

A NARRATIVE OF TRAVELS ON THE AMAZON AND RIO NEGRO, WITH AN ACCOUNT OF THE NATIVE TRIBES. By A. R. Wallace. Pp. 541. 8vo. London: Reeves and Co. 1853. Price 15s.

IN our last number, when noticing Mr. Wallace's unpretending little work on the Palms of the Amazon Valley, we briefly alluded to the circumstances under which it was compiled, referring to his work on the Valley of the Amazon for a fuller narrative of the labours of a naturalist in an almost unexplored region. This narrative forms the volume now before us, which contains notes collected during four years' residence in this interesting and too little known district. It would be difficult to estimate how deeply science is indebted to wayside notes and jottings brought home by travellers; observations recorded as trivial, perhaps, at the time, often serve to illustrate or confirm a theory that, in the absence of such independent testimony, would have scarcely been hazarded, or would have been treated with silent contempt. The present age is eminently remarkable as an age of observation; and this tendency may, in some measure, have given an impulse to the energies of those who devote their prime to foreign travel, not with the mere design of spending a few years in the gratification of a vacant curiosity, but who go forth with prepared minds, eager to observe all that would be likely to advance the interests of science; and the result has been the production of a class of works of travel, unsuited, indeed, to the mere literary lounge, but in which the man of science, or of cultivated understanding, will take a deep interest, and which will not be dismissed

only to be forgotten, but be treasured alike for the observations in their pages, and the patient spirit of inquiry in which they were made. The volume of *Travels on the Amazon and Rio Negro*, by Mr. A. R. Wallace, now before us, is a well marked example of this class, and one that will amply repay a careful perusal. Written under circumstances of great discouragement, it nevertheless presents a mass of valuable observations, interesting to all true naturalists, as descriptive of a little known, though most luxuriant region.

Mr. Wallace, who was most desirous "of seeing with his own eyes all those wonders which he had delighted to read of in the narratives of travellers," was induced, by a perusal of Mr. Edwards' little book, "A Voyage up the Amazon," to start on the same route, purposing to pay his expenses by making collections in natural history; which we are glad to say, for the sake of scientific enterprise, he succeeded in doing. The pages now before us contain an account of how four years could be spent on the Amazon and Rio Negro; the first and last portions being nearly a transcript of his journals, while the intervening portion is merely gleaned from rough notes saved from the burning of the *Helen*, the ship in which his homeward voyage was made, and which caused the loss of all the notes made during two years, as well as the greater part of his collections and sketches.

The scene chosen for our author's labours was a most encouraging one for the naturalist to explore. Situated, as the basin of the Amazon is, in the Tropics, on both sides of the Equator, it surpasses in dimensions that of any other river in the world. The body of fresh water it empties into the sea is not only absolutely, but also, in all probability, relatively to its area, greater than that of any other river in the world. For richness of vegetable production, and fertility of soil, it is unequalled in the globe, and capable of supporting a greater population than any other of equal extent. From about 4° north latitude, to 20° south, every stream that flows down the eastern slope of the Andes is a tributary of the Amazon. Some idea, though a faint one, may be formed by imagining every river, from St. Petersburg to Madrid, uniting their waters into one large river. The true source of the Amazon our author, for several reasons, judges to be the Maranon; and, speaking of its extent, he says:—

"We find that, from its origin in Lake Lauricocha to its mouth, in longitude 50° west, its length, following the main curves, but disregarding the minuter windings, is 2,740 English miles. Its extent, in a straight line, from east to west, is about 2,050 miles; and from north to south its tributary streams cover a space of 1,720 miles. The whole area of its basin, except the Tocatus, which I consider a distinct river, is 2,300,000 English square miles, or 1,760,000 nautical ones; this is rather more than one-third of South America, and equal to two-thirds of all Europe. All western Europe could be placed in it without touching its boundaries, and it could contain all our Indian empire."

The tributary streams, watering this vast territory, are numerous, and present to the naturalist some very remarkable differences in the character of the vegetation on their banks, the animals that inhabit them, and even the very colour of their water. This last point of difference is so remarkable as to enable them to be classed in three great groups—the *white-water rivers*, the *blue-water rivers*, and the *black-water rivers*. To the first of these divisions the main stream of the Amazon itself belongs; and it would appear that its colour (a pale yellowish olive) is not entirely dependent on free, earthy matter, but rather on some colouring material, held in solution. All the rivers that rise in the mountains of Brazil belong to the blue or clear water class; of these the principal are the Tocatiús, the Xingú, and the Tapajóz. Above the Madeira the black-water rivers are first met with. Of these the Rio Negro is the most celebrated; it rises in $2^{\circ} 30'$ N. lat., where its waters are much blacker than in the lower part of its course. The peculiar colour of these rivers would appear to be produced by the solution of decaying leaves, roots, and other vegetable matter.

The examination of the geological peculiarities of so vast an area, and the comparative rarity of natural sections falling under the observations of a single individual, is of but little value. It is, however, remarkable that Mr. Wallace was unable to find *any* trace of fossil remains, which prevents any geological age being assigned to the various beds of rock which occur. To the botanist, however, the riches of this district are most attractive. Mr. Wallace thus speaks of the vegetation:—

“Perhaps no country in the world contains such an amount of vegetable matter on its surface as the valley of the Amazon. Its entire extent, with the exception of some very small portions, is covered with one dense and lofty primeval forest—the most extensive and unbroken which exists upon the earth. It is the great feature of the country—that which at once stamps it as a unique and peculiar region. It is not here, as on the coasts of southern Brazil or on the shores of the Pacific, where a few days' journey suffices to carry us beyond the forest district and into the parched plains and rocky serras of the interior. Here we may travel, for weeks and months inland, in any direction, and find scarcely an acre of ground unoccupied by trees. It is far up in the interior, where the great mass of this mighty forest is found; not on the lower part of the river, near the coast, as is generally supposed.

“A line from the mouth of the river Parnaíba, in long. $41^{\circ} 30'$ W., drawn due west towards Guayaquil, will cut the boundary of the great forest in long. $78^{\circ} 30'$, and for the whole distance, of about 2,600 miles, will have passed through the centre of it, dividing it into two nearly equal portions.

“For the first thousand miles, or as far as long. 56° W., the width of the forest, from north to south, is about 400 miles; it then stretches out both to the north and south, so that in long. 67° W. it extends from 7° N., on the banks of the Orinooko, to 18° S., on the northern slope of the Andes of Bolivia, a distance of more than seventeen hundred miles. From a point about sixty miles south-east of Tabatinga, a circle may be drawn of 1,100 miles in diameter, the whole area of which will be virgin forest.”

Forests our author regards as the characteristic of the *New World*, as

steppes and deserts are of the *Old*. One of the peculiarities of the Amazon forests is the variety of species of trees of which they are composed, "two individuals of the same species scarcely ever occurring together, except in certain cases, principally among the palms." Among the productions met with in these forests are the India-rubber (*Siphonia elastica*), and the Brazil-tree nut; which latter is thus described:—

"The Brazil-nuts, from the *Bertholletia excelsa*, are brought chiefly from the interior; the greater part from the country around the junction of the Rio Negro and Madeira with the Amazon rivers. This tree takes more than a whole year to produce and ripen its fruits. In the month of January I observed the trees loaded at the same time with flowers and ripe fruits, both of which were falling from the tree; from these flowers would be formed the nuts of the following year; so that they, probably, require eighteen months for their complete development from the bud. The fruits, which are nearly as hard and heavy as cannon-balls, fall with tremendous force from the height of a hundred feet, crashing through the branches and undergrowth, and snapping off large boughs which they happen to strike against. Persons are sometimes killed by them, and accidents are not unfrequent among the Indians engaged in gathering them.

"The fruits are all procured as they fall from the tree. They are collected together in small heaps, where they are opened with an axe, an operation that requires some practice and skill, and the triangular nuts are taken out, and carried to the canoes in baskets. Other trees of the same family (*Lecythideæ*) are very abundant, and are remarkable for their curious fruits, which have lids, and are shaped like pots or cups—whence they are called 'pot-trees.' Some of the smaller ones are called by the natives 'cuyas de macaco'—monkey's calabashes."

Amid all the brilliancy of tropical vegetation seen under its favourable aspect, Mr. Wallace (whose pages bear ample evidence of his power of appreciating the beautiful) does not quite forget home scenes and home beauties, and he thus contrasts them:—

"There is grandeur and solemnity in the tropical forest, but little of beauty or brilliancy of colour. The huge buttress trees, the fissured trunks, the extraordinary air roots, the twisted and wrinkled climbers, and the elegant palms, are what strike the attention and fill the mind with admiration, and surprise, and awe. But all is gloomy and solemn, and one feels a relief on again seeing the blue sky, and feeling the scorching rays of the sun.

"It is on the roadside and on the rivers' banks, that we see all the beauty of the tropical vegetation. There we find a mass of bushes and shrubs, and trees of every height, rising over one another, all exposed to the bright light and the fresh air; and putting forth, within reach, their flowers and fruit, which, in the forest, only grow far up on the topmost branches. Bright flowers and green foliage combine their charms, and climbers with their flowery festoons cover over the bare and decaying stems. Yet, pick out the loveliest spots, where the most gorgeous flowers of the tropics expand their glowing petals, and for every scene of this kind we may find another at home of equal beauty, and with an equal amount of brilliant colour.

"Look at a field of buttercups and daisies—a hill-side covered with gorse and broom—a mountain rich with purple heather—or a forest-glade azure with a carpet of wild hyacinths, and they will bear a comparison with any scene the tropics can produce. I have never seen anything more glorious than an old crab-tree in full blossom; and the horse-chesnut, lilac, and laburnum will vie with the choicest tropical trees and shrubs. In the tropical waters are no more beautiful plants than our white and yellow water-lilies, our irises, and flowering rush; for I cannot consider the flower of the *Victoria regia* more beautiful than that of the *Nymphæa*

alba, though it may be larger; nor is it so abundant an ornament of the tropical waters as the latter is of ours.”

We have extracted this passage, as affording an instance of the absence of exaggeration which pervades this volume. We regret that we cannot extract any passages from the able summary of zoology of the district, which presents some curious peculiarities of local distribution. The ethnological notes and vocabularies, which conclude the volume, are from the pen of Dr. Latham, and give still greater value to a work, which will be gladly read by all who are interested in the labours of a naturalist in the tropics.
