No persons can write more charming books of travel than naturalists who unite to knowledge of their special subject great general powers of observation, and a fair share of literary skill. Mr. Darwin's voyage in the "Beagle" is a model of what such a book should be; and Mr. Wallace, whose share in supporting Mr. Darwin's theory is well known, has written an account of his journeys in the Malay Archipelago which may be fairly put beside it. One circumstance about it is sufficiently significant. Mr. Wallace's journeys were spread over eight years, and more than six years have elapsed since his return, owing to ill-health and to the difficulties of arranging his large collections, amounting to over 125,000 specimens. Now it is obvious that had Mr. Wallace followed the example of book-making travellers, and tumbled out upon us voluminous masses of undigested diary and scientific disquisition, he might have composed a work from which the boldest reader would have shrunk in undisguised dismay. On the scale which some recent travellers have adopted, he would have filled a good-sized bookshelf. As it is, he has contented himself with two volumes of moderate size, of which he modestly says that they are "far too small for the extent of the subjects" treated. Certainly, if it had been his purpose to give us a handbook to the Archipelago, or an exhaustive disquisition upon its natural products, or even a full account of all his own adventures, the space would have been ridiculously small. But all general readers may congratulate themselves on his having aimed at a different mark, and sifted away the chaff before giving us the fine grain of his observations. The result is a vivid picture of tropical life, which may be read with unflagging interest, and a sufficient account of his scientific conclusions to stimulate our appetite without wearying us by detail. In short, we may safely say that we have seldom read a more agreeable book of its kind than Mr. Wallace's account of the Malay Archipelago.

The country is one which in many ways excites and rewards the curiosity of the naturalist. Strange birds and beasts haunt its forests, and innumerable insects creep and fly and buzz and bite the enthusiastic traveller. There, for example, are butterflies the very sight of which caused Mr. Wallace tortures of delight. When he first saw the Ornithoptera Croesus, his heart began to beat violently, the blood rushed to his head, and he felt much more like fainting than he has done when in apprehension of immediate death. The excitement produced a headache for the rest of the day. Still more affecting is his...
account of his first interview with another species, the great bird-winged butterfly, Ornithoptera Poseidon. He speaks with rapture of its golden body, crimson breast, and the velvet black bird-winged butterfly, says, to see such a beauty in a cabinet, and quite another "to feel it struggling between one's fingers, and to gaze upon its fresh the that evening at least one contented man." One half forgets that the Ornithoptera Poseidon would not exactly respond to this almost voluptuous expression of delight. The larger animals are nevertheless most interesting, and to star t it in the Zoological Gardens. There is, for example, the cucucus, an animal which from its portrait seems to resemble a very large bird, and which, in its present condition, weighs about 450 pounds length. There is, on the other hand, a kangaroo whose tail is of degenerate size, the animal, like some would-be athlete, having taken to climbing trees—a calling for which one would never have thought it suited. The Moupin, a monkey, died last month fallen off in point of tail without gaining proportionately in claws. Elsewhere there is a frog of unusual liveliness, which was fitted with enormous webs to its feet, and, on the strength of them, has taken to what it considers to be flying. There are pigs provided with tasks, which, as Mr. Wallace supposed, were once of some use to them but, owing to the degenerate size of their owner's them to the Providence originally placed them, have grown into ridiculous spirals at the top of their heads. Then we have the two great ornamenta of animal society in these regions, though each of them is apparently confined to a very narrow district. These are the Mias or Orang-utan, who in Mr. Wallace's pictures looks like a heartless caricature of an Irishman, with a railway rug in place of a skin, and whose legs and arms seem to have changed places; and the beautiful species of paradise, whose Mr. Wallace alone of all Europeans has seen in its native wilds. Of the eighteen different species known he only succeeded in collecting five; but he has heard of several others without having been able to see them. "of the long ages of the past, during which the successive gene­ration of the development of their physical and mental resources, rather awkward in personal appearance, but quarrelling only for the sake of making a grab at the gorgeous plumage as soon as the attention of the men and things with which he was brought in contact. (To be continued.)
THE MALAY ARCHIPELAGO.

(Second Notice.)

THE chief interest of Mr. Wallace's book is in the light which it throws upon the theory of natural selection; and we will shortly explain the nature of his argument. Whether it is well or ill founded, it has at least the merit that it brings together certain classes of facts which would otherwise be simply incommensurable. The phenomena of the distribution of species to which he calls attention may of course be due to the fact that the animals were created where we find them; this is as much so as to say that we neither know nor ever can know anything more about the matter. The attempt to explain them by means of natural selection may perhaps fail entirely; but meanwhile it gives an interest to the inquiry into what must otherwise remain a detached series of facts. It supplies a thread which, provisionally at least, binds them together for our further consideration.

The principle upon which Mr. Wallace's explanation goes is simply this. If we find that in two neighbouring islands—as, for example, in England and the Isle of Man—the existing species are identical, we may assume that they have been connected within a recent period, that is, within a few million years. If, on the other hand, they are completely distinct, no such connection can have existed. Finally, if they resemble each other without being identical, we must suppose that the islands have been separated for so long a period as to allow of a certain modification of the species. Thus, if we knew the rate at which species diverged from a common origin, we might obtain a measure of the time which has elapsed since the geographical changes to which their separation was due. Borneo, for example, must have been parted from the mainland long enough for some of its frogs to learn the art of flying; and New Guinea must have been parted from Australia long enough to teach its kangaroos to climb trees very awkwardly. How long a kangaroo requires to fit itself for so new a station in life is of course an insoluble problem.

The Malay Archipelago furnishes all kinds of examples of this supposed process. It consists of a series of islands long enough to stretch from the West of Europe to Central Asia, three of which are as large as Great Britain, three more equal in size to Ireland, eighteen equal to Jamaica, and more than a hundred equal to the Isle of Wight, besides innumerable islets of smaller dimensions. They are divided from each other by straits and arms of the sea of widely varying breadth and depth; and we find that the natural productions are contrasted in the most remarkable manner. The most remarkable breach of continuity is between the two islands of Bali and Lombok, which are divided by a strait of only fifteen miles across; yet in Barii the species are distinctly Asiatic, whilst in Lombok we get at once amongst species which are almost as distinctly Australian. A few cockatoos have managed, it seems, to cross the strait to Bali; but they are the only representatives of Australia upon that side. Bali, in short, may be regarded as the furthest outpost to the East of the great continent of Asia, whilst Lombok holds the same position with regard to Australia. Now it is remarkable that this striking division corresponds to no change either in the climate or in the physical characteristics of the country. The great volcanic chain to which the elevation of the islands is apparently due runs through both divisions. Borneo on one side of the dividing line closely resembles New Guinea on the other, in its climate, geology, and freedom from volcanoes. In like manner, the Moluccas resemble the Philippines in fertility, in luxuriance of forests, and in volcanic structure; and Bali is as dry and parched as Timor. Yet the groups which resemble each other in every other respect are most strikingly contrasted in their animal productions; whilst the stony desert of Australia, with its dry winds and open plains, produces animals closely related to those inhabiting the hot, damp, luxuriant forests which everywhere clothe the plains and mountains of New Guinea. These facts, according to Mr. Wallace, are to be explained by supposing that within a recent geological period the two islands formed part of the Asiatic continent, whilst the Eastern were more or less connected with Australia. They have gradually approached each other towards the islands of Bali and Lombok, whilst they have become separated from the mainland at each end. The varying state of geographical connexion explains the singular resemblances and contrasts between the products of the several islands. These resemblances and contrasts appear to be connected with another measure of time. On the principle so ably explained by Sir Charles Lyell, we may naturally infer that the depth of an ocean is a probable indication of the length of time during which depression has been taking place; and, accordingly, it is a general rule that the difference in the fauna of two islands corresponds to the depth of the intervening sea. Thus the islands which resemble Asia in their products are divided from it by a very shallow sea, whilst a comparatively deep sea separates them from the Australian group. Following out the same indication in detail, we find that the distinction between the products of islands within the Archipelagé follows the same law; and thus, for example, the range of the birds of paradise is accurately marked out by the hundred-fathom line round New Guinea. Another illustration of the same principles appears when we examine more closely the degree of resemblance. Thus, for example, in the Timor group of islands, which are on the Australian side of the

boundary, we find a mixture of species, though the proportion of Australian species increases and that of Javan species diminishes greater than has ever existed before; we maintain a multitude of species, though the proportion of Australian species is much less than it was before. We allow it to be stocked principally from the Australian side. Since He admits that the Dutch system is despotic and protective, but more practical conclusions may be drawn from his report as to the benefits resulting from Dutch rule. He admits that the Dutch system is despotic and protective, but more practical conclusions may be drawn from his report as to the benefits resulting from Dutch rule.

There are various subsidiary lines of argument which he adduces in favour of the same conclusions. One curious question, for example, concerns the heavy fleshy Nicobar pigeons. This bird is found chiefly on small islands, because it feeds on the ground, and is therefore liable to the attacks of the carnivorous quadrupeds which inhabit the larger islands. Singularity enough, however, this bird has wings of enormous strength, which is very unusual amongst ground-feeders, and which would, as a rule, be useless to it. The advantage seems to be, that it would occasionally be blown out to sea, and would have to depend on its powers of flight. The existence in Madeira of two classes of beetles, some with wings, and others with wings of unusual strength, is a fact that may be of interest. As it is alleged, by the same causes, living in an island, they are not able to take remarkable good care of themselves, and to obtain the advantage due, on the one hand, to inglorious repose, or, on the other, to special activity. Thus, if London gouters flourish to excess, the population would be ultimately divided into invalids who never left their houses, and athletes who could run 100 yards in ten seconds. A more remarkable set of cases are those of what is called "ministry" or protective resemblance. Mr. Wallace has already explained, in a remarkable article in the Westminster Review, the curious devices by which certain butterflies imitate, not only plants, but other butterflies. They adopt the untradesmanlike practice of passing themselves off as the same species. Birds, it seems, consider certain butterflies to be nectarous to the taste, and other butterflies, which we may presume to be nice, succeed in imitating the rusty ones with marvellous closeness. He mentions a curious case of the same principle in birds, where a feebleminded and weak-clawed oriole succeeds in exactly mimicking, so far as its appearance at a small distance is concerned, the bold and vigorous honeysucker, and thus obtains a currency not due to its intrinsic merits, as foreigners imitate the trademarks on Sheffield plate.

The females of this butterfly are of two distinct forms, one of which resembles the male, whilst the other is a close imitation of a different species. The curious fact is that both forms of the female are the offspring of each form. The case is the same, says Mr. Wallace, as if an Englishman had two wives, an Indian and a negro, and as if the boys were all to resemble their father, whilst the girls should resemble, not only their own mother, but the other wife of their father. Without following Mr. Wallace's researches into natural history any further, we have said enough to show that his book touches upon a subject of great interest, and is well worth the attention, not only of men of science, but of general readers. We need only add that the interest of the book is by no means confined to these subjects. There is much that is worth attention in his account of the human inhabitants. He seems to rest upon some without perturbing the ordinary English opinion that they are nearer in the same degree to humanity as may be off the face of the earth. Indeed, his opinion will seem to most people unduly favourable to the savage as compared with the European. The savage is far superior to him, but the savage is far inferior to the best amongst civilized populations.