



## THE MALAY ARCHIPELAGO.

*The Malay Archipelago: the Land of the Orang-Utan and the Bird of Paradise. A narrative of travel, with studies of man and nature.* By ALFRED RUSSEL WALLACE, author of "Travels on the Amazon and Rio Negro," "Palm Trees of the Amazon," etc. New York: Harper & Brothers, publishers. 1869.

*Travels in the East Indian Archipelago.* By ALBERT S. BICKMORE, M. A. London: John Murray. 1868.

ALEXANDER HUMBOLDT opened new fields of observation to scientific travellers, and gave breadth and value to works of travel. In place of narratives of personal adventure, and sketches of natural scenery or national customs, he insisted, both by precept and example, on the importance of unfolding the laws of nature, the flora and fauna of each country visited, its geological history, and the ethnological relations of its inhabitants. Every traveller, he claimed, ought to contribute something towards the solution of the physical problems of our planet, and help trace the connections between various countries and the great Kosmos. The impulse given to scientific inquiry by a man of such far-reaching views, has created a new order of books of travel, and the works of Livingstone and Barth, of Darwin and Tennent, of Kane and Lyell, and many others, contain stores of valuable information for all classes of readers.

The volumes before us, by Mr. Wallace and Professor Bickmore, belong to this class. Their authors are men of broad scientific culture

and acute powers of observation; quick to note any phenomena of nature or life, and prompt to bring such phenomena within the domain of known law. They traversed, to a large extent, the same field. As Mr. Wallace was occupied for eight years with his researches, while Prof. Bickmore could spare little more than a year from other duties, we shall confine ourselves chiefly to the results of the former's observations.

He is a traveller of right, cosmopolitan in tastes, insatiable in longing for new scenes and adventures, with frame of iron to endure, and will of adamant to surmount all obstacles. He is cheerful, always looking at the sunny side, whether he has an elegant house, as at Ternate, to which he returned often for recruiting after a three or four months absence in some uncivilized region; or a bare shed, as at Waypoti, with earthen floor, and no conveniences; or in a prau, alone among savage sailors in a voyage of a thousand miles from Macassar to the Aru Islands. Of his shed, he says, "It sometimes amuses me to observe how, a few days after I have taken possession of it, a native hut seems quite a comfortable home." And of his prau, a clumsy and dangerous craft, "with two holes, each a yard square into the hold, at three feet above the water line,—holes which cannot be closed," with a state-room six and a half feet long by five and a half wide, he says, "I must declare that I have never, before or since, made a twenty days voyage so pleasantly, or perhaps, more correctly speaking, with so little discomfort." His health seems proof against all changes of climate and diet, and his strength against all hardships. Even earthquakes fail to disturb his equanimity. He gives an account of his first experience in this line:

I had just awoke at gun-fire (5 A. M.), when suddenly the thatch began to rattle and shake as if an army of cats were galloping over it, and immediately after my bed shook, too, so that for an instant I imagined myself back in New Guinea, in my fragile house, which shook when an old cock went to roost on the ridge; but remembering that I was now on a solid earthen floor, I said to myself, "Why its an earthquake," and lay still, in the pleasant expectation of another shock; but none came, and this was the only earthquake I ever felt at Ternate.

The Malay Archipelago is almost virgin soil for a traveller. The world at large has known little of its character or history. The Spanish and Portuguese and Dutch have colonized in some of its islands, and established a despotic rule over the natives; but they have aimed chiefly at commercial gains, and have made few contributions either to science or history. When the Netherlands were

engaged in their unequal struggle with Spain, then the first military and naval power in Europe, the little Dutch ships of war, with crews of heroic adventurers, found their way to these distant seas, captured many a richly-laden Spanish galley, stormed many a Spanish fortress, took possession of many of the islands, and have found them to this day a source of lucrative revenue. The spices of these fertile islands, wrested from the Spaniards, furnished the sinews of war to the brave Dutch in their struggle for freedom.

The Archipelago is continental in dimensions. It extends for more than four thousand miles in length from east to west, and is about thirteen hundred in breadth from north to south, a surface much larger than Europe or South America. It contains three islands larger than Great Britain. Borneo would take in all the British isles, and have a margin on every side; and New Guinea is larger than Borneo; Sumatra is a little smaller; Java, Luzon and Celebes are each about the size of Ireland. Eighteen more islands are, on the average, as large as Jamaica; more than a hundred are as large as the Isle of Wight; while the isles and islets of smaller size are almost innumerable.

The islands resemble each other closely in climate and fertility of soil, but are strangely dissimilar in flora and fauna. A separation of only fifteen miles, by a narrow strait, is marked by the greatest contrasts in vegetable and animal life; islands in such close proximity have nothing in common. A Mr. Earl, in a paper read in 1845, before the Royal Geographical Society, in England, suggested an explanation of the mystery, and Mr. Wallace has worked out the problem with great skill and clearness. He thinks that the islands once formed parts of two different continents,—the Asiatic and the Australian,—and by their forms of vegetable and animal life bear witness to their origin. If a line be drawn between the islands, with Sumatra, Java, Borneo, etc., on the one side, and Celebes, the Moluccas, New Guinea, etc., on the other, all on the western side show in their zoological affinities an Asiatic origin, while those on the eastern side indicate, with equal definiteness, an Australian origin. The shallow seas between Asia, on the one hand, and the western group of islands; and between Australia on the other, and the eastern group, confirm this theory, and intimate that the connection has existed in times quite recent. The average depth of these seas is little more than forty fathoms, and never exceeds a hundred fathoms; while between the two groups of islands the depth is oceanic. Mr. Wallace says:

The general result, therefore, to which we arrive, is that the great islands of Java, Sumatra and Borneo resemble, in their natural productions,

the adjacent parts of the continent, almost as much as such widely-separated districts could be expected to do, even if they still formed a part of Asia.

Turning our attention to the remaining portion of the Archipelago, we shall find that all the islands from Celebes and Lombock eastward, exhibit almost as close a resemblance to Australia and New Guinea, as the western islands do to Asia.

He suggests also an ingenious explanation for the subsidence of the Asiatic group of islands, and also for the fact that volcanoes are generally found near the sea:

It is to be remarked that the great chain of active volcanoes in Sumatra and Java furnishes us with a sufficient cause for such subsidence, since the enormous masses of matter they have thrown out would take away the foundations of the surrounding districts; and this may be the true explanation of the oft-noted fact that volcanoes and volcanic chains are always near the sea. The subsidence they produce around them will, in time, make a sea, if one does not already exist.

The volcanoes in the Archipelago stretch over an immense extent of territory, and are included in a continuous belt. The eruptions in this volcanic region are unintermitted, "slight shocks, being felt at intervals of every few weeks or months, while more severe ones, shaking down whole villages, and doing more or less injury to life and property, are sure to happen, in one part or another of this district, almost every year." The craters of some of the volcanoes have no equals in any other part of the world, being, as Professor Bickmore says, over four miles in diameter. The eruptions, also, are hardly paralleled in violence and destructiveness.

Mr. Wallace indulges in some reflections, which may be suggestive to writers on the evidences of Christianity, by their relation to the common arguments against miracles, from the uniformity of nature, and the experience of mankind. He says:

The inhabitant of most parts of northern Europe sees in the earth the emblem of stability and repose. His whole life experience, and that of all his age and generation, teaches him that the earth is solid and firm; that its massive rocks may contain water in abundance, but never fire; and these essential characteristics of the earth are manifest in every mountain his country contains. A volcano is a fact opposed to all this mass of experience, a fact of so awful a character that, if it were the rule instead of the exception, it would make the earth uninhabitable; a fact so strange and unaccountable that we may be sure it would not be believed on any human testimony, if presented to us now for the first time as a natural phenomenon happening in a distant country.

Mr. Wallace furnishes a vast amount of information in regard to the natural history of the Archipelago. The orang-utan, one of the three highest forms of Simians, from which the Darwinian school imagine man to have sprung, is confined to Sumatra and Borneo, as the gorilla is to Central Africa. His extreme height is four feet two inches, and his strength so prodigious that he is monarch of all the animal tribes. The crocodile sometimes attempts to seize him when seeking food on the banks of a river, but the orang leaps on him, beating him with hands and feet, and rarely failing to come off victor. The pythons (boa-constrictors) occasionally attack him, but the orang seizes the python with his powerful claws, bites it with his teeth, breaking the back-bone, and making it an easy victim. The natives uniformly testified that the orang is the monarch among animals, no animal in the jungle is so strong as he. He gives an amusing instance of the tendency to exaggerate the size of formidable animals:

The captain and crew of a vessel, who killed a huge Sumatra orang, declared that when alive he exceeded the tallest man, and looked so gigantic that they thought he was seven feet high; but that, when he was killed and lay upon the ground, they found he was only about six feet. Now it will hardly be credited that the skin of this identical animal exists in the Calcutta Museum, and Mr. Blyth, the late curator, states that "it is by no means one of the largest size," which means that it is about four feet high.

The orang lives in swampy forests, and shuns instinctively dry ground and the open country. He rarely goes on the ground, but moves through the forests as rapidly as a man can walk, swinging himself from tree to tree, and walking upon the branches. He subsists on fruit, and is an adroit and persistent thief from gardens bordering on his favorite haunts.

The bird of Paradise is peculiar to the Malay Archipelago, being found chiefly in New Guinea and the islands immediately surrounding it, though three species inhabit the northern and eastern parts of Australia, and one the Moluccas. Very little is known of this bird of wonderful beauty, nor have many specimens, either living or dead, been seen in Europe. Mr. Wallace devoted many months to a special search for them, but failed of satisfactory success, obtaining only five species of eighteen. He learned much, however, of their habits from the natives, and gives a very interesting sketch of the eighteen different species. They are much larger than is generally supposed, some of them attaining the size of the crow, and the plumage is of extraordinary variety and splendor. The brilliant colors, whose magnificence is almost beyond description, are confined wholly to the

male birds, the females having uniformly only a modest and unmarked plumage. Of one species of this bird, most familiar to himself, he gives an account full of curious interest. They have what are called by the natives, dancing parties:

On one of these trees a dozen or twenty full-plumaged male-birds assemble together, raise up their wings, stretch out their necks, and elevate their exquisite plumes, keeping them in a continual vibration. Between whiles they fly across from branch to branch in great excitement, so that the whole tree is filled with waving plumes in every variety of attitude and motion. The long plumes are raised up and expanded till they form two magnificent golden fans, striped with deep red at the base, and fading off into the pale brown tint of the finely divided and softly waving points. The whole bird is then overshadowed by them, the crouching body, yellow-head and emerald-green throat forming but the foundation and setting to the golden glory which waves above. When seen in this attitude, the bird of paradise really deserves the name, and must be ranked as one of the most beautiful and wonderful of living things.

These dancing parties, however, are dangerous to the birds, (as they often prove to the human species,) for, intoxicated with pleasure to forgetfulness of self, they fall an easy prey. As soon as the natives find that the birds have selected a tree for their sport, they build a hiding-place in it, and secrete themselves before daylight, armed with bows and arrows with blunted heads. When the birds gather for their dance, at sunrise, the hunter shoots with his blunt arrow, and stuns a bird, which drops down and is secured by a boy beneath. The others, in their excitement, take no notice of his fall, and the natives frequently secure a large number before the alarm is taken. Mr. Wallace indulges in some reflections on the difficulty of obtaining these birds:

It seems as if Nature had taken precautions that these, her choicest treasures, should not be made too common, and thus be undervalued. The northern coast of New Guinea is exposed to the full swell of the Pacific Ocean, and is rugged and harborless. The country is all rocky and mountainous, covered everywhere with dense forests, offering in its swamps and precipices and serrated ridges an almost impassable barrier to the unknown interior; and the people are dangerous savages, in the very lowest stage of barbarism. In such a country, and among such a people, are found these wonderful productions of Nature, the birds of paradise, whose exquisite beauty of form and color, and strange developments of plumage, are calculated to excite the wonder and admiration of the most civilized and the most intellectual of mankind, and to furnish inexhaustible materials of study to the naturalist, and for speculation to the philosopher.

Another curious group of birds, called the Megapodii, are found chiefly in the Moluccas. They are of the size of a small fowl, with strong feet and long claws. They build nests of extraordinary size, often twenty or thirty feet in diameter, and six or eight feet high. The nests are made of sticks, shells, sea-weed, leaves, etc., which they grasp and throw backward with their strong feet, till the strange pile is completed. In the middle of the mound, at a depth of two or three feet, the eggs are deposited, and are hatched by the spontaneous heat from the fermentation of the vegetable matter in the mound. The young birds work their way up through the rubbish, and run off into the forest to provide for themselves. Another species of the same bird deposits its eggs in the sand at a depth of three feet, where they are hatched, like turtle's eggs, by the heat of the soil.

Another bird, of the horn-bill species, has the curious habit of shutting up the female, at the time of incubation, in a hollow tree. The place of entrance is carefully plastered up with mud, leaving only a small air-hole, through which it feeds both the mother and the young bird, till the latter is able to fly, when it releases them from their confinement.

The vegetation of the Archipelago, as might be anticipated, is varied and luxuriant. A large part of the islands, even of those under highest cultivation, is covered by dense forests. Yet there are some curious facts disclosed by Mr. Wallace. On volcanic peaks in Java, is found a flora identical, to a large extent, with the flora of Europe. He ascribes their origin to the glacier period, when the depression of temperature allowed a few plants to cross from Europe over elevated regions to Asia, and the return of a warmer period crowded them again to mountain summits.

It will surprise many readers, who have been accustomed to associate brilliant hues in plant and flower with the torrid zone, to learn that the wild flowers are neither so abundant nor so brilliant as in our colder latitudes. Fine and varied foliage, rather than gay flowers, is the characteristic of tropical vegetation. As our author says:

The bright colors of flowers have a much greater influence on the general aspect of nature in temperate than in tropical climates. During twelve years spent amid the grandest tropical vegetation, I have seen nothing comparable to the effect produced in our landscapes by gorse, broom heather, wild hyacinths, hawthorns, purple orchises, and buttercups.

Nor do wild berries and nuts abound, as one would anticipate. They are greatly inferior in abundance and quality to those of Britain:

Wild strawberries and raspberries are found in some places, but they are such poor, tasteless things as to be hardly worth eating, and there is nothing to compare with our blackberries and whortleberries. The kanary-nut may be considered equal to a hazel-nut, but I have met with nothing else superior to our crabs, our haws, beech-nuts, wild plums, and acorns,—fruits which would be highly esteemed by the natives of these islands, and would form an important part of their sustenance. All the fine tropical fruits are as much cultivated productions as our apples, peaches, and plums.

There are cultivated fruits, however, which surpass anything in our colder clime. Prof. Bickmore gives the preference to the mangosteen: "The outer part is a thick, tough covering, containing a white opaque centre an inch or more in diameter. The white part has a slightly sweet taste, and a rich yet delicate flavor, which is entirely peculiar to itself. It tastes perhaps more like the white interior of a checkerberry than any other fruit in our temperate climate." But Mr. Wallace gives the preference to the durion, and thinks the sensation of eating it worth a voyage to the East to experience. He calls the durion and the orange the king and queen of fruits. To one of sensitive nostrils, however, this fruit may be almost as repulsive as the sauer-kraut of the Germans. Prof. Bickmore says:

On breaking the shell, a seed, as large as a chestnut, is found in each division, surrounded by a pale yellow substance of the consistency of thick cream, and having an odor of putrid animal matter, so strong that a single fruit is enough to infect the air in a large house. In the season for this fruit, the whole atmosphere in the native villages is filled with this detestable odor. The taste of this soft, salvy, half-clotted substance is well described by Mr. Crawford as like "fresh cream and filberts." It seems paradoxical to state that the same substance may violate a man's sense of smell, and yet gratify his sense of taste at the same time, but the natives certainly are most passionately fond of it, and I once met a foreigner who assured me that when he had smelled this fruit he could never be satisfied till he had eaten some of it. Its simple odor is generally quite enough for all Europeans.

But Mr. Wallace says if the fruit is eaten in the open air, immediately after its fall, the odor is not so offensive, while the consistence and flavor are indescribable. The bread-fruit is also most palatable. It is about the size of a melon, fibrous towards the centre, but elsewhere smooth and puddingy. It is baked on coals, and scooped out with a spoon. "We sometimes made curry or stew of it, or fried it in slices; but it is no way so good as simply baked. With meat and gravy, it is a vegetable superior to any I know, either in temperate or tropical countries. With sugar, milk, butter, or treacle, it is a



delicious pudding, having a very slight and delicate, but characteristic flavor, which, like that of good bread and potatoes, one never gets tired of." The sago-tree also abounds, and a single tree of good size will supply food enough for an entire year. The labor of preparing the tree may be performed by one man in ten days,—so that a year's support can be earned by an industrious man in less than half a month. The cocoa-nut abounds, but is never eaten when hard and fully ripe, as it comes to us. It is prized chiefly for its water, before the pulp has hardened,—the water is then abundant, clear, and refreshing, and the soft pulp is thought also a luxury. When fully grown the water is thrown away as worthless, and the hard pulp is used only to obtain oil for lamps.

Mr. Wallace is an ardent advocate of the Darwinian theory of development. Indeed, he may be said to have anticipated Mr. Darwin in the statement of it. He labors hard, in this volume, to find confirmations of the theory, but with little success. He lays much stress on the finding of a frog with four webbed toes, the webs of the hind feet being four inches square, which a Chinese workman said he saw come down from a tree in a slanting direction, as if flying. This he regards as a development towards a flying lizard; but as the webs can answer far better for swimming than for flying, and as a Chinaman's word is not infallible, the fact does not add much strength to the theory.

Another fact which seems to him to carry great weight, is the possession of wings of extraordinary power by the Nicobar pigeon. As this pigeon is a ground-feeder, living on fallen fruits, and roosting on low trees, and has an insular home, it would seem to have little need of strong wings. But as they may be blown out to sea by high winds, or compelled to emigrate by failure of food, or by the attacks of carnivorous animals, nature makes provision for this emergency.

A modification exactly opposite to that which produced the wingless birds (the apteryx, cassowary, and dodo,) appears to have here taken place; and it is curious that in both cases an insular habitat should have been the moving cause. The explanation is probably the same as that applied by Mr. Darwin to the case of the Madeira beetles, many of which are wingless, while some of the winged ones have the wings better developed than the same species on the continent. It was advantageous to these insects either never to fly at all, and thus not run the risk of being blown out to sea, or to fly so well as to be able either to return to land, or to migrate safely to the continent.

We cannot see that this fact is of much worth to his theory. As he does not claim that the pigeons often leave the island on which they are born, it is hard to conceive how the development of strong

wings could have begun; or why, in conformity with the habits and necessities of an insular home, this peculiarity does not disappear. He has great expectations, like Mr. Darwin, of future discoveries, which will remove all doubt:

We have every reason to believe that the orang-utan, the chimpanzee, and the gorilla, have also had their forerunners. With what interest must every naturalist look forward to the time when the caves and the tertiary deposits of the tropics may be thoroughly examined, and the past history and earliest appearance of the great manlike apes be at length made known.

He denies that the physical resemblances of different countries tend to assimilate the forms of life, which would seem to bear at least remotely against his theory:

Nowhere does the ancient doctrine,—that differences or similarities in the various forms of life that inhabit different countries are due to corresponding physical differences or similarities in the countries themselves,—meet with so direct and palpable a contradiction. Borneo and New Guinea, as alike physically as two distinct countries can be, are zoologically wide as the poles asunder; while Australia, with its dry winds, its open plains, its stony deserts, and its temperate climate, yet produces birds and quadrupeds which are closely related to those inhabiting the hot, damp, luxuriant forests which everywhere clothe the plains and mountains of New Guinea.

He has a great aversion to the theological doctrine that all things are made for man, and loses no opportunity to put it in unfavorable lights, or array scientific facts against it. Some of his objections are well put:

Poets and moralists, judging from our English trees and fruits, have thought that small fruits always grew on lofty trees, so that their fall should be harmless to man, while the large ones trailed on the ground. Two of the largest and heaviest fruits known, however, the Brazilian-nut fruit and durion, grow on lofty forest trees, from which they fall as soon as they are ripe, and often wound or kill the native inhabitants. From this we may learn two things: first, not to draw general conclusions from a very partial view of nature; and secondly, that trees and fruits, no less than the varied productions of the animal kingdom, do not appear to be organized with exclusive reference to the use and convenience of man.

This is adroitly stated, but not quite fairly, for the law was not deduced from English data alone. It holds good of the world at large, and a few exceptions cannot invalidate it, for most laws of nature have apparent anomalies.

The latter clause of his moralizing is unjust, for no one claims that the animal or vegetable kingdom "is organized with *exclusive* reference to the use and convenience of man," but that this is *one* of the objects to be subserved.

He presses the same objection from another point of view. When moralizing on the apparent waste of beauty in the existence of the elegant birds of paradise in regions where no intelligent eye looks on their loveliness, he says:

This consideration must surely tell us that all living things were *not* made for man. Many of them have no relation to him. The cycle of their existence has gone on independently of his, and is disturbed or broken by every advance in man's intellectual development; and their happiness and enjoyments, their loves and hates, their struggles for existence, their vigorous life and early death, would seem to be related to their own well-being and perpetuation of the numberless organisms with which each is more or less intimately connected.

This objection, though forcibly put, does not weaken the argument for man's headship over nature. The most extravagant advocates of the latter view do not assert that everything was created *solely* for man's use and enjoyment. They hold that every order of life was created primarily for its own happiness, and for the glory of the Creator. But, as in Ezekiel's vision, wheels moved within wheels, each obeying its own law, yet each related also to the general system, so while the vegetable and animal creation has each a law in and for itself, it is also related to man, and designed to contribute to his physical and moral progress. Nor does it make against the general argument that elegant birds of paradise live and die in New Guinea where no human eye sees them. Wheat was made for man, though the weevil often destroys the stalk, and birds devour the grain. Flowers were made for man, though they often waste their fragrance on the desert air. It is a sufficient answer to our author's objection, that if birds of paradise had abounded in England, he would never have gone to New Guinea or the Aru Islands in search of them; and thus they serve directly to nurture a love of adventure in man, and fortitude in surmounting obstacles.

Mr. Wallace makes some valuable additions to ethnological knowledge. He recognizes only two original races in the Archipelago, the Malayan and the Papuan; the former of Asiatic affinities, and the latter of African. They are unlike in color, in feature, in form, and in mental and moral habits. The Malaysians inhabit the western side of the Archipelago, and the Papuans the eastern, but each has overflowed into the territories of the other, and occasioned a mixture of

ances which it is sometimes hard to analyze. The Dutch and Portuguese colonists have also intermarried with the natives, and it is not easy to disentangle some knotty questions of descent. "Wherever the Portuguese have mixed with the native races, they have become darker in color than either of the parent stocks. The reverse is the case in South America, where the mixture of the Portuguese or Brazilian with the Indian produces the 'Mameluco,' who is not unfrequently lighter than either parent, and always lighter than the Indian."

He has much to say in praise of the native races. The men are of noble form: "What are the finest Grecian statues to the living, moving, breathing men I saw daily around me? The unrestrained grace of the naked savage as he goes about his daily occupations, or lounges at his ease, must be seen to be understood." He has confidence in the honesty of the Dyaks, the savage tribes of Borneo, among whom Sir James Brooke did so noble a work in building up a strong government.

The moral character of the Dyaks is undoubtedly high. They are truthful and honest to a remarkable degree. From this cause it is often impossible to get from them any definite information, or even an opinion. They say, "If I were to tell you what I don't know, I might tell a lie," and whenever they voluntarily relate any matter of fact, you may be sure they are speaking the truth. In a Dyak village the fruit trees have each their owner, and it has often happened to me, on asking an inhabitant to gather me some fruit, to be answered, "I can't do that, for the owner of the tree is not here." Neither will they take the smallest thing belonging to a European.

The natives of Ke are wonderful ship carpenters. With no other tools than axe, adze, and augur, they build small canoes, of elegant form, running up into high pointed beaks, ornamented with carving; and also sea-going vessels, without nails or iron bolts. Yet the planks are fitted so closely together, that it is difficult to find a place where a knife blade may be inserted.

The Dyaks of Borneo climb the loftiest trees by driving pegs into the trunk as they ascend, using long canes of bamboo to steady themselves. It is a very simple, and to them apparently an easy process, though very novel to a stranger. In Timor, the natives have a more ingenious and difficult method of tree-climbing, by means of a tough creeper or bush-rope, which the climber uses to support himself as *he walks up* the trunk of the tree:

The bee hunter now took hold of the bush-rope, and passed the other end round the trunk of the tree, holding one end in each hand. Jerking

it up the tree a little above his head, he set his foot against the trunk, and leaning back, began walking up it. It was wonderful to see the skill with which he took advantage of the slightest irregularities of the bark or obliquity of the stem to aid his ascent, jerking the stiff creeper a few feet higher when he had found a firm hold for his bare foot. It almost made me giddy to look at him as he rapidly got up,—thirty, forty, fifty feet above the ground,—and kept wondering how he could possibly mount the next few feet of straight, smooth trunk. Still, however, he kept on with as much coolness and apparent certainty as if he were going up a ladder.

On the other hand, he sees nothing wonderful in what are called savage "instincts" in traversing forests, through which one has never before passed. A guide led him fourteen miles through a forest to a certain hut. It looked marvelous, but, as he says, it was merely the result of a wide general knowledge. The man knew the topography of the whole district,—the slope of the land, the directions of the streams, the belts of bamboo or rattan, and many other indications of locality and direction; and he was thus enabled to hit straight upon the hut, in the vicinity of which he had often hunted.

Mr. Wallace is free and candid in his criticisms on the European nations which have conquered and ruled in the Archipelago. The Dutch, he thinks, make poor colonizers, but sagacious and energetic rulers. The Spanish and Portuguese are grand colonizers, but incompetent rulers. His language borders on the eulogistic in speaking of the latter: "The Portuguese and Spaniards were truly wonderful conquerors and colonizers. They effected more rapid changes in the countries they conquered than any other nations of modern times, resembling the Romans in their power of impressing their own language, religion, and manners on rude and barbarous tribes." Of the capacity of the Dutch for government, he says: "I believe that the Dutch system is the very best that can be adopted when a European nation conquers or otherwise acquires possession of a country inhabited by an industrious but semi-barbarous people."

He is no blind admirer of England, nor is he led off by insular prejudices to condemn or praise foreign customs by their relation to the home standard. He travels with open eyes. He discriminates clearly the peculiar social elements in the different countries visited, and his comments on matters connected with political economy are among the most valuable in his work. He believes in a strong government over colonies and conquered countries, and justifies the Dutch in their despotic measures to secure a monopoly of trade. The destruction of all nutmeg and clove trees on many islands to confine their cultivation to one or two; the keeping of laborers in debt, to compel

them to dependent labor; and the compulsory culture of certain crops for the government at a definite price, are all defended by him as wise expedients in governing an inferior and sluggish race. He claims that the best defence of the system is found in its results; that by it the people are well fed and decently clothed, and have acquired habits of steady industry and the art of scientific cultivation; that it is attended by neither physical nor moral evils; while, on the other hand, as he says, "the working of our (English) political economy in such cases invariably results in the extinction or degradation of the lower race." If one sets aside the idea of justice, and regards government as a mere system of expedients for given ends, much force attaches to his view. In the case of Java, where so much odium has been excited in Holland against the colonial government for its alleged abuses, he says:

There is one grand test of the prosperity, and even of the happiness of a community, which we can apply here,—the rate of increase of the population. It is universally admitted that when a country increases rapidly in population the people cannot be very greatly oppressed or very badly governed. In 1850, when the present cultivation system had been in operation for eighteen years, the population by census was nine million five hundred thousand, or an increase of seventy-three per cent. in twenty-four years. At the last census, in 1865, it amounted to fourteen million one hundred and sixty-eight thousand four hundred and sixteen, an increase of very nearly fifty per cent. in fifteen years, a rate which would double the population in about twenty-six years. This will give an average of three hundred and sixty-eight persons to the square mile, just double that of the populous and fertile Bengal Presidency, and fully one-third more than that of Great Britain and Ireland at the last census.

In forcible contrast with such results is our own government over the Indian tribes, which begets continual warfare, and is leading to an inevitable issue in utter extermination.

On the subject of the increase of population, which is now occupying the attention of physicians and moralists in this country, he gives the results of important inquiries in Borneo. The small number of children in American families, in our older communities, has excited general alarm, and is attributed by many, who claim to be well informed, to immoral and infamous practices. Among the Dyaks, in Borneo, he found a similar state of things, but free from all suspicion of voluntary causes. His remarks are full of interest:

Of all the checks to population among savage nations mentioned by Malthus,—starvation, disease, war, infanticide, immorality, and infertility

of the women,—the last is that which he seems to think least important, and of doubtful efficacy; and yet it is the only one that seems to me capable of accounting for the state of population among the Sarawak Dyaks. The population of Great Britain increases so as to double itself in about fifty years. To do this, it is evident that each married couple must average three children, who live to be married at the age of about twenty-five. Add to these those who die in infancy, those who never marry, or those who marry late in life and have no offspring, the number of children born to each marriage must average four or five, and we know that families of seven or eight are very common, and of ten or twelve by no means rare. But from inquiries at almost every Dyak tribe I visited, I ascertained that the women rarely had more than three or four children, and an old chief assured me he had never known a woman have more than seven. In a village consisting of a hundred and fifty families, only one consisted of six children living, and only six of five children, the majority appearing to be two, three, or four.

This infertility he attributes to the hard labor of the women from early life, and to the heavy weights they are accustomed to carry. Let us dare to hope that to physical rather than moral causes, to methods of living, and to the influence of culture on the nervous system of women, a similar infertility in our country may be ascribed.

Like all wise political economists he holds that labor is a necessity to man, and wherever, from any cause, labor is irregular or light, there social prosperity ebbs and decays. Physical health, intellectual progress, moral growth, and social thrift all depend on regular habits of toil. In tropical climes, therefore, nature is exuberant, but man languishes. The banana and bread fruit and durion, growing exuberantly with little culture; the sago tree supporting life, with little need of toil, are a curse rather than a blessing to the natives of the Archipelago. He comments wisely on the condition of the Aru islanders, where the spontaneous growth of the soil is abundant, and European products are cheap: "The barbarian is no happier and no better off for this cheapness. On the contrary, it has a most injurious effect on him. He wants the stimulus of necessity to force him to labor. As it is, he has more idle hours, gets a more constant supply of tobacco, and can intoxicate himself with arrack more frequently and more thoroughly."

It might be well for zealous philanthropists in the United States, who seem to anticipate a social millennium from lessening the hours of labor, to inquire if they are not working against the laws of reason and experience and Providence. New England prosperity is born of New England character, and New England character is due, in no

small degree, to the industry and thrift developed by a barren soil and an inhospitable climate.

He recognizes clearly the importance of variety in diet to health and happiness. On this account, no less than as a check to industry, the spontaneous fruits of the soil are harmful. He attributes to the uniform and limited food in many islands the prevalence of skin diseases and ulcers. The scurvy skin disease so common among the savages has a close connection with the poorness and irregularity of living. The less industrious tribes, who live for a portion of the year on fruits and vegetables only, are very subject to this malady. He says well, "It seems clear that in this, as in other respects, man is not able to make a beast of himself with impunity, feeding like the cattle on the herbs and fruits of the earth, and taking no thought of the morrow. To maintain his health and beauty, he must labor to prepare some farinaceous product capable of being stored and accumulated, so as to give him a regular supply of wholesome food. When this is obtained, he may add vegetables, fruits and meat with advantage."

He gives a curious instance of the civilizing influence of trade:

I dare say there are now near five hundred people in Dobbo (Aru Islands) of various races, all met in this remote corner of the East, as they express it, "to look for their fortune;" to get money any way they can. They are most of them people who have the very worst reputation for honesty, as well as every other form of morality,—Chinese, Bugis, Ceramese, and half-caste Javanese, with a sprinkling of half-wild Papuans from Timor, Babber, and other islands,—yet all goes on very quietly. This motley, ignorant, bloodthirsty, thievish population live here without the shadow of a government, with no police, no courts, and no lawyers; yet they do not cut each other's throats, do not plunder each other day and night, do not fall into the anarchy such a state of things might be supposed to lead to. It is very extraordinary. It puts strange thoughts into one's head about the mountain load of government under which people exist in Europe, and suggests the idea that we may be over-governed. . . . Trade is the magic that keeps all at peace, and unites these discordant elements into a well-behaved community. All are traders, and all know that peace and good order are essential to successful trade, and thus a public opinion is created which puts down all lawlessness.

We imagine that the good order is due more to the smallness of Dobbo, where any evil-doer is at once a marked man, than to the influence of commerce. One would hardly venture the experiment of dissolving government in New York City, leaving to commerce the control of morals; and yet New York would scarcely suffer more from



the want of government than from the corruption of its magistracy, which defeats the ends of justice.

We have room but for one more extract, which must be startling to Englishmen accustomed to regard their country as standing at the head of modern civilization. He does not believe in manufactures as a source of national wealth and progress. "The wide-spread moral and intellectual evils resulting from unceasing labor, low wages, crowded dwellings, and monotonous occupations, to perhaps as large a number as those who gain any real advantage, might be held to show a balance of evil so great as to lead the greatest admirers of our manufactures and commerce to doubt the advisability of their farther development." He doubts if, in respect to social order and happiness, the so-called civilized nations are in advance of barbarous tribes, for among the latter he has found incitements to great crimes wanting, and petty ones repressed, partly by the influence of public opinion, but chiefly by the natural sense of justice and of his neighbor's right which are inherent in man. In contrast with such a social condition of barbarous tribes, he finds little cause of pride or joy in the social state of England.

It is not too much to say that the mass of our populations have not at all advanced beyond the savage code of morals and have in many cases sunk below it.

During the last century, and especially in the last thirty years, our intellectual and material advancement has been too quickly achieved for us to reap the full benefit of it. Our mastery over the forces of nature has led to a rapid growth of population and a vast accumulation of wealth; but these have brought with them such an amount of poverty and crime, and have fostered the growth of so much sordid feeling and so many fierce passions, that it may well be questioned whether the mental and moral status of our population has not, on the average, been lowered, and whether the evil has not overbalanced the good. Compared with our wondrous progress in physical science and its practical applications, our system of government, of administering justice, of national education, and our whole moral and social organization, remains in a state of barbarism.

The wealth and culture of *the few* do not constitute civilization, and do not of themselves advance us toward the "perfect social state." Our vast manufacturing system, our gigantic commerce, our crowded towns and cities, support and continually renew a mass of human misery and crime *absolutely* greater than ever existed before. They create and maintain in life-long labor an ever-increasing army, whose lot is the more hard to bear by contrast with the pleasures, the comforts, and the luxuries which they see everywhere around them, but which they can never hope to enjoy; and who, in this respect, are worse off than the savage in the midst of his tribe.

These are earnest words, suggesting sober thoughts to all who see the issues to which the inequalities of modern society are tending. It is unwise to eulogize savage life, or to imagine it nurtures great virtues or social comforts. Mr. Wallace has painted it in rose colors, but it has another and darker side. Modern civilization, with all its defects and evils, is immeasurably in advance of the best savage state. But it conceals beneath the surface fatal elements, which must lead to revolution or destruction, unless they are changed or eradicated. If the social inequalities are not in some way better adjusted; if the high-born and the wealthy take no interest in elevating the lower classes, savage instincts and brute force will have their day of vengeance, and repay the debt of years in a terrible carnival of blood and rapine. All the elements of a reign of terror, like the early days of the French Revolution, lie hid in English society. Christianity and statesmanship may avert the catastrophe by lifting the masses of the people to intelligence and virtue and comfort; but if these fail, England may pass through the throes of a terrible convulsion, in which barbarism and civilization struggle for supremacy.

HEMAN LINCOLN.

NEWTON CENTER.

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