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THE
MALAY ARCHIPELAGO:

THE LAND OF THE
ORANG-UTAN, AND THE BIRD OF PARADISE.
A NARRATIVE OF TRAVEL,
WITH STUDIES OF MAN AND NATURE.

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them will, in time, make a sea, if one does not already exist.

But it is when we examine the zoology of these countries that we find what we most require—evidence of a very striking character that these great islands must have once formed a part of the continent, and could only have been separated at a very recent geological epoch. The elephant and tapir of Sumatra and Borneo, the rhinoceros of Sumatra and the allied species of Java, the wild cattle of Borneo and the kind long supposed to be peculiar to Java, are now all known to inhabit some part or other of Southern Asia. None of these large animals could possibly have passed over the arms of the sea which now separate these countries, and their presence plainly indicates that a land communication must have existed since the origin of the species. Among the smaller mammals a considerable portion are common to each island and the continent; but the vast physical changes that must have occurred during the breaking up and subsidence of such extensive regions have led to the extinction of some in one or more of the islands, and in some cases there seems also to have been time for a change of species to have taken place. Birds and insects illustrate the same view, for every family, and almost every genus of these groups found in any of the islands, occurs also on the Asiatic continent, and in a great number of cases the

down timber, insects were comparatively scarce, with the exception of butterflies, of which I formed a very fine collection. The manner in which I obtained one fine insect was curious, and indicates how fragmentary and imperfect a traveller's collection must necessarily be. I was one afternoon walking along a favourite road through the forest, with my gun, when I saw a butterfly on the ground. It was large, handsome, and quite new to me, and I got close to it before it flew away. I then observed that it had been settling on the dung of some carnivorous animal. Thinking it might return to the same spot, I next day after breakfast took my net, and as I approached the place was delighted to see the same butterfly sitting on the same piece of dung, and succeeded in capturing it. It was an entirely new species of great beauty, and has been named by Mr. Hewitson *Nymphalis calydonia*. I never saw another specimen of it, and it was only after twelve years had elapsed that a second individual reached this country from the north-western part of Borneo.

Having determined to visit Mount Ophir, which is situated in the middle of the peninsula about fifty miles east of Malacca, we engaged six Malays to accompany us and carry our baggage. As we meant to stay at least a week at the mountain, we took with us a good supply of rice, a little biscuit butter and coffee, some dried fish and

which it dwells, and render it very inconspicuous. All the specimens sold in Malacca are caught in snares, and my informant, though he had shot none, had snared plenty.

The tiger and rhinoceros are still found here, and a few years ago elephants abounded, but they have lately all disappeared. We found some heaps of dung, which seemed to be that of elephants, and some tracks of the rhinoceros, but saw none of the animals. We, however, kept a fire up all night in case any of these creatures should visit us, and two of our men declared that they did one day see a rhinoceros. When our rice was finished, and our boxes full of specimens, we returned to Ayer-Panas, and a few days afterwards went on to Malacca, and thence to Singapore. Mount Ophir has quite a reputation for fever, and all our friends were astonished at our recklessness in staying so long at its foot; but we none of us suffered in the least, and I shall ever look back with pleasure to my trip, as being my first introduction to mountain scenery in the Eastern tropics.

The meagreness and brevity of the sketch I have here given of my visit to Singapore and the Malay Peninsula is due to my having trusted chiefly to some private letters and a note-book, which were lost; and to a paper on Malacca and Mount Ophir which was sent to the Royal Geographical Society, but which was neither read nor

tropics. Its whole surface is magnificently varied with mountain and forest scenery. It possesses thirty-eight volcanic mountains, several of which rise to ten or twelve thousand feet high. Some of these are in constant activity, and one or other of them displays almost every phenomenon produced by the action of subterranean fires, except regular lava streams, which never occur in Java. The abundant moisture and tropical heat of the climate causes these mountains to be clothed with luxuriant vegetation, often to their very summits, while forests and plantations cover their lower slopes. The animal productions, especially the birds and insects, are beautiful and varied, and present many peculiar forms found nowhere else upon the globe. The soil throughout the island is exceedingly fertile, and all the productions of the tropics, together with many of the temperate zones, can be easily cultivated. Java too possesses a civilization, a history and antiquities of its own, of great interest. The Brahminical religion flourished in it from an epoch of unknown antiquity till about the year 1478, when that of Mahomet superseded it. The former religion was accompanied by a civilization which has not been equalled by the conquerors; for, scattered through the country, especially in the eastern part of it, are found buried in lofty forests, temples, tombs, and statues of great beauty and grandeur; and the remains of extensive cities, where the tiger, the

rhinoceros, and the wild bull now roam undisturbed. A modern civilization of another type is now spreading over the land. Good roads run through the country from end to end; European and native rulers work harmoniously together; and life and property are as well secured as in the best governed states of Europe. I believe, therefore, that Java may fairly claim to be the finest tropical island in the world, and equally interesting to the tourist seeking after new and beautiful scenes; to the naturalist who desires to examine the variety and beauty of tropical nature; or to the moralist and the politician who want to solve the problem of how man may be best governed under new and varied conditions.

The Dutch mail steamer brought me from Ternate to Sourabaya, the chief town and port in the eastern part of Java, and after a fortnight spent in packing up and sending off my last collections, I started on a short journey into the interior. Travelling in Java is very luxurious but very expensive, the only way being to hire or borrow a carriage, and then pay half-a-crown a mile for post-horses, which are changed at regular posts every six miles, and will carry you at the rate of ten miles an hour from one end of the island to the other. Bullock carts or coolies are required to carry all extra baggage. As this kind of travelling would not suit my means, I determined on

extreme of damp, wet, and cloudy weather, which was equally unfavourable. During the month which I spent in the interior of West Java, I never had a really hot fine day throughout. It rained almost every afternoon, or dense mists came down from the mountains, which equally stopped collecting, and rendered it most difficult to dry my specimens, so that I really had no chance of getting a fair sample of Javanese entomology.

By far the most interesting incident in my visit to Java was a trip to the summit of the Pangerango and Gedeh mountains; the former an extinct volcanic cone about 10,000 feet high, the latter an active crater on a lower portion of the same mountain range. Tchipanas, about four miles over the Megamendong Pass, is at the foot of the mountain. A small country house for the Governor-General and a branch of the Botanic Gardens are situated here, the keeper of which accommodated me with a bed for a night. There are many beautiful trees and shrubs planted here, and large quantities of European vegetables are grown for the Governor-General's table. By the side of a little torrent that bordered the garden, quantities of orchids were cultivated, attached to the trunks of trees, or suspended from the branches, forming an interesting open-air orchid-house. As I intended to stay two or three nights on the mountain I engaged two coolies to carry my baggage, and with my two hunters we started early the

next morning. The first mile was over open country, which brought us to the forest that covers the whole mountain from a height of about 5,000 feet. The next mile or two was a tolerably steep ascent through a grand virgin forest, the trees being of great size, and the undergrowth consisting of fine herbaceous plants, tree-ferns, and shrubby vegetation. I was struck by the immense number of ferns that grew by the side of the road. Their variety seemed endless, and I was continually stopping to admire some new and interesting forms. I could now well understand what I had been told by the gardener, that 300 species had been found on this one mountain. A little before noon we reached the small plateau of Tjiburong, at the foot of the steeper part of the mountain, where there is a plank-house for the accommodation of travellers. Close by is a picturesque waterfall and a curious cavern, which I had not time to explore. Continuing our ascent the road became narrow, rugged and steep, winding zigzag up the cone, which is covered with irregular masses of rock, and overgrown with a dense luxuriant but less lofty vegetation. We passed a torrent of water which is not much lower than the boiling point, and has a most singular appearance as it foams over its rugged bed, sending up clouds of steam, and often concealed by the overhanging herbage of ferns and lycopodia, which here thrive with more luxuriance than elsewhere.

At about 7,500 feet we came to another hut of open bamboos, at a place called Kandang Badak, or "Rhinoceros-field," which we were going to make our temporary abode. Here was a small clearing, with abundance of tree-ferns and some young plantations of Cinchona. As there was now a thick mist and drizzling rain, I did not attempt to go on to the summit that evening, but made two visits to it during my stay, as well as one to the active crater of Gedeh. This is a vast semicircular chasm, bounded by black perpendicular walls of rock, and surrounded by miles of rugged scoria-covered slopes. The crater itself is not very deep. It exhibits patches of sulphur and variously-coloured volcanic products, and emits from several vents continual streams of smoke and vapour. The extinct cone of Pangerango was to me more interesting. The summit is an irregular undulating plain with a low bordering ridge, and one deep lateral chasm. Unfortunately there was perpetual mist and rain either above or below us all the time I was on the mountain; so that I never once saw the plain below, or had a glimpse of the magnificent view which in fine weather is to be obtained from its summit. Notwithstanding this drawback I enjoyed the excursion exceedingly, for it was the first time I had been high enough on a mountain near the Equator to watch the change from a tropical to a temperate flora. I will now briefly sketch these changes as I observed them in Java.

This would undoubtedly be a fatal objection, were there not abundant evidence to show that Java has been formerly connected with Asia, and that the union must have occurred at about the epoch required. The most striking proof of such a junction is, that the great Mammalia of Java, the rhinoceros, the tiger, and the Banteng or wild ox, occur also in Siam and Burmah, and these would certainly not have been introduced by man. The Javanese peacock and several other birds are also common to these two countries; but, in the majority of cases, the species are distinct, though closely allied, indicating that a considerable time (required for such modification) has elapsed since the separation, while it has not been so long as to cause an entire change. Now this exactly corresponds with the time we should require since the temperate forms of plants entered Java. These are almost all now distinct species; but the changed conditions under which they are now forced to exist, and the probability of some of them having since died out on the continent of India, sufficiently accounts for the Javanese species being different.

In my more special pursuits, I had very little success upon the mountain; owing, perhaps, to the excessively unpropitious weather and the shortness of my stay. At from 7,000 to 8,000 feet elevation, I obtained one of the most lovely of the small fruit pigeons (*Ptilonopus rosei*).

The other great Mammalia of Sumatra, the elephant and the rhinoceros, are more widely distributed; but the former is much more scarce than it was a few years ago, and seems to retire rapidly before the spread of cultivation. About Lobo Raman tusks and bones are occasionally found in the forest, but the living animal is now never seen. The rhinoceros (*Rhinoceros sumatranus*) still abounds, and I continually saw its tracks and its dung, and once disturbed one feeding, which went crashing away through the jungle, only permitting me a momentary glimpse of it through the dense underwood. I obtained a tolerably perfect cranium, and a number of teeth, which were picked up by the natives.

Another curious animal, which I had met with in Singapore and in Borneo, but which was more abundant here, is the Galeopithecus, or flying lemur. This creature has a broad membrane extending all round its body to the extremities of the toes, and to the point of the rather long tail. This enables it to pass obliquely through the air from one tree to another. It is sluggish in its motions, at least by day, going up a tree by short runs of a few feet, and then stopping a moment as if the action was difficult. It rests during the day clinging to the trunks of trees, where its olive or brown fur, mottled with irregular whitish spots and blotches, resembles closely the colour of mottled bark, and no doubt helps to protect it. Once, in a bright

are of peculiar species, except two, which range from Malacca into India. Of the cattle, one Indian species reaches Malacca, while the *Bos sondiacus* of Java and Borneo is also found in Siam and Burmah. A goat-like animal is found in Sumatra which has its representative in India; while the two-horned rhinoceros of Sumatra and the single-horned species of Java, long supposed to be peculiar to these islands, are now both ascertained to exist in Burmah, Pegu, and Moulmein. The elephant of Sumatra, Borneo, and Malacca is now considered to be identical with that of Ceylon and India.

In all other groups of Mammalia the same general phenomena recur. A few species are identical with those of India. A much larger number are closely allied or representative forms; while there are always a small number of peculiar genera, consisting of animals unlike those found in any other part of the world. There are about fifty bats, of which less than one-fourth are Indian species; thirty-four Rodents (squirrels, rats, &c.), of which six or eight only are Indian; and ten Insectivora, with one exception peculiar to the Malay region. The squirrels are very abundant and characteristic, only two species out of twenty-five extending into Siam and Burmah. The Tupaias are curious insect-eaters, which closely resemble squirrels, and are almost confined to the Malay islands, as are the small feather-tailed *Ptilocerus lowii* of Borneo,

and the curious long-snouted and naked-tailed *Gymnurus rafflesii*.

As the Malay peninsula is a part of the continent of Asia, the question of the former union of the islands to the mainland will be best elucidated by studying the species which are found in the former district, and also in some of the islands. Now, if we entirely leave out of consideration the bats, which have the power of flight, there are still forty-eight species of mammals common to the Malay peninsula and the three large islands. Among these are seven *Quadrumana* (apes, monkeys, and lemurs), animals who pass their whole existence in forests, who never swim, and who would be quite unable to traverse a single mile of sea; nineteen *Carnivora*, some of which no doubt might cross by swimming, but we cannot suppose so large a number to have passed in this way across a strait which, except at one point, is from thirty to fifty miles wide; and five hoofed animals, including the Tapir, two species of rhinoceros, and an elephant. Besides these there are thirteen *Rodents* and four *Insectivora*, including a shrew-mouse and six squirrels, whose unaided passage over twenty miles of sea is even more inconceivable than that of the larger animals.

But when we come to the cases of the same species inhabiting two of the more widely separated islands, the difficulty is much increased. Borneo is distant nearly