosses and ferns appeared. We emerged from the forest at the foot of the great ridge of rocky peaks, stretching E. and W. three or four miles. Abundance of a species of

berberry and an *Osbeckia* marked the change in the vegetation most decidedly, which were frequent over the whole summit, with coarse grasses, and various bushes.

At noon we reached the saddle of the crest (alt. 4230 feet), where was a small temple, one of five or six which occupy various prominences of the ridge. The wind, N. W., was cold, the temp. 56°. The atmosphere was unfortunately hazy, nevertheless the view was beautiful. To the north were ranges of low wooded hills, and the course of the Barakah and Adji rivers; to the south lay a more level country, with lower ranges, and the Damooda river, its all but waterless bed snowy-white from the exposed granite blocks with which its course is strewn. East and west rose several sharp ridges of the mountain itself; the western considerably the highest. Immediately below, the mountain flanks appeared clothed with impenetrable forest, here and there interrupted by rocky eminences; while to the north the grand trunk-road crossed the plains, like a white thread, as straight as an arrow, spanning the beds of the mountain torrents with picturesque bridges.

On the south side the vegetation was more luxuriant than on the north, though, from the heat of the sun, the reverse might have been expected. This is owing partly to the curve taken by the ridge being open to the south, and partly to the winds from that quarter being the moist ones. Accordingly, trees which I had left 3000 feet below on the north flank, here ascended to near the summit, such as figs and bananas. A short-stemmed palm was tolerably abundant, and a small

tree (*Pterospermum*) on which a species of grass grew epiphytically; forming a curious feature in the landscape.

The situation of the principal temple is very fine, below the saddle in a hollow facing the south, surrounded by jungles of plantain and banyan. It is small, and contains little worthy of notice but the sculptured feet of Parasnath, and some marble Boodh idols; cross-legged figures, with crisp hair and the Brahminical cord. These, a leper covered with ashes in the vestibule, and an officiating priest, were all we saw. Pilgrims were seen on various parts of the mountain in considerable numbers, passing from one temple to another, and generally leaving a few grains of dry rice at each.

The culminant rocks were very dry, but in the rains may possess many curious plants; a fine *Kalanchoe* was common, with a berberry, and various other shrubs; a *Bolbophyllum* grew on the rocks, with a small *Begonia*, and some ferns. There were no birds, and very few insects, a beautiful small *Pontia* being the only butterfly. The striped squirrel was very busy amongst the rocks; and I saw a few mice, and the traces of bears.

At 3 P.M., the temperature was 54°, and the air deliciously cool and pleasant. I tried to reach the western peak (perhaps 300 feet above the saddle), by keeping along the ridge, but was cut off by precipices, and ere I could retrace my steps it was time to descend. This I was glad to do in a doolie, and I was carried to the bottom, with only one short rest, in an hour and

three quarters. The descent was very steep the whole way, partly down steps of sharp rock, where one of the men cut his foot severely. The pathway at the bottom was lined for nearly a quarter of a mile with sick, halt, maimed, lame, and blind beggars, awaiting us. It was truly a fearful sight, especially the lepers, and numerous unhappy victims to elephantiasis.

Though the botany of Parasnath proved interesting, its elevation was not accompanied by such a change from the flora of its base as I had expected. This is no doubt due to its dry climate and sterile soil; characters which it shares with the extensive elevated area of which it forms a part, and upon which I could not detect above 300 species of plants.