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## THE LITERARY EXAMINER.

*Travels in the East Indian Archipelago.* By Albert S. Bickmore, M.A., Professor of Natural History in Madison University, Hamilton, N.Y. With Maps and Illustrations. John Murray.

That an American Professor should undertake a long and perilous voyage mainly for the purpose of collecting shells of ocean from the shores of the Spice Islands, shows that the devotion to science which distinguished the earlier savants is still a living truth among its humbler followers in the nineteenth century. Rumphius, the learned German conchologist and natural historian, sometimes called "the Indian Pliny," from the extent and accuracy of his writings and researches, dwelt for many years at Amboina, the capital of the Moluccas, and there devoted himself to the study of the productions of those fragrant isles. In 1705 he published his great work, the 'Rariteit Kaimer,' or Chamber of Curiosities, an elaborate treatise on the shells and products of Amboina, and soon after his death appeared another extensive work, entitled the 'Hortus Amboinense,' containing exact and scientific descriptions of the plants of the same region, together with an account of their *habitats*, their flowering seasons, uses, and modes of cultivation. Mr Bickmore sailed to the Spice Islands in order to restore the specimens of the great German doctor, and to bring back to his own country a standard collection of the shells of the Eastern seas. Such was the origin of the bulky volume now before us, detailing the author's travels and voyages in the East Indian Archipelago. Let not the unscientific reader, however, imagine that the work is made up of somniferous and unentertaining descriptions of specimens, or that it is only suited to the student of natural history and the museum collector; for, besides an account of the Flora and Fauna of the tropical East, there are many amusing and pleasantly written chapters detailing the manners and customs of the inhabitants. Indeed, the greater portion of the book is thoroughly entertaining reading; the scientific chapters even being pleasantly relieved by accounts of the adventurous explorations of Mr Bickmore. We certainly know no other book which gives us so complete a survey, historical and scientific, of the islands which together form what is now called Malaysia. Sumatra and Java, Celebes and Timur, Ceram and Buru, Gilolo, and other smaller islands, were all visited by the author; and their geology, inhabitants, and productions are described and descanted upon to much practical purpose. Although Mr Bickmore in the preface states that "accuracy, even at any sacrifice of elegance, has been aimed at throughout," we do not think that the most fastidious reader will find fault with the style or form of the work before us; and, although we are informed that the narrative has been taken almost entirely from a journal kept from day to day, it certainly is not that rude and undigested mass which many travellers think proper to lay before their readers. As the author remarks, "first impressions are here presented as modified by subsequent observation;" a sentence which we should wish every writer of travels to lay well to heart. The first island visited was Java, whose early history is fully detailed by Mr Bickmore. Batavia, Samarang, and Surabaya, the chief Dutch cities, are all on the northern coast; and each is similarly situated on both sides of a small river on very low land,—indeed Batavia and Samarang are literally placed in a morass. The whole of the northern coast of Java lies remarkably low, and the mountains and volcanoes of the interior thus appear to rise up close by the shore. A large portion of the island, as seen from the Java sea, is described "as one magnificent garden, divided into small lots by lines of thick evergreens and tall feathery palm-trees." Numerous lofty peaks seem to rise from the clouds as the traveller sails past; one of them, Mount Slamet, an active volcano, attaining an elevation of upwards of eleven thousand feet above the level of the sea. On the slopes of many of the mountains the ruins of ancient temples are to be seen. At Brambanau there are several extensive groups of ruins, consisting of the remains of structures built of enormous masses of trachyte placed

together without cement. The most wonderful group is that called "The Thousand Temples." They appear to have been dedicated to Hindu worship, and were constructed by natives of India more than six centuries ago. Here the Brahmin and the Buddhist cast aside their long-cherished hatred and jealousy, and worshipped side by side in the same temple. We quote some valuable details of the early religious and commercial history of Java:

Hinduism was undoubtedly introduced into the archipelago in the same way as Mohammedanism—namely, by those who came from the West to trade, first into Sumatra, and afterward into Java and Celebes. This commercial intercourse probably began in the very remotest ages; for, according to Sir Gardner Wilkinson, the Egyptians used tin in manufacturing their implements of bronze two thousand years before the Christian era, and it is more probable that this tin came from the Malay peninsula than from Cornwall, the only two sources of any importance that are yet known for this valuable metal, if we include with the former the islands of Billiton and Banca. In the 'Periplus of the Erythraean Sea,' written about A.D. 60, it is stated that this mineral was found at two cities on the western coast of India, but that it came from countries farther east. In this same descriptive treatise it is also mentioned that the *malabathrum*, a kind of odoriferous gum imported from India for the use of the luxurious Romans, was found at Barake, a port on the coast of Malabar, but that it likewise came from some land farther east; and *malabathrum* is supposed by many to be the modern benzoin, a resin obtained from the *Styrax benzoin*, a plant only found in the lands of the Battas, in Sumatra, and on the coast of Brunai, in the northern part of Borneo.

Although we gather from the records of Western nations these indications of products coming from the archipelago in the earliest ages, yet we have no information in regard to the time that the Hindoo traders, who sailed eastward from India and purchased these valuable articles, succeeded in planting their own religion among those distant nations. The annals of both the Malay and Javanese are evidently fanciful, and are generally considered unreliable for any date previous to the introduction of Mohammedanism. Simple chronological lists are found in Java, which refer as far back as A.D. 78; but Mr Crawford says that "they are incontestable fabrications, often differing widely from each other, and containing gaps of whole centuries."

The people who came from India on these early voyages were probably of the same Talagu or Telugu nation as those now called by the Malays "Klings" or "Kalings," a word evidently derived from Kalinga, the Sanscrit name for the northern part of the coast of Coromandel. They have always continued to trade with the peninsula, and I met them on the coast of Sumatra. Barbosa, who saw them at Malacca when the Portuguese first arrived at that city, thus describes them: "There are many great merchants here, Moor as well as Gentile strangers, but chiefly of the Chetis, who are of the Coromandel coast, and have large ships, which they call giunchi" (junks). Unlike the irregular winds that must have greatly discouraged the early Greeks and Phœnicians from long voyages over the Euxine and the Mediterranean, the steady monsoons of the Bay of Bengal invited those people out to sea, and by their regular changes promised to bring them within a year safely back to their homes.

At Surabaya the Dutch have a Government machine-shop, where they make castings of every description, and also manufacture steam-boilers for the navy. The native Javanese are employed here in large numbers, and are treated in every respect like European workmen. Their skill as mechanics is very great, and many of them receive nearly two guilders a day. Mr Bickmore considers that these facts prove the capabilities of the Javanese, and argues that a bright future may yet be in store for them as a people. Java abounds in extensive forests, which yield more especially the indestructible teak, from which the Dutch, Javanese, and Malays build their finest vessels. The forests shelter a variety of wild animals, among which may be mentioned the wild ox, rhinoceros, leopard, wild hog, and several species of deer. The birds are represented by a very beautiful species of peacock, the *Pavo spicifer*, several kinds of pigeons, the duck, the teal, the pelican, the white heron, the kite, the owl, the eagle, and the falcon.

In the chapter on the Flora of the tropical East the author gives us a very interesting description of the luxuriant vegetation of the East Indian Islands generally. The first tree which greets the traveller as he approaches the shore is the lofty, elegant cocoa-nut palm, which yields its fruit as food, and its leaves as a thatching for huts:

As it stands along the shore, it invariably inclines toward its parent, the sea, for borne on the waves came the nut from which it sprang, and now fully grown, it seeks to make a due return to its ancestor by leaning over the shore and dropping into the ocean's bosom rich clusters of its golden fruit. Here, buoyed up by a thick husk which is covered with a water-tight skin, the living kernel safely floats over the calm and the stormy sea, until some friendly wave casts it high up on a distant beach. The hot sun then quickly enables it to thrust out its rootlets into a genial soil of coral sand and fragments of shells, and in a few years it too is seen tossing its crest of plumes high over the white surf, which in these sunny climes everywhere forms the margin of the deep-blue ocean.

The Malays, however, seldom eat "the meat" of the nut, and only value it for the oil which it yields. The oil, in fact, is almost the only substance used for lighting in this part of the globe. Some little distance inland the banana tree flourishes, and with its long, drooping leaves and delicious fruit affords both a shade and repast to the weary traveller. On the higher grounds the fern, the bamboo, tall fig, or *waringin*, orchidaceous plants of every conceivable form, and the open foliage of the cotton-wood tree appear. Above this region we come upon the oaks and the laurels, the heaths and the cone-bearing trees. The choicest of the tropical fruits is the *mangostin*, and the next to this may be named the *duku* and the *mango*. The *duku* has the peculiar property of violating the sense of smell while it gratifies the sense of taste. On breaking the shell a detestable odour at once rises from the seed, which is imbedded in a creamy substance, and yet the taste is described by Mr Crawford as very like "fresh cream and filberts." The bread-fruit tree rises to the height of forty

or fifty feet, and attracts the notice of the European by its enormous sharply-lobed leaves. The natives cut the fruit into slices and fry them, and they are afterwards eaten with thick, black molasses. The Malays, however, care little for the bread-fruit, but the inhabitants of the Society Islands and other parts of the South Sea make it their chief article of food.

Celebes was at first supposed to consist of several islands, and this idea probably caused the name to assume a plural form. With its small, irregular central portion, and its four long peninsulas, it is likened by De Cauto to the form of a huge grasshopper. In the interior dwell a people, called by the coast tribes, "head-hunters," a race of cannibals. In the neighbourhood of Macassar are the ruined remains of the tombs of the native princes who ruled the island of Celebes, before the descent of Europeans on its coasts. Mr Bickmore speaks with rapture of the beautiful scenery of this region, abounding in waringin-trees, cocoa-nut and betel-nut palms; for "words utterly fail to convey any idea of the rich grouping of the palms and shrubbery, and festooning vines about us, as the setting sun shot into the luxuriant foliage long, horizontal pencils of golden light." In the neighbouring island of Timur, tradition relates that the Rajah was in the habit of sacrificing a young virgin annually to the sharks and crocodiles, regarded as the embodiment of evil spirits. This legend carries us back to the fabled Minotaur of ancient Greece, and is another example of the curious similarity traceable between so many venerable myths of countries widely separated both by space and time.

From Timur the author sailed to Amboina, the goal of his journey and the most important of the Spice Islands. Here he was fortunate enough to obtain alive a rare specimen of the pearly Nautilus, the shell of which is very common, though the animal has been rarely secured. Professor Owen's monograph, written after the dissection of a single specimen, is commented upon as affording a wonderful example of his skill, and wide and deep knowledge of comparative anatomy. We cannot refrain from quoting Mr Bickmore's lively description of hunting in the tropics, and bivouacking in the forests:

I had been careful to take along my fowling-piece, and at once I commenced a rambling hunt through the adjoining forest. Large flocks of small birds, much like our blackbird, were hovering about, but they so invariably chose to alight only on the tops of the tallest trees, that I was a long time securing half-a-dozen specimens, for at every shot they would select another distant tree-top, and give me a long walk over tangled roots and fallen trees in the dense, almost gloomy, jungle. As evening came on, small green parrots uttered their shrill, deafening screams, as they darted to and fro through the thick foliage. A few of these also entered my game-bag.

In these tropical lands, when the sun sets, it is high time for the hunter to forsake his fascinating sport and hurry home. There is no long, fading twilight, but darkness presses closely on the foot-steps of retreating day, and at once it is night. On my return, my friend remarked in the coolest manner that I had secured us both a good supper; and before I had recovered from my shock at such a suggestion, the cook had torn out a large handful of rich feathers from the skins, and all were spoiled for my collection; however, I consoled myself with the thought that it did not fall to the good lot of every hunter to live in the midst of such a wondrous vegetation and feast on parrots. In the evening, a full moon shed broad oscillating bands of silver-light through the large polished leaves of the bananas around our dwelling, as they slowly waved to and fro in the cool, refreshing breeze. Then the low cooing of doves came up out of the dark forest, and the tree-toads piped out their long, shrill notes. That universal pest, the mosquito, was also there, singing his same bloodthirsty tune in our ears. Our beds were perched on poles, high above the floor of the hut, that we might avoid such unpleasant bed-fellows as large snakes, which are very common, and most unceremonious visitors. That night we were disturbed, but once, and then by a loud rattling of iron pots and a general crashing of crockery; instantly I awoke with an indefinite apprehension that we were experiencing one of the frightful earthquakes which my friend had been vividly picturing before we retired. The natives set up a loud hooting and shouting, and finally the cause of the whole disturbance was found to be a lean, hungry dog that was attempting to satisfy his appetite on what remained of our parrot-stew.

The beautiful bay on the northern shore of Amboina, opposite to the large island of Ceram, is the scene of the first landing of Europeans in the Moluccas. Antonio d'Abreu, a Portuguese captain, is generally supposed to have been the discoverer of Amboina and Banda. The Dutch came to these islands in the employment of the Portuguese, and soon became acquainted with their relative situations and wealth. A long warfare between the Spanish, the Portuguese, and the Dutch for the possession of the Moluccas ended by the latter obtaining the mastery in the Eastern Seas, and monopolising the lucrative trade in spices which they have ever since held. The author describes at considerable length the culture of the clove and the nutmeg. The clove-tree (*Carophyllus aromaticus*) belonging to the order of the myrtles, rises to the height of forty or fifty feet from the ground. It begins to bear fruit in its seventh or eighth year, and frequently continues to yield until it has attained the venerable age of one hundred and fifty years. The clove is the bud of the flower, and grows in elegant clusters at the extremities of the twigs. The young buds are nearly white; they afterwards change to a light green, and finally to a bright red. They are then gathered, dried in the sun, and are ready for the market. The trees yield two crops a year; one in June and another in December. They appear to flourish best on the high hill-sides, and in a soil consisting of a loose, sandy loam. The nutmeg-tree belongs to the order *Myristicaceae*, and it is dioecious; that is the stamens and pistils are produced on different trees. It frequently rises to the height of fifty feet, and branches like the laurel. The fruit, before it is ripe, resembles an untinted peach; "but this is only a fleshy outer rind,

*epicarp*, which soon opens into two equal parts, and within is seen a spherical, black, polished nut, surrounded by a fine branching *aril*, the 'mace,' of a bright vermilion." It is gathered by the aid of a basket fastened to a long bamboo, and after being subjected to the heat of a slow fire, the shell is broken, the nutmegs are extracted and packed in casks for the market.

While in the island of Banda, the adventurous spirit of our author induced him to ascend an active volcano; a feat which he nearly paid for with his life. Even the shock of an earthquake felt just before the ascent was not sufficient to detain him. Early in the morning, with the assistance of some Coolies, the ascent was begun:

As long as we climbed up among the small trees, although it was difficult and tiring, it was not particularly dangerous until we came out on the naked sides of the mountain, for this great elevation is not covered with vegetation more than two-thirds of the distance from its base to its summit. This lack of vegetation is caused by the frequent and wide land-slides and by the great quantity of sulphur brought up to its top by sublimation and washed down its sides by the heavy rains. Here we were obliged to crawl up on all fours among small rough blocks of porous lava, and all spread out until our party formed a horizontal line on the mountain side, so that when they loosened several rocks, as constantly happened, they might not come down upon some one beneath him. Our ascent now was extremely slow and difficult, but we kept on, though sometimes the top of the mountain seemed as far off as the stars, until we were within about five hundred feet of the summit, when we came to a horizontal band of loose, angular fragments of lava from two to six inches in diameter. The mountain-side in that place rose at least at an angle of thirty-five degrees, but to us, in either looking up or down, it seemed almost perpendicular. The band of stones was about two hundred feet wide, and so loose that, when one was touched, frequently half a dozen would go rattling down the mountain. I had got about half-way across this dangerous place, when the stones on which my feet were placed gave way. This, of course, threw my whole weight on my hands, and at once the rocks, which I was holding with the clinched grasp of death, also gave way, and I began to slide downward. The natives on either side of me cried out, but no one dared to catch me for fear that I should carry him down also. Among the loose rocks, a few ferns grew up and spread out their leaves to the sunlight. As I felt myself going down, I chanced to roll to my right side and notice one of them, and, quick as a flash of light, the thought crossed my mind that my only hope was to seize *that fern*. This I did with my right hand, burying my elbow among the loose stones with the same motion, and that, thanks to a kind Providence, was sufficient to stop me; if it had broken, in less than a minute—probably in thirty or forty seconds—I should have been dashed to pieces on the rough rocks beneath. The whole certainly occurred in a less space of time than it takes to read two lines on this page. I found myself safe—drew a long breath of relief—thanked God it was well with me—and, kicking away the loose stones with my heels, turned round and kept on climbing. Above this band of loose stones the surface of the mountain was covered with a crust formed chiefly of the sulphur washed down by the rains, which have also formed many small grooves. Here we made better progress, though it seemed the next thing to climbing the side of a brick house; and I thought I should certainly be eligible for the "Alpine Club"—if I ever got down alive. At this moment the natives above us gave a loud shout, and I supposed of course that some one had lost his footing and was going down to certain death. "Look out! Look out!—Great rocks are coming!" was the order they gave us; and the next instant several small blocks, and one great flake of lava two feet in diameter, bounded by us with the speed of lightning. "Here is another!" It is coming straight for us, and it will take out one of our number to a certainty, I thought. I had stood up in the front of battle when shot and shell were flying, and men were falling; but now to see the danger coming, and to feel that I was perfectly helpless, I must confess, made me shudder, and I crouched down in the groove where I was, hoping it might bound over me: and at that instant, a fragment of lava, a foot square, leaped up from the mountain and passed directly over the head of a coolie a few feet to my right, clearing him by not more than five or six inches. I took it for granted that the mountain was undergoing another eruption, and that in a moment we should all be shaken down its almost vertical sides; but as the rocks ceased coming down we continued our ascent, and soon stood on the rim of the crater. The mystery concerning the falling rocks was now solved. One of our number had reached the summit before the rest of us, and with the aid of a native, had been tumbling off rocks for the sport of seeing them bound down the mountain, having stupidly forgotten that we all had to wind part way round the peak before we could get up on the edge of the summit, and that those of the party who were not on the top must be directly beneath him.

After gazing down the active crater, from which dense volumes of steam and sulphurous vapours were thickly rolling, the party rested and lunched on the summit. During the descent our author had again a very narrow escape, and was glad to find himself once more on *terra firma*.

The descriptions of the magnificent scenery of Sumatra and the many other smaller islands which Mr Bickmore visited, we can only here indicate. The volume, as a whole, we heartily welcome as affording much curious information of a part of the world which has been too long and generally neglected by recent travellers. The numerous engravings of the scenery, the flora and fauna, and the inhabitants of the tropical East are very good of their kind, and certainly cause the reader to take a more lively interest in the book. We have abstained from mentioning several hairbreadth escapes of the author from almost certain destruction, but we cannot conclude without just mentioning the terrific fight between Mr Bickmore and an enormous python, which is illustrated by a somewhat sensational engraving and appropriately closes the adventures of the author amidst the wondrous Eastern seas.