

5.—*Tropical Nature, and other Essays.* By ALFRED R. WALLACE, author of "The Malay Archipelago," "The Geographical Distribution of Animals," etc. London: Macmillan & Co. 1878. 8vo, pp. xiii.—566.

THIS book does not claim to be so elaborate and commanding a treatise as the author's recent work on "The Geographical Distribution of Animals," which made an epoch in that branch of natural history, but it is in its way quite as interesting and instructive, carrying out as it does the principles of that work, and adding facts and descriptions full of attraction and instruction. The first three chapters, which treat of the climate, vegetation, and animal life, of the

equatorial zone, the belt reaching twelve degrees each side of the equator, are at once a careful survey and a charming romance. The description of the temperature, the rainfall, the equable days and nights, the wonderful growths of the soil, the great forest-belt, the marvelous insects and birds, the peculiar reptiles and beasts, is delightful. What is said of the palm and the bamboo, the butterflies, bees, beetles, and ants, the snakes and lizards, parrots and humming-birds, bats and monkeys, makes the reader open his eyes in wonder, and may make his hair stand on end sometimes in fear. What is most remarkable, however, in the narrative is the alleged difference of the whole character of the equatorial region from the decided notion that generally prevails. This region, instead of being given over to change and violence, is the most steadfast part of the globe, and the temperature, habit, inhabitants, and life, vary less than anywhere else. The climate of Batavia, for instance, six degrees below the equator, varies less than that of London, and the mean highest temperature there in July—85°—is not high enough to scare out of his senses any New-Yorker who has lived through this last midsummer month of fire. This equatorial zone exhibits peculiar constancy in the conditions of vegetable and animal life, and evolution has had a fair chance to develop its growths without the numberless difficulties that are always interfering with Nature in the changeable temperature ranges, with their cold and ice.

We call attention to three distinctive conclusions of the author, which give this volume its chief importance among thinking men, and especially among students of science. In the first place, he is quite copious and positive upon the subject of color, and he regards this as an organic development of vigorous life, and, as such, owing its power not so much to sexual selection as to natural selection; not so much to the choice of a mate with fine feathers or skin as of one with the vigorous constitution that is sure to have fine feathers or hide. The second distinctive view of Mr. Wallace is his rebuke of the dogmatic spirit of the new science, which he thinks very much like the old theological dogmatism. He finds no positive proofs either of the time of the origin of man or of the necessary growth of civilized from savage men; but, while allowing the principle of development of higher from lower organisms, and ascribing to man existence before the Glacial period, he does not see any proofs that the oldest human skulls are inferior to the recent civilized type, or fix any date for the appearance of man or of his proto-type mammals. Man as an intellectual being appears in the remote

past, and sometimes he has been succeeded by savage races, and the result seems to be that his course of development has been less simple than has been thought, and, instead of being a single rising tide, it has been a succession of tides, rising and falling, both the rise and fall being greater as the level to be reached is higher. The third point which distinguishes the author's views in this volume is the summing up of the results of all his studies of the animal life on the globe in connection with the changes in their dwelling-places. He is confident that, although nearly all of what is now dry land was once deep water under the ocean, yet the changes have been gradual, so that in comparison with the highest estimates of the antiquity of man, or even with that of most of the higher animals, our present continents and oceans may be regarded as permanent features of the earth's surface. Thus closes this handsome volume, so full of pleasure and profit.

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