

PAPUA, ITS INHABITANTS AND RESOURCES.

BY HAROLD AVERY.

In 1511 the Portuguese navigators D'Abreu and Senam discovered the great island of Papua, and, while the English and Dutch hold it in divided possession, it remains to this day practically an unknown land. This is due principally to the resistance of the fierce mountain tribes, who resent every intrusion and will permit no exploration they can possibly prevent. They do not build below an elevation of one thousand feet, and as the country is mountainous, rising in many peaks above the snow line, they have hitherto succeeded in repelling investigation of the interior.

Such places as have been visited are reached by rough paths over coralline limestone whose interstices are filled with red clay; and where the clay is more plentiful the tropical vegetation forms an absolute barrier to advance. If the explorer should endeavor to advance over the rocky path, he is soon disabled by the cuts and scratches inflicted by the needlelike points of the jagged rock, which cut their way through the stoutest shoe leather. An occasional bamboo stake driven into the path and sharpened is used by the natives to protect their villages or satisfy a feud; and woe to the unwary foot that it pierces, for the wound is slow to heal.

The people of the coast are open to intercourse, industrious, and of cheerful temperament. Most of their villages, like the ancient and modern lacustrine villages, are built for protection on piles, connected by a gangway of like construction with the shore. That at Humboldt Bay, on the north coast, is the largest and best known. The general religion is belief in a deity who returns the souls of the dead to the bodies of the next born descendants of the same sex. No reverence or sacrifice is paid to the deity, who is a conception of nature possessing the personal attributes common to a primitive form of ancestor worship.

The village we illustrate is situated at Port Moresby, the English station on New Guinea, opposite the Australian port of Albany on Cape York. The houses are from seven to ten feet above the water, with walls generally four feet high, the high pitched roof being fitted with an enormous shutter, which is raised and propped from within to admit light and air and for the escape of smoke. The house frame is of bamboo, the walls of palen pith and the thatch of pandanus leaves. The floor is made of bamboo laths, covered with palen pith slabs, and laid with matting, often of elegant design. A cooking place with a hard-baked red clay floor is reserved at one end.

The inhabitants are Papuans, a well formed, sooty black race, with a great mop of frizzled black hair, large mouth, projecting brows, prominent nose with large nostrils, thick ridge, and apex pointing downward. Their loud voices, eager, rapid utterance, incessant vital motion, and absurd antics, proclaim a common origin with the negro, and distinguish them from the silent, impassive Malay. The hair and twisted beard of the men is stained with red clay, and ornaments of shell, tin plated wooden combs and rooster's feathers are used in their elaborate coiffures. Armlets of plaited grass and anklets of brass and shell relieve against their dead black skins in startling contrast. A loin cloth completes the costume. In ap-

some making of matting, baskets and boxes, and pottery. Their surplus products are exchanged for ornaments, nets from Great Bay, betel and arrack; these articles being brought by traders on their way to Numatatte, in boats built at the island of Ké. These boats, of from twenty to thirty tons, compare favorably with European craft of the same size, though they are built without a nail, of planks and ribs joined with wooden pegs and rattan.

But three tools are used in their construction—an ax,



A PAPUAN FEMALE.

an adz and an auger. They are low and broad in the middle, rising with graceful lines to a beak at bow and stern, which is ornamented with a plume of marabout feathers. When a trader appears, his craft is surrounded by the entire male population in dugouts and outriggers, each individual shouting his offer, and accompanying it with ridiculous antics and grimaces. The basis of exchange is arrack (Java rum), one-half gallon of which is reckoned equal to one day's work at fishing or rattan cutting; no money is used. When this nectar of the Papuan enters a home, every occupation is dropped, and the family devotes all its attention with enthusiastic energy to its consumption. Their

hills, vast forests of ebony, and a virgin soil of unusual richness await release from the dominion of a people who know neither their value nor their use.

Iron, coal and lime are known to exist. The volcanic nature of part of the mountain ranges indicates the probable presence of precious metals and stones. Ironwood, canary, and sandalwood grow with tropical fertility. Bananas, palm sugar, besides the products already mentioned, invite the miner, the manufacturer and planter. If a tithe of the enthusiastic devotion to exploration of the polar regions had been devoted to the equator, this island with an area equal to Austria-Hungary, scenery like Switzerland and a climate equal to Mentone, would be one of the garden spots of the earth.

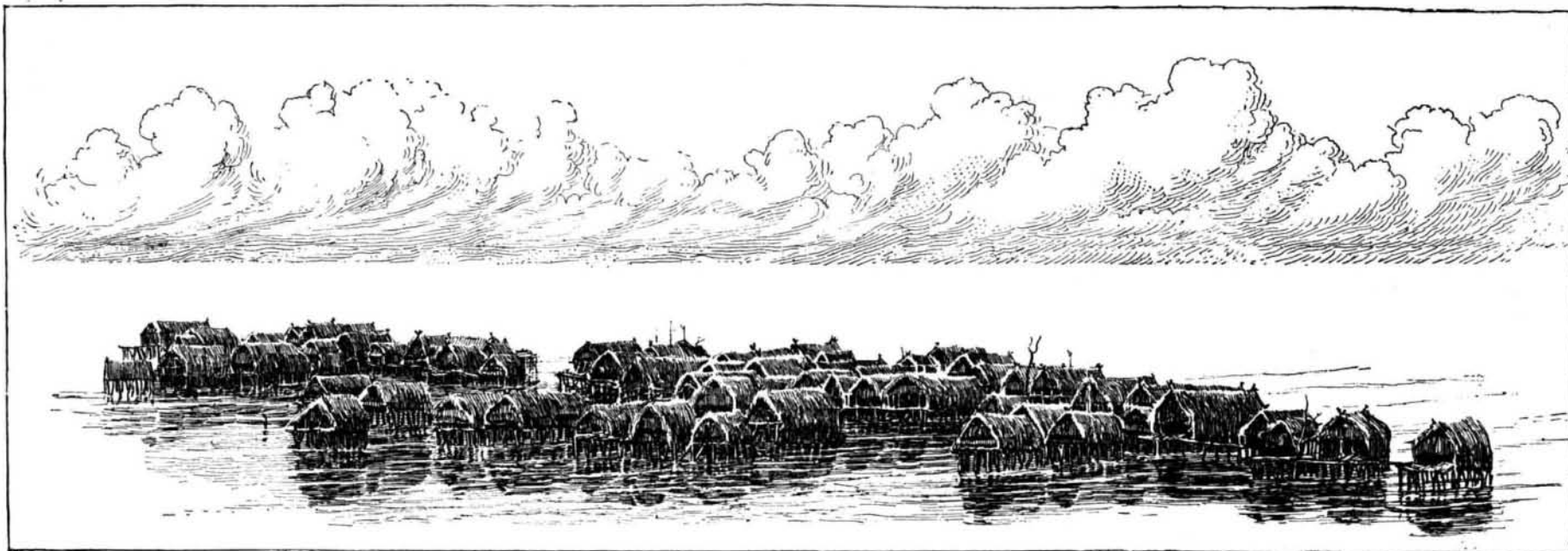
Changes in Cave Dwelling Animals.

"The influence of environment upon organisms is nowhere more striking," says Science, "than in the case of animals which find themselves accidentally lost in caves and which succeed in accustoming themselves to the situation in spite of its difficulties. M. Armand Viré gives some notes on his observations in the Comptes Rendus. The principal difference in the situation consists in the absence of light and in the rarity of animal prey. The eye always becomes atrophied to a degree which varies with the species and also with the individual; there is sometimes a difference between the two eyes of a single individual. The eyes are to a certain extent replaced by other organs of sense; the antennæ of the Campodes become, in some individuals, twice as long as usual, and sometimes longer than the entire body. The tactile hairs with which the body is covered obtain an exaggerated development, and in the crustaceans sometimes even invade the ocular globe. Hearing does not seem to be accentuated, but the sense of smell is very acute, and a bit of tainted flesh becomes invaded in a very few minutes with a large colony of animals. The organs of digestion become very considerably modified in those species which are naturally carnivorous, and in two Staphylins the mandibles were found to be completely atrophied. Every animal is more or less completely depigmented; but those which had no trace of color remaining began to have numerous little black spots disseminated over the whole body after they had been kept for a month in the light, and these spots were particularly abundant in those parts (antennæ and claws) which had been accidentally lost and were in course of restoration."

Chromate for Preventing Boiler Incrustation.

A. Rubricius, an Austrian chemist, recommends a new method for the prevention or removal of boiler incrustation which has furnished remarkably good results since about one year that it has been in use at Anina and other localities in Austria-Hungary. To the feed water there is added a mixture consisting of 90 per cent of soluble chromates and 10 per cent of soda. These salts transform the more or less soluble carbonates contained by the water into soluble chromates which settle in the shape of slime without adhering to the walls of the boiler, and the latter can easily be cleaned by washing.

The beneficial effect of the process will be felt even



A PAPUAN COAST VILLAGE.

pearance they surpass the women; though neither are so repulsive as some school books declare. The women are more fully, though less fancifully, costumed than the men, wearing a mat of plaited cocoa fiber that extends from the waist to the knees, brass or shell earrings, kangaroo teeth necklaces, combs with two forks admirably suited to their frizzly hair, armlets and anklets.

The chief industries are fishing and the cultivation on the nearest shore of rice, sago, and yams. There is

efforts never flag while the rum lasts or strength remains. The resulting stupefaction lasts for days; but on recovery the family cheerfully proceeds by persevering industry to acquire the means of procuring more. Arrack is without a rival as the most villainous intoxicant known, and its only competitor in the affections of the Papuan is roast wild pig. Together, they are simply irresistible.

Such are the races to whose custody the ransom of an empire is consigned. Rich treasure stored within the

in the case of boilers which are already lined with thick layers of incrustation, for these will be gradually reduced and transformed into slime. On an average one-tenth of an ounce of the mixture should be added to 35 cubic feet of water. For an ordinary boiler three to four ounces per day would be sufficient. Where water with very high lime contents is being used, the dose should be increased a little; the exact quantity needed can easily be determined by a preliminary test.—Oesterr. Zeitschr. f. Berg und Huettenwesen.