

NEW GUINEA AND ITS INHABITANTS.

IMMEDIATELY north of Australia, and separated from it at Torres Straits by less than a hundred miles of sea, is the largest island on the globe—New Guinea, a country of surpassing interest, whether as regards its natural productions or its human inhabitants, but which remains to this day less known than any accessible portion of the earth's surface. Within the last few years considerable attention has been attracted towards it, by surveys which have completed our knowledge of its outline and dimensions, by the settlement of English missionaries on its southern coasts, by the explorations of several European naturalists, and by the visits of Australian miners attracted by the alleged discovery of gold in the sands of its rivers. From these various sources there has resulted a somewhat sudden increase in our still scanty knowledge of this hitherto unknown land; and we therefore propose to give a general sketch of the island and of the peculiar forms of life that inhabit it, and to discuss briefly some of the interesting problems connected with its indigenous races.

It has hitherto been the custom of geographers to give the palm to Borneo, as the largest island in the world, but this is decidedly an error. A careful estimate, founded on the most recent maps, shows that New Guinea is considerably the larger, and must for the future be accorded the first place. In shape this island differs greatly from Borneo, being irregular and much extended in a N.N.W. and S.S.E. direction, so that its greatest length is little short of 1,500 miles, a distance as great as the whole width of Australia from Adelaide to Port Darwin, or of Europe from London to Constantinople. Its greatest width is 410 miles; and, omitting the great peninsulas which form its two extremities, the central mass is about 700 miles long, with an average width of 320 miles, a country about the size of the Austrian

Empire, and, with the exception of the course of one large river, an absolute blank upon our maps.

This almost total ignorance is the more remarkable, when we consider how long the country has been known, and how frequently its shores have been visited. It was discovered in 1511, even earlier than Australia, and from that time Spanish, Portuguese, Dutch, French, and English vessels have continually passed along its coasts. Most of our early navigators—Forrest, Dampier, and Cook—visited New Guinea, and have given us some account of its inhabitants; while, more recently, many exploring and surveying ships—the *Coquille* and *Astrolabe*, under French; the *Rattlesnake*, *Fly*, and *Basilisk*, under English; the *Triton* and *Etna*, under Dutch commanders, have added to our store of information. Among private naturalists and explorers, the present writer was the first to reside some months in New Guinea in 1858; since which time Dr. Miklucho Maclay, a Russian; Dr. Beccari and Signor D'Albertis, Italians; Dr. A. B. Meyer, a German; Mr. Octavius C. Stone, and several English missionaries, have all made important explorations and added much to our knowledge of the natural productions of the island and of the tribes residing on or near its coasts.

From these various sources we have obtained a tolerable knowledge of the outside margin of the country, but never extending more than twenty miles inland, except in the case of the Fly river, which Signor D'Albertis ascended for nearly 500 miles, reaching a point somewhat beyond the centre of the island. The north-western and south-western peninsulas of New Guinea are the best known portions, and both seem to be mountainous throughout. In the north, Mount Arfak a little beyond Dorey Harbour, is from 8,000 to 10,000 feet high, while in the south-east the Owen Stanley range has several peaks which reach elevations of from 10,000 to 13,000 feet. The Charles Louis mountains, commencing near the south coast, east of Triton Bay, appear to run far in a south-easterly direction, and their summits are believed to be snow-clad, and are probably at least 18,000 feet high. If they continue eastward in the same general direction, they would pass about 100 miles to the north of D'Albertis' furthest point on the Fly river, and perhaps form a great curve till they merge in the Owen Stanley range in the south-east. This, however, is mere conjecture, for throughout the whole course of the Fly river the land was low, and only on one occasion were high mountains seen to the north-west. Combining this with the fact that for a length of nearly 700 miles the south coast of New Guinea is low and swampy, with no high land anywhere visible, we are led to conclude that there is probably a continuous range of lofty mountains towards the north, while the south consists of wide alluvial tracts and of slightly elevated inland plains. This part of the island would thus somewhat resemble Sumatra turned round, but with higher mountains, which are probably not volcanic, and with a considerably greater width of land.

Although the Fly river penetrates so far into the interior, its size and depth in its upper portion are by no means what we should expect in a stream fed by a lofty mountain range close to the equator. It is therefore almost certain that larger rivers exist further west; while another large river certainly flows northward, having its mouth in a delta at the eastern extremity of Geelvink Bay. Until these rivers are explored, and at least the lower slopes of the hills ascended, we cannot be said to have much real knowledge of the interior of New Guinea.

Situated close to the equator, and extending only eleven degrees south of it, the climate of New Guinea is hot and uniform, and the rains abundant; leading here, as elsewhere in similar situations, to the growth of a luxuriant forest vegetation, which clothes hill and valley with an ever-verdant mantle. Only on the coasts nearest to Australia, and probably influenced by the dry winds from that continent, are there any open or thinly wooded spaces, and here alone do we find some approach to the Australian type of vegetation in the occurrence of numerous eucalypti and acacias. Everywhere else, however, even in the extreme south-east peninsula and adjacent islands, the vegetation is essentially Malayan; but Dr. Beccari, who collected plants extensively in the north-western peninsula and its islands, was disappointed, both as regards its variety and novelty. On the Arfak mountains, however, he found a very interesting sub-alpine or temperate flora, consisting of araucarias, rhododendrons, vacciniums, umbelliferae, and the Antarctic genus *Drimys*. The forests of New Guinea are everywhere grand and luxuriant, rivalling those of Borneo and of Brazil in the beauty of their forms of vegetable life; and we cannot consider the collections yet made as affording more than very imperfect samples of the treasures they contain.

The animal life of this great island is better known, and is perhaps more interesting. Its terrestrial mammalia are, however, singularly few, and with the exception of a peculiar kind of wild pig, all belong to the marsupial tribe or the still lower monotremes of Australia. The tigers, apes, and buffaloes, described in the fictitious travels of Captain Lawson, are here as much out of their real place as they would be in the Highlands of Scotland; while the tracks of large animals, supposed to be rhinoceros or wild cattle, actually discovered by recent travellers, are now ascertained to be those of the cassowary, which, so far as we yet know, is the largest land-animal of New Guinea. Large birds were also seen and heard, whose spread of wing was estimated at sixteen or twenty feet, and which beat the air with a sound compared to the puff of a locomotive; but these are found to be only a well-known hornbill of very moderate dimensions. In place of these myths, however, we have some very interesting realities, the most remarkable, perhaps, being the tree-climbing kangaroos of rather large size, which, although but slightly different in external form from

the jumping ground-kangaroos of Australia, hop about among the larger branches of trees, on the leaves of which they feed. They have a bushy tail, with somewhat shorter hind legs and more curved claws than their allies; and they afford a curious example of the adaptation of an animal to new conditions of life very different from those for which its general form and structure seem to fit it. Such a modification may, perhaps, be traced to a somewhat recent separation of Australia and New Guinea, when the kangaroos which remained in the latter country, not finding a sufficiency of herbage for their support in the dense forests, began to feed upon leaves, and ultimately became adapted, with as little change as possible, to a truly arboreal life. The entire absence of beasts of prey would favour this adaptation, as the coincident acquisition of swiftness of motion or powers of concealment are thus rendered unnecessary; and the tree-kangaroo accordingly remains a slow-moving creature, just able to get its own living, but in all probability quite unable to cope either with enemies or competitors.

The birds, like the mammalia, are mostly of Australian types, but nevertheless present many peculiarities. Most celebrated of all are the Birds of Paradise, forming a distinct family, containing more than twenty-five different species, all confined to this island and the immediately surrounding lands. These singular birds are really allied to our crows and magpies, but are remarkable for their special and varied developments of plumage. In most cases tufts of feathers spring from the sides of the body or breast, forming fans, or shields, or trains of extreme beauty. Others have glossy mantles or arched plumes over the back, strange crests on the head, or long and wire-like tail feathers. These varied appendages exhibit corresponding varieties of colour. The long trains of waving plumes are golden yellow or rich crimson, the breast-shields, mantles, and crests, are often of the most intense metallic blue or green, while the general body plumage is either a rich chocolate brown or deep velvety black. All these birds are exceedingly active and vivacious, the males meeting together in rivalry to display their gorgeous plumage, while in every case the female birds are unornamented and are usually plain or positively dingy in their colouring. From an unknown antiquity the natives of New Guinea have been accustomed to preserve the skins of these beautiful birds, and barter them with the Malay traders, by whom they are universally known as "burong mati," or dead birds, because they had never seen them alive. As the natives used always to cut off the feet in order to preserve them more easily, the Malay and Chinese traders concluded that they had none; and all sorts of stories were told about their living continually on the wing, and being in fact birds of heaven, whence originated the names of "birds of paradise" and "birds of the sun" given them by the early Portuguese and Dutch writers. Down to 1760 the skins of these birds never reached Europe

with feet attached to them, and the great Linnæus recorded the fact by naming the largest kind *Paradisea apoda*, or footless bird of paradise, a name by which it is still known among men of science. The natives also generally cut off the wings, so as to give greater prominence to the ornamental feathers; and this gives the birds an altogether different appearance from what they really possess in a living state, or when properly preserved.

By far the greater number of these birds, and those of the richest colours and most remarkable plumage, live on the mainland of New Guinea, and they are especially abundant in the mountains of the north-western peninsula, where the Italian and German naturalists already referred to obtained fine specimens of all the known kinds. In the south-east one new species has been discovered, but only two or three sorts are found there; and as they are also in little variety in the lowland districts of the north-west, it becomes pretty certain that they are more especially mountain birds. We may therefore confidently expect that, when the great ranges of the interior are visited and explored by naturalists, other and perhaps still more wonderful species will be discovered. It is interesting to note that, with the exception of one very peculiar species discovered by myself in the Moluccas, all the birds of paradise are found within the hundred fathom line around New Guinea, and therefore on lands which have probably been connected with it at a comparatively recent period.

Why such wonderful birds should have been developed here and nowhere else is a mystery we shall perhaps never completely solve; but it is probably connected with the absence of the higher types of mammalia, and with the protection afforded by luxuriant equatorial forests. The only other country in which similar strange developments of plumage and equally superb colours are found is Equatorial America, where somewhat similar conditions prevail, and where mammalia of a low grade of organization have long predominated. Whatever may be the causes at work, their action has not been restricted to the paradise-birds. Nowhere else in the world are pigeons and parrots so numerous and so beautiful as in New Guinea. The great crowned pigeons, the largest of the whole family and rivalling the largest game birds, were first described by Dampier as "a stately land-fowl about the size of the dunghill cock, sky-coloured, but with a white blotch and reddish spots about the wings, and a long bunch of feathers on the crown." Many of the fruit-doves are strikingly beautiful, being adorned with vivid patches of crimson, blue, or yellow, on a pure green ground. Parrots are wonderfully varied, including the great black and the white cockatoos; the lorries varied with crimson and purple, green, yellow, and black; while there are strange little crested green parrots no larger than our blue tit—the smallest of the parrot-tribe, as the great black cockatoos are the largest. Kingfishers, too, are remarkably abundant, and include

several of the fine racket-tailed species, with plumage of silvery blue, and with white or crimson breasts. Many other groups of birds are also adorned with exceptionally gay colours; and a careful comparison with the birds of other countries shows, that nowhere in the world is there so large a proportion of the whole number of species adorned with brilliant hues. Among insects the same thing occurs, though not in quite so marked a degree; yet the superior beauty of many groups of beetles over the corresponding groups in Borneo is very distinct; and the same is to some extent the case with the butterflies and moths.

Independently of the beauty and singularity, the great number of species of birds inhabiting New Guinea is very remarkable. Considering that there are no resident collectors in the island, and that our knowledge is wholly derived from travellers who have spent a few weeks or months on the extreme northern or southern coasts only, leaving the great mass of the interior wholly unexplored, the number of land-birds already known (about four hundred species) is surprising. It is very much greater than the numbers inhabiting the whole of the West Indian Islands, or Madagascar, or the large, rich, and comparatively well-explored island of Borneo. Even Australia, so much more extensive and so varied in climate and vegetation, has only four hundred and eighty-five land-birds; and when we consider that the central mass of New Guinea, with its lofty mountain ranges and fine upland valleys, yet remains absolutely unexplored, it is not improbable that the birds of this wonderful island may be eventually found to be as numerous as those of its parent continent. We may therefore safely assert that in no part of the world has the naturalist such a certainty of making new and important discoveries as in the still unexplored regions of central New Guinea.

The peculiar race of mankind inhabiting this great island attracted the attention of the earliest voyagers, and the country was called New Guinea from the resemblance of its inhabitants to the Negroes of Africa, removed from them by nearly one-third the circumference of the globe. The early writers, however, term the people Papuas or Papuans, a Malay term given to them on account of their woolly hair, so different from the perfectly straight hair of almost all the other Eastern races. The Malay word "papuwah" or "puah-puah," means frizzled like wool; and the Malays still call these people "orang papuwah"—woolly-haired men, and the island itself "tana papuwah"—the land of the woolly-haired.

It is a very remarkable fact that woolly-haired people should be found in two such widely-separated areas, and, with very few exceptions, nowhere else in the world. In Africa they occupy the larger portion of the continent, extending over all the tropical and southern regions; while in the East they are found only in a group of islands of which New Guinea is the centre, extending westward as far as Flores.

and eastward to the Fijis. There are also a few outlying groups of woolly-haired people, which are of great importance as indicating that this type once had a wider extension than now. In the Pacific we have the now extinct Tasmanians; and far to the east, in the midst of the brown Polynesians, we find the inhabitants of Penrhyn's Island and Mangaia, in about 158° west longitude, to be of the Melanesian or dark race. In the Philippines there is an aboriginal race of woolly-haired dwarfs—the Aëtas or Negritos; and a similar descriptive term may be applied to the Semangs of the Malay Peninsula, and to the natives of the Andaman Islands in the Bay of Bengal. These various Eastern tribes differ among themselves quite as much as do those of Africa. Both agree, however, in being usually very dark-skinned, and examples may be found in which Negroes and Papuans are in all respects very much alike. But this is exceptional, and there is almost always a characteristic difference which would cause most of the Eastern Negroes to appear out of place on the continent of Africa. The woolly hair, however, combined with the dark skin and almost always with a dolichocephalic or long skull, so markedly distinguishes all these people from the rest of the inhabitants of the globe, that it is impossible not to look upon them as being really related to each other, and as representing an early variation, if not the primitive type of mankind, which once spread widely over all the tropical portions of the eastern hemisphere. Successive incursions of the lighter-coloured, smooth-haired races seem to have exterminated them in many of the areas they once inhabited, while in some widely-scattered spots a few scanty remnants continue to exist. Two important groups, however, remain predominant in regions very far apart, but each well suited to their vigorous development. The Negro of Africa has been made the servant of the more civilized races from the earliest periods of history, and is better known to us than any other uncivilized people; while the Papuan or Melanesian, inhabiting a group of tropical islands on the other side of the globe, still remains a mere shadowy name to the great majority of English readers. We proceed now to point out the chief physical and mental characteristics, habits, and customs, of this interesting race as it exists in New Guinea, with occasional references to such modifications of it as occur in the other islands.

We now possess trustworthy descriptions of the Papuans as they exist at numerous localities scattered all round the extensive island they inhabit; and the substantial agreement of these descriptions renders it pretty certain that all belong to one race, exhibiting, it is true, considerable variations, and occasionally presenting undoubted signs of intermixture with other races, but always showing a decided predominance of true Papuan characteristics. In stature they present a medium between the short Malays and tall Polynesians, the average height varying at different parts of the coast from five feet two to five feet eight inches. Some tribes in the interior are believed

to be as dwarfish as the Negritos of the Philippines, while others are nearly equal to the tall Fijians, who are often considerably over six feet high. They are strong and muscular, but rather less finely formed than many of the Malayan and Polynesian tribes. Their colour is usually a chocolate-brown, sometimes almost black, at others almost as light as some of the Malays. It is, however, by their features that they are best distinguished from all other races of men, and especially by the form and size of the nose. This is always large and long, usually arched as in the Jewish type, and, when well developed, with the extremity so lengthened as to hide the nostrils and overhang the upper lip. This peculiar characteristic is found more or less developed everywhere round the coast of New Guinea, so that almost every traveller speaks of the "Jewish features"—the "aquiline" or "arched" or "very prominent" noses—or makes use of other similar expressions, clearly showing that this is the typical Papuan feature, a fact which is further demonstrated by the unmistakable, though exaggerated, manner in which it is represented in all their images and carvings. The nose is also very thick and coarse, as is the case in almost all savage races, the *alæ* are very oblique, and the base is much depressed between the eyes, a character which reaches its maximum in the natives of New Caledonia and the New Hebrides, though the nose itself is with them somewhat shorter. The forehead is rather flat and retreating, the mouth large, and the lips full but not excessively thick; nor is there any marked prognathism. The combination of these peculiarities in various degrees, produces faces which are sometimes ugly and savage-looking, while others have so much the character of the Jew or Arab as to be really handsome. Comparing Papuans with typical negroes of Equatorial Africa we find a radical difference in the small flat nose and very prominent jaws of the latter. In the South African races this difference is less pronounced. The Bechuanas and Natal Kaffirs have less prognathism and a straighter, better-formed nose, but this organ is always shorter and less arched than in the Papuan. The Hottentots have often well-formed features and sometimes have a considerable resemblance to the less typical Melanesians. The greatest resemblance, however, is to be found between the Negritos of the Philippines—who have short flat noses and somewhat projecting jaws—and some of the dwarfish tribes of Central Africa.

The Papuan contrasts strongly with Malays and Polynesians in being hairy-bodied and tolerably well bearded, but still more so by the wonderfully luxuriant growth of the hair of the head, which forms a dense mop often projecting six or eight inches from the skull. It is crisp, glossy, and very elastic, and each separate hair naturally curls itself up into a spiral of small diameter. The degree of twist and consequent woolliness of the hair seems to be dependent on its being oval or flattened instead of cylindrical. In the straight-haired races and in most Europeans the hair has a circular section, which becomes

slightly oval where it is naturally curly; but in the Negro and Papuan it is much flattened, and has besides irregular wavy margins, which seem to produce the strong spiral twist. Those who possess a large mop of hair are very proud of it, keeping it continually combed out with a kind of bamboo fork, and using a narrow wooden pillow on which to rest the nape of the neck, so as to preserve the hair from being squeezed out of shape. It was long thought that the hair of these people possessed a peculiar character in growing in separate small tufts scattered uniformly over the scalp; but more accurate examination shows that it grows evenly over the surface of the head, and that the tufted appearance probably arises from the tendency of the spirally twisted hairs to mat together in small curly locks. The hair on the body and limbs, though very short, has the same appearance and a similar structure.

The dress of these people is very scanty, the men wearing the usual T bandage of bark-cloth, but in some cases only a shell, or even going absolutely naked; while the women always wear some kind of girdle from which is suspended a small apron of bark or a fringe of leaves. As with most savages, ornament is more attended to than dress, and is more used by the men than by the women. They often pierce the sides of the nose, sticking in them pieces of bone, feathers, or tusks of the wild pig. The ears are also pierced, and either shell earrings are worn, or sticks ornamented with feathers are stuck through the lobes. Necklaces of teeth or shells are common, and heavy rings of white shell or plaited bands of grass, or palm-leaf are worn on the arms. The hair of the men is always carefully attended to. It is combed with a kind of bamboo fork with four or five prongs, and this is usually kept stuck in it both for convenience and ornament. Some tribes cut and trim, or plait the mop of hair into various helmet-like or other fantastic shapes, and all adorn it with combs, sticks, or feather ornaments. Suspended from the neck they often wear a small carved wooden figure with the Papuan features greatly exaggerated. As they freely part with these, they are probably mere ornaments or charms rather than idols or fetishes. Regular tattooing is unknown, except on the south-eastern peninsula where there is an infusion of Polynesian blood, but most of the men have raised marks produced artificially. These generally consist of a few short parallel lines on the arms or breast, and are said to be formed by gashes made with a sharp stone or bamboo, and the subsequent application of fire to make the skin swell up and leave a prominent scar. Painting the body is not generally practised, but some kind of stain producing a blue-black tinge has often been observed.

The houses of the New Guinea people are somewhat different in different localities, but the most general type is that found at Dorey Harbour. There is here a considerable village of large houses built on piles in the water in the usual Malay style, and houses similarly

raised on posts (but loftier) are found on the hills some miles inland. Each of these houses is large and accommodates several families, and they are connected by continuous platforms of poles and bamboos, often so uneven and shaky that a European can with difficulty walk on them. A considerable space separates this platform from the shore, with which however it is connected by narrow bridges formed of one or two bamboos, supported on posts, and capable of being easily removed. A larger building has the posts carved into the rude forms of men and women, and is supposed to be a temple or council-house. This village is probably very like the pile villages of the stone age, whose remains have been found in the lakes of Switzerland and other countries. Similar houses are found in the Aru and Ké Islands, in Waigiou, and on the south-west coast; and they are also common on the south-east coast, sometimes standing in the water, sometimes on the beach above high-water mark. These houses are often a hundred feet long, and sometimes much more, and are occupied by ten or twenty families. On the Fly river similar large houses occur, but only raised a foot or two above the ground; while at the mouth of the Utanata river, on the south-west coast, a large low house was found a hundred feet long, and only six feet wide, with nineteen low doors; but this was evidently only a temporary sea-side habitation of a tribe who had their permanent dwellings inland.

Finding these large houses, raised on posts or piles and common to many families, to prevail from one end of New Guinea to the other, both on the coast and inland, we are led to conclude that those described by Dr. Miklucho Maclay at Astrolabe Bay, on the north-east coast, are exceptional, and indicate the presence of some foreign element. The houses of the people among whom he lived were not raised on posts, and had very low walls, so that the somewhat arched roofs appeared to rise at once from the ground. They were of small dimensions, and seem to correspond pretty closely to those of the Admiralty Islands, New Britain, and New Ireland; so that this part of the coast of New Guinea has probably been colonized from some of the adjacent islands, a view supported by the fact that these people do not use bows and arrows, so general among all the true Papuans, and by other peculiarities. It is somewhat unfortunate that the only scientific man who has resided alone among these people for more than a year, for the express purpose of studying them exhaustively, should have hit upon a place where the natives are probably not true indigenes but an intruding colony, although perhaps long settled in the country. Dr. Miklucho Maclay will no doubt be quoted as the greatest living authority on the Papuans of New Guinea; and it is therefore very important to call attention to the fact that the people he so carefully studied are not typical of the race, and may not even be Papuans at all in the restricted sense in which it is usually applied to the main body of the aborigines of New Guinea.

The Papuans, as well as all the tribes of dark, frizzly-haired Melanesians, make pottery for cooking, thus differing from all the brown Polynesian tribes of the Pacific, none of whom are acquainted with this art. Of course the actual seat of manufacture will be dependent on the presence of suitable materials; but those who do not make it themselves obtain it by barter, so that earthenware cooking vessels appear to be in general use all over the island. Cups and spoons are made out of shells or cocoa-nuts, while wooden bowls of various sizes, wooden mortars for husking maize or rice, wooden stools used as pillows, and many other articles, are cut out and ornamented with great skill. A variety of boxes are made of the split leaf-stalks of the sago palm, pegged together and covered with pandanus leaves, often neatly plaited and stained of different colours, so as to form elegant patterns. A variety of mats, bags, and cordage are made with the usual skill of savage people; and their canoes are often of large size and beautifully constructed, with high-peaked ends ornamented with carvings, and adorned with plumes of feathers.

The weapons chiefly used are spears of various kinds, wooden swords and clubs, and bows and arrows; the latter being almost universal among the true Papuans and most of the allied frizzly-haired races, while the Polynesians seem never to possess it as an indigenous weapon. It is very singular that neither the Australians, the Polynesians, nor the Malays should be acquainted with this weapon, while in all the great continents it is of unknown antiquity, and is still largely used in America, Asia, and Africa. Peschel, indeed, attempts to show that the Polynesians have only ceased to use it on account of the absence of game in their islands; but mammalia are almost equally scarce in the New Hebrides, where it is in constant use even in the smallest islands; while in Australia, where they abound, and where it would be a most useful weapon, it is totally unknown. We must therefore hold that the use of the bow and arrow by the Papuans is an important ethnological feature, distinguishing them from all the peoples by whom they are immediately surrounded and connecting them, as do their physical peculiarities, with an ancient widespread negroid type.

In their knowledge and practice of agriculture the Papuans show themselves to be far superior to the Australians, and fully the equals of the Polynesian races. They grow cocoa-nuts and bread-fruit, and cultivate various kinds of yam, sweet-potato, bananas, and sugar-cane. Though possessing, for the most part, only stone axes, they clear the forest to make their plantations, which they carefully fence round to keep out the wild pigs. Looking at these clearings, at their houses, their canoes, their implements, weapons, and ornaments often elaborately carved, we must, as Dr. Maclay remarks, be struck with astonishment at the great patience and skill displayed by these savages. Their chief implement, the axe, consists of a hard grey, green, or white stone,

made smooth and sharp by long grinding and polishing. A piece of the stem of a tree which has a branch passing off at an angle, something like the figure 7, is hewn off, and upon the branch, which has been cut off short and shaven at the top, the stone is laid horizontally, and bound fast with split rattans or tough bark. Such an instrument requires to be used with great skill, only to be attained by practice, or the stone will be broken without producing any result. These savages can, however, with a stone axe having a cutting edge only two inches broad, fell a tree-trunk of twenty inches diameter, or carve really fine figures on a post or spear. Each adult man possesses one such axe, but in every village there are usually one or two larger two-handed axes, which are about three inches broad. These are considered exceedingly valuable, and are only used for cutting large trees for canoes or other important work. Fragments of flint and shells are used for finishing carved work and cutting the ornamental patterns on bamboo boxes, as well as for making combs, spoons, arrows, and other small articles. For cutting meat and vegetables a kind of chisel of bone and knives of bamboo are made use of. On the north-west and south-west coasts, where the people have long been in communication with Malay traders, they have iron tools and weapons, and cultivate also maize and a little rice and millet, and have the papaya as an additional fruit and vegetable; and they also grow tobacco, of which they make huge cigars. At Dorey they have learnt to work iron, and make swords and choppers as well as iron points to their arrows and spears.

The daily food of these people consists of some of the vegetables already named, of which they have a pretty constant supply, together with fruits, fish, and occasionally the flesh of the wild pig, the cuscus, or of birds caught in snares or shot with arrows. They also eat shell-fish, lizards, and almost every kind of large insect, especially beetles and their larvæ, which are eaten either raw or cooked. Having no salt, they mix sea-water with that in which they cook their food, and this is so highly esteemed that the people of the hills carry away bamboos full of salt water whenever they visit the coast.

The plantations are usually made at some distance inland for safety, and after the ground is cleared and fenced by the men, the cultivation is left almost wholly to the women, who go every day to weed and bring home some of the produce for the evening's meal. They have throughout the year a succession of fruits and vegetables either wild or cultivated, and are thus never half-starved like the Australians. On the whole the women are well treated and have much liberty, though they are considered as inferiors, and do not take their meals with the men. The children are well attended to, and the fathers seem very fond of their boys and often take them when very young on their fishing or hunting excursions.

As in the case of most other savages, we have very different and

conflicting accounts of the character of the Papuans. Mr. Windsor Earl well remarks, that, whenever civilized man is brought into *friendly* communication with savages, the disgust which naturally arises from the first glance at a state of society so obnoxious to his sense of propriety, disappears before a closer acquaintance, and he learns to regard their little delinquencies as he would those of children; while their kindness of disposition and natural good qualities begin to be recognized. Thus many writers make highly favourable statements respecting the Papuan character and disposition; while those whose communications with them have been of a *hostile* nature are so impressed with their savage cunning and ferocity, and the wild-beast-like nature of their attacks, that they will not recognize in them any feelings in common with more civilized races.

Many of the early voyagers record nothing but hostility or treacherous murders on the part of the Papuans. Their visits were, however, chiefly on the north-west and south-west coasts, which the Malays have long been accustomed to visit not only for commerce but to capture slaves. This having become a regular trade, some of the more warlike coast tribes, especially those of Onin in McCluer's inlet, have been accustomed to attack the villages of other tribes, and to capture their inhabitants, in order to sell the women and children to the Malays. It is not therefore surprising, that unknown armed visitors to these coasts should be treated as enemies to be resisted and if possible exterminated. Even Europeans have sometimes increased this feeling of enmity through ignorance of native habits and customs. Cocoa-nut trees have been cut down to obtain the fruit, apparently under the impression that they grew wild and were so abundant as to be of little value; whereas every tree is considered as private property, as they supply an important article of food, and are even more valued than the choicest fruit-trees among ourselves. Thus Schouten, in 1616, sent a boat well-armed to bring cocoa-nuts from a grove of trees near the shore, but the natives attacked the Europeans, wounded sixteen of them, and forced them to retire. Commodore Roggewen, in 1722, cut down cocoa-nut trees on the island of Moa on the north coast, which, of course, brought on an attack. At other times houses have been entered in the absence of their owners, a great offence in the eyes of all savage people and at once stamping the intruder as an enemy.

On the other hand Lieutenant Bruijn Kops, who visited the north-west coast of New Guinea in 1850, gives the following account of the inhabitants of Dorey:—

“Their manners and customs are much less barbarous than might be expected. On the contrary they give evidence of a mild disposition, of an inclination to right and justice, and strong moral principles. Theft is considered by them as a grave offence, and is of very rare occurrence. They have no fastenings to their houses, yet seldom or never is anything stolen. Although they were on board our ship or alongside during whole days, we never missed

anything. Yet they are distrustful of strangers until they become acquainted with them, as we experienced. This is probably less, however, a trait of their character than the result of intercourse with strangers who perhaps had frequently tried to cheat them. The men, it is true, came on board from the time of our arrival, but they were very cautious in letting any of the things they brought for sale out of their hands. The women were at first very fearful, and fled on all sides when they saw us, leaving behind what they might be carrying; but at length when they found they had no injury to dread from us they became more familiar. Finally, they approached without being invited, but remained timid. The children very soon became accustomed to us, and followed us everywhere.

"Respect for the aged, love for their children, and fidelity to their wives, are traits which reflect honour on their disposition. Chastity is held in high regard, and is a virtue that is seldom transgressed by them. A man can only have one wife, and is bound to her for life. Concubinage is not permitted. Adultery is unknown among them. They are generally very fond of strong drink, but although they go to excess in this, I could not learn that they prepared any fermented liquor, not even *sago-weer* or *tuak* (palm wine). Kidnapping is general in these countries, and is followed as a branch of trade, so that there is no dishonour attached to it. The captives are treated well, are changed if there are any of theirs in the enemy's hands, or released on payment of a ransom, as was the case in Europe in the middle ages."

My own experience of the Papuans at Dorey, in 1858, agrees with this account; and as I lived there for four months with only four Malay servants, going daily unarmed into the forest to collect insects, I was completely in their power had they wished to attack me. A remarkable proof of their honesty occurred to me at the island of Waigion, where a man who had received payment in advance for red birds of paradise, brought back the money, represented by an axe, when after trying for several weeks he had failed to catch any. Another, who had received payment for six birds, brought me in the fifth two days before I was to leave the island, and immediately started off for the forest to seek another. Of course I never expected to see him again, but, when my boat was loaded, and we were just on the point of starting, he came running down to the beach holding up a bird, which he handed to me, saying with evident satisfaction,—“Now I owe you nothing.” My assistant, Mr. Allen, venturing alone among the mountaineers of the north-west peninsula, found them peaceable and good-natured. Drs. Meyer and Beccari and Signor D'Albertis, penetrating inland beyond Dorey, were never attacked or seriously opposed; and Dr. Miklucho Maclay suddenly appearing at Astrolabe Bay, among people who seem never to have had any communication with Europeans, soon established friendly relations with them, although subject to great trials of temper and courage at the outset.

His experience with them is very instructive. They appeared at first distrustful and suspicious of his intentions, as well they might be. Sometimes they left him quite alone for days together, or kept him prisoner in the little hut he had had built for himself, or tried to frighten him by shooting arrows close to his head and neck, and pressing their spears against his teeth till they made him open his mouth. Finding,

however, that he bore all these annoyances good-humouredly, and, as a medical man, took every opportunity of doing them services, they concluded he was a good spirit, a man from the moon, and thenceforth paid him great respect, and allowed him to go about pretty much as he pleased. This reminds us of the experience of the *Challenger* at Humboldt Bay, where it was decided not to stay, because some of the natives similarly drew their bows at the officers when away in boats. This was no doubt nervous work for the person threatened, but it was only a threat. Savages do not commence a real attack in that theatrical way, and if they had been met with coolness and their threats been laughed at or treated with contempt, such demonstrations would soon have ceased. Of course it requires very exceptional courage and temper, not possessed by one man in a thousand, to do this; but the fact should be remembered that in many parts of the world such attempts to frighten Europeans have been adopted, but have never resulted in anything serious. Had the Papuans really wanted to rob and murder, they would have enticed the *Challenger* people on shore, where they would have had them completely at their mercy, whereas those who did go on shore were very civilly treated.

One of the most curious features noticed by Dr. Miklucho Maclay was the apparent absence of trade or barter among the people of Astrolabe Bay. They exchange presents, however, when different tribes visit each other, somewhat as among the New Zealanders, each party giving the other what they have to spare; but no one article seems ever to be exchanged for another of supposed equivalent value. On the whole, the Russian doctor seems to have found these people industrious, good-natured, and tolerably cleanly, living orderly lives, and conforming themselves strictly to the laws and customs which to them determine what is right.

Captain Moresby, Signor D'Albertis, Mr. O. C. Stone, and the missionaries who have recently explored the south-eastern extremity of New Guinea, have been greatly struck by the apparently quite distinct races they have found there. As far eastward as the head of the Gulf of Papua (on the east side of Torres Straits) the typical Papuans prevail, the natives of the Katow river being described as nearly black, with Jewish noses, and woolly hair, using bows and arrows, and living in houses a hundred feet long elevated on posts,—in all respects exactly agreeing with the prevalent type in the western portion of the island. But further east, about Redscar Bay and Port Moresby, and thence to East Cape, the people are lighter in colour, less warlike, and more intelligent, with more regular European features, neither making bows nor (except rarely) pottery, and practising true tattooing by punctures,—all distinctly Polynesian characteristics. When to this we add that their language contains a large Polynesian

element, it is not surprising that these people have been described as a totally distinct race, and have been termed Malays or Malayo-Polynesians. We fortunately possess several independent accounts of these tribes, and are thus able to form a tolerably good idea of their true characters.

Captain Moresby, speaking of the inhabitants of that large portion of the eastern peninsula of New Guinea discovered and surveyed by him, says:—

“This race is distinctly Malayan; but differs from the pure Malay, being *smaller in stature*, coarser in feature, *thicker-lipped*, with *less hair on the face*, being in fact almost beardless. The hair on the head is also *more frizzled*, though this may result from a different dressing. These men have high cheek-bones like the pure Malay; their noses are inclined to be aquiline and sometimes very well formed. Amongst them are met many men with light hair, and what struck us as a peculiarly *Jewish cast of features*. They rise to a height of from 5 feet 4 inches to 5 feet 8 inches, are sinewy though not muscular, *slight, graceful, and cat-like* in the pliability of their bodies.”*

This description clearly shows that by “Malay” Captain Moresby means “Polynesian,” the characters mentioned being in almost every respect directly the opposite of those of the true Malays, as indicated by the words and phrases here placed in italics. And even as compared with the typical brown Polynesians, the frizzled hair, aquiline noses, and Jewish cast of features, are all Papuan characteristics.

Mr. Octavius C. Stone describes the Motu tribe who inhabit the coast districts about Redscar Bay and Port Moresby as somewhat shorter than the Papuans to the westward, and of a colour varying from light brown to chocolate. The hair varies from nearly straight to woolly, often being frizzled out like that of the typical Papuan. The hair on the face is artificially eradicated, and they are thus made to appear beardless. The nose is aquiline and thick, and in a small percentage of the men the Jewish type of features appears. The adjacent tribes differ somewhat. The Koiari, Ilema, and Maiva are generally darker in colour; while the Kirapuno are lighter. These last live near Hood Point, and are the handsomest people in New Guinea. Their hair is of a rich auburn, often golden in the children, growing in curls or ringlets. It is this tribe that keep their villages in such excellent order, with well-kept gardens in which they even cultivate flowers. Mr. Lawes says: “We were all amazed at the cleanliness, order, and industry, which everywhere declared themselves in this model New Guinea village. The men are physically very fine and the women good-looking. One of the belles of the place had no less than fifty-four tortoise-shell earrings in her two ears, and her nose pierced too.”†

Speaking of all these tribes as forming essentially one race, Mr. Stone says, that they are a merry laughter-loving people, fond of

* Journal of the Royal Geographical Society, vol. xlv. p. 163.

† Journal kept by Mr. Lawes, *Times*, November 27, 1876.

manner of filth being left about unheeded; and as this agrees with most other descriptions, we must conclude that the model village already referred to is quite exceptional in its cleanliness and order.

Mr. Turner thinks the Motu are colonists from some other land, while he considers the Koiari of the interior to be "evidently the aborigines of this part of New Guinea." Mr. Stone, on the other hand, classes them together as slightly differing tribes of the same race, the one being a little more advanced than the other; and he considers the whole eastern peninsula of New Guinea to be peopled by a race of Polynesian blood, who, in some far distant time, found their way to the coast, intermingled with the native Papuan tribes, and gradually drove them westward. There has thus resulted a number of separate tribes, showing various degrees of intermixture, the Polynesian blood predominating on the coast, the Papuan in the interior; one small tribe alone, the Kirapuno, being more distinctly Polynesian. How complete is the intermixture, and how difficult it is to determine the limits of the two races, is shown by the opinion of Mr. S. M'Farlane, who says, that though he at first thought the people of Katow River and those of Redscar Bay to be quite distinct, the former Papuan and the latter Malayan (or more properly Polynesian), yet, after five years' acquaintance with them, he believes them to be of the same race; while he considers the tribes of the interior to be distinct, and to be true Papuans. The coast people he thinks to be the result of an intermixture of Malays, Polynesians, Arabs, Chinese, and Papuans.

Dr. Comrie (of the surveying ship *Basilisk*) believes that all the tribes on the north-east coast, from East Cape to Astrolabe Bay, are Papuans; but his description of them shows that they have a slight infusion of Polynesian blood, and many Polynesian customs. One thing is very clear, that neither in physical nor mental characteristics do these people show any resemblance whatever to Malays, who are a very different race from the Polynesian. The graceful figures, the woolly or curly hair, the arched noses, the use of tatooing, the ignorance of pottery-making, the gay and laughter-loving disposition, the talkativeness of the women, the lying, thievishness, and beggary, widely separate them from the Malay; while all these peculiarities support the view of their being a race formed by a mixture of Polynesian men with Papuan or Melanesian women, the former having perhaps arrived in successive waves of immigration, thus causing the coast tribes, and those nearest the eastern end of the island, to be more distinctly Polynesian in character than those inland and towards the west.

Returning now to the dark Papuan tribes of the remainder of New Guinea, we find that here also there is some difference of opinion. Owing to the coast tribes being usually at war with those of the

talking, and loving a joke, hot of temper, and quick to resent a supposed injury,—all of which are Polynesian or Papuan as opposed to Malayan characteristics. They are clean in their habits, and particularly so in their eating. When allowed liberties they do not fail to take advantage; and, at Port Moresby in particular, they are accomplished thieves, inveterate liars, confirmed beggars, and ungenerous to a degree, so that, even if starving, they would give you nothing without an equivalent. This condemnation, however, does not apply to the interior tribes who have not yet been demoralized by European visitors. Both sexes are vain of their outward appearance, oiling their bodies, and adorning themselves with shells, feather and bone ornaments; and on all festive occasions each tries to outvie the other in his or her toilet. Their dress is like that of the Papuans, a T bandage for the men, a fringe of leaves for the women, but the latter are more carefully made than among the more savage tribes. They practise true tattooing, the women especially being often highly ornamented with complex patterns on the body and limbs, and occasionally on the face also, but wanting the elegant curves and graceful designs which characterize Polynesian tattooing.* Their weapons are spears, shields, stone clubs, and hatchets, one tribe only—the Ilema—making bows and arrows. In like manner the Motu tribe only make pottery, which the other tribes obtain from them by barter. They use drilling machines with a spindle wheel and cord, like the Polynesians. The houses, whether on the shore or inland, are raised on piles, but are small as compared with those of the Papuans, each accommodating one or two families only.

Intellectually these people are considerably advanced. They can reckon up to a million. They use the outstretched arms as a unit to measure by. They divide the year into thirteen months, duly named, and reckoned from the new moons. The four winds and many of the stars have names, as well as every tree, shrub, flower, and even each well-marked grass and fern. They prefer fair to dark people, and are thus disposed to like and admire the white races. The children are very merry, and have many toys and games. The Rev. W. Turner tells us that they make small windmills of cocoa-nut leaves, and are well versed in the mysteries of cat's cradle; while spinning a button or round piece of shell on a cord, and keeping a bladder in the air by patting it with the hands, are favourite games. They also amuse themselves with miniature spears and bow and arrows, catching fish, which they cook for themselves on the shore. They are left to do what they like, and know nothing of the tasks of school, the troubles of keeping their clothes clean, or the miseries of being washed—troubles that vex the lives of almost all civilized children. According to Mr. Turner, the villages of the Motu are by no means clean, all

* See figures illustrating the Rev. W. Turner's article on "The Ethnology of the Motu," in the *Journal of the Anthropological Institute*, 1878, p. 480.

interior, these latter have been described by them as a different race, and have been called by the Dutch and other writers *Alfuros** or *Harafuras*, a term applied to any wild people living in the interior of a country, as opposed to the coast tribes. This has led many writers to class the natives of New Guinea into Papuans and Harafuras, terms which are still sometimes used, but which are quite erroneous as implying any physical difference or any distinction of race. Dr. Meyer, who has seen much of the people of the north-west coast, considers that there is no difference of the slightest importance between the coast and inland tribes, but such as occur in every race. Dr. Miklucho Maclay concludes that the Papuan stock consists of numerous varieties, with no sharp lines of demarcation. Dr. Beccari, however, differs somewhat from the preceding writers; and as he explored a great range of country, and made repeated visits to the western half of New Guinea, his opinion is entitled to great weight. He thinks there are three distinct types of Papuans. One is dwarfish, with short woolly hair, skin almost or quite black, nose much depressed, forehead extremely narrow and slanting, and with a brachycephalous cranium; these he terms *Oriental Negroes* or *Primitive Papuans*. They do not now exist as a race, but are scattered among the interior tribes, and their description accords very closely with that of the *Negritos* of the Philippines and the *Semangs* of the Malay Peninsula. The next are the *Typical Papuans*, who are most widely spread, and present most of the characteristic features we have already described. The last are the *Mafu* or *Mafor Papuans* who inhabit Dorey and the shores and islands of Geelvink Bay, and are probably scattered all round the western coasts. They form the highest type, with fine Jewish or European features, a better intellect, and a somewhat more advanced civilization. These people divide the year into lunar months, each with a proper name, and have names for the four cardinal points, for many stars, and for entire constellations. Dr. Beccari believes them to be the result of an intermixture (at a remote epoch) of Hindoo or Caucasian blood with the indigenes of the island, and he even traces a connection between their rude mythology and that of the Hindoos.

A curious point of physiological detail may here be noticed as lending some support to this theory. Almost all observers have remarked, that the fully developed Papuan mop of hair is not a general feature in any of the tribes, but occurs sporadically over a wide area, is highly valued by its possessors, and from its extreme conspicuousness is always noticed by travellers. No other *race* of people in the world possesses this character at all; but, strange to say, it appears very fully developed among the *Cafusos* of Brazil. These are a mixed race, the produce of Negro and Indian parents, and their enormous

* The term is derived from the Portuguese "*fora*," out or outside; *Alfores* being applied to tribes out of or beyond the settlement on the coast (Windsor Earl's *Papuans*, p. 62).

wigs of frizzly hair have been described by Spix and Martius, and are known to most South American travellers. Still more interesting is the appearance of a similar peculiarity among the Arab tribes of Taku in Eastern Africa, where mixtures of Negro and Arab blood are very common.* It is well known that hybrid and mongrel characters are liable to great variation, and are very uncertain in their appearance or degree of development. If, therefore, the higher type of Papuans are the result of a remote intermixture of Hindoos or Arabs with the indigenous Papuans, we can account both for the appearance of the great mop of frizzly hair and for its extremely unequal development; and it is not improbable that the Jewish and greatly elongated nose may have a similar origin.

If we now take account of all the evidence yet obtained, we seem justified in concluding that the great mass of the inhabitants of New Guinea form one well-marked race—the Papuan—varying within comparatively narrow limits, and everywhere presenting distinctive features which separate it from all other races of mankind. The only important deviation from the type occurs in the south-eastern peninsula, where a considerable Polynesian immigration has undoubtedly taken place, and greatly modified the character of the population. At other points immigrants from some of the surrounding islands may have formed small settlements, but it is a mistake to suppose that there are any Malay colonies on the south-west coast, though some of the natives may have adopted the Malay dress and some of the outward forms of Mahometanism.

If we look over the globe for the nearest allies of the Papuans, we find them undoubtedly in Equatorial and Southern Africa, where alone there is an extensive and varied race of dark-coloured, frizzly-haired people. The connecting links are found in the dwarfish, woolly-haired tribes of the Philippines, the Malay Peninsula, and the Andaman Islands; and, taking these altogether, we may well suppose them to represent one of the earliest, if not actually the most primitive type of man. It is customary to consider the Australians to be a lower race, and they undoubtedly are so intellectually, but this by no means proves that they are more primitive. The Australian's hair is fine and glossy like our own; and no one can look at a good series of photographs of natives without being struck with the wonderful resemblance many of them bear to countenances familiar to us at home, coarse and brutalized indeed, but still unmistakably similar.

We must also take note of the fact that the two great woolly-haired races are almost entirely confined within the tropics, and both attain their highest development near the equator. It is here that we should expect the primitive man to have appeared, and here we still find what may well be his direct descendants thriving best. We may,

* Waitz's Anthropology. English translation, vol. i. p. 175.

perhaps, even look on the diverse types of the other great races as in part due to changes of constitution adapting them to cooler climates and changed conditions;—first, the Australians and the hill tribes of Central India, who once perhaps spread far over the northern hemisphere, but have been displaced by the Mongoloid type, which flourishes at this day from the equator to the pole. These, again, have been ousted from some of the fairest regions of the temperate zone by the Indo-Europeans, who seem only to have attained their full development and highest vigour when exposed to the cold winds and variable climate of the temperate regions.

If this view is correct, and the Papuans really form one branch of the most primitive type of man which still exists on the globe, we shall continue to look upon them with ever-increasing interest, and shall welcome every fact relating to them as important additions to the history of our race. The further exploration of their beautiful and luxuriant island will, it is to be hoped, be vigorously pursued, not only to obtain the mineral, vegetable, and animal treasures that still lie hid in its great mountain ranges, but also to search for the remains of primæval man in caves or alluvial deposits, and thus throw light on the many interesting problems suggested by the physical peculiarities and insular position of the Papuan race.

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