

exchange and then a surcharge of fifty cents for each draft on New York. "What is the value," our correspondent asks, "of the Pan-American Congress and other bodies for opening trade with the South American republics when one of the most useful mediums to this end (postal facilities) is neglected?" Mr. Franz makes the suggestion that the provision of parcel post and postal order accommodation would remove a serious obstacle to trade, and he is not by any means the only citizen of the South American republics who has complained of the disadvantage under which the United States labors in this respect. In these days of keen competition we cannot afford to suffer any handicap such as imposed by the conditions referred to, and the subject may well be referred to the thoughtful consideration of our own post office authorities.

NATURAL PRODUCTS AND RESOURCES OF THE PHILIPPINE ISLANDS.

BY M. W. HARRINGTON.

The great commercial products of the Philippine Archipelago are sugar, hemp, tobacco, copra and coffee, and their importance, as articles of export, are in the order given.

The production of sugar has increased rapidly. In 1871, it was less than 100,000 tons; in 1881, 230,000 tons; in 1893, 261,686 tons; and it was then increasing at the rate of 15,000 tons per year. About one-third of the total production is from the province of Pampanga, in the central area of Luzon, and nearly north of Manila. The provinces about Manila Bay and the one north of Pampanga are also large producers. This sugar is exported from Manila and goes chiefly to Spain and Great Britain.

A better quality of sugar, but in smaller quantities, is obtained from the violet-colored cane in the central islands of Panay and Negros. The very best comes from the province of Capiz, on the north coast of Panay. This sugar is exported from Ilo-ilo, and is sent chiefly to the United States.

The processes of manufacture are yet crude and antiquated. There are a few large plantations, and these are generally monastic. These plantations are usually leased to Chinese half-breeds, from whom better results are obtained than from Europeans. The small cultivators perform their own work with hired labor, but suffer under the difficulty of not being able to manufacture economically. There is a tendency toward their absorption into larger estates, under the charge of corporations.

The Manila hemp is so called because of the resemblance of the fiber to that of hemp, at least in color. It is derived from the leaf stem of a banana plant (*Musa textilis*). The plant has an inedible fruit, and grows in poor soil. The best plants grow in southeastern Luzon and the adjacent islands of Samar, Leyte and Bohol. The plant is rudely cultivated, cut down when three years old, and the fibers separated from the surrounding tissue by rude domestic machines. It takes two natives to prepare 25 pounds a day.

The coarser outside fibers are exported in the crude state, chiefly to Great Britain, the United States and the Australian colonies, where they are used for making a highly prized cordage. The finer fibers are used at home for domestic manufactures of fabrics used for dress and ornament. They are light, transparent and very durable. The fabrics are varied by using some cotton, silk, or other fiber with the Manila hemp.

The native name for the fiber is abaca, taken from the plant. The abaca has been introduced into other parts of the world, but the conditions of its native home of the Philippines are more favorable and the labor is there so cheap that no successful competition has been established.

Export of abaca began in 1831, and the amount exported is steadily increasing. In 1893 it amounted to 97,787 tons, valued at ten million dollars.

Next in order of value, but first in popular estimation, is the so-called Manila tobacco. It is a highly prized tobacco, classed by some as the equal of Havana tobacco, and by a few as its superior. Certain it is that some Manila leaf is imported into Cuba, though it is not known how it is used. The Cuban tobacco is classified with regard to its excellence, the Manila with regard rather to its fine appearance. Manila tobacco is stronger than it looks, and it has a fine herby flavor, to which those who use it become very much attached.

The tobacco was made a monopoly of the government in 1781. That is, anyone could raise it, but the government only could buy it, and could set the price and pay for it when it pleased. It often pleased to be two or three years behind in its payments. In 1882 this restriction was removed, and small growers now can produce it more profitably.

It is grown over Luzon and the neighboring islands, but the very best comes from the two large provinces of Cagayan and Isabela, in the extreme northeastern part of the island. Here the land suitable for it is now all occupied. The cultivation of the plant requires little labor. The man of the household usually performs the tillage, and the women and children the rest of the work.

Rather less than half of the crop is sent out in the leaf and this goes largely to Spain and other European countries. The remainder is made up into cigars and cigarettes, two-thirds of which are consumed at home and the remainder exported, chiefly to the neighboring countries of continental Asia and to Japan. In 1893 about 11,000 tons of leaf were exported and nearly 140,000,000 of cigars. The price of this tobacco in the Oriental countries is low. Boxes of 500 excellent cheroots (a cigar open at both ends) can be got for \$18.

The copra is a preparation of the cocoanut made in great quantities in tropical islands all over the world. It seems to be a relatively new product for the Philippines; 11,500 tons were exported in 1893. The cocoa palm is very common and highly prized in the Philippines. All parts of it are used.

Coffee was introduced in the Philippines, probably in the latter part of the eighteenth century, from Brazil. The first large plantation was established in 1826, and the production began to extend actively fifteen or twenty years ago. Lately the export has decreased very greatly. It used to average 2,500 tons a year, but has recently sunk to only 300. This is probably due to the revolution, for the coffee is of good quality, some of it excellent.

Unlike Manila hemp and tobacco, the coffee requires some capital on the part of those who undertake it. It takes the trees four or five years to begin to bear. Those who are able to make the necessary advances have prospered greatly, and, especially about Manila, have become rich.

The exported coffees formerly went exclusively to France, but are now scattered well over Europe, usually through Singapore. They are of two sorts, the Manila and the Zamboanga. The first is grown about Manila, chiefly to the south and east of Manila Bay. It has a small berry and is more highly prized than the other. The Zamboanga coffee is produced in the south, principally on Mindanao and the Sulu Islands. The berry of this variety is larger, but less care is used in its preparation. It goes directly to Singapore.

Rice is the chief product of the Philippine Islands, but it is not exported. It is the staple food of the natives, and sometimes the supply is short. Both the mountain and lowland rice are produced, and more than ninety varieties are known. It is easy to cultivate them, and in favorable years the yield is very generous.

Maize is grown in considerable quantities. So are the sweet potato, yams, ground nuts, gourds, potatoes, peas. A little wheat is raised at high elevations. Among the fruits are the mango, plantain, banana, mangosteen, jack fruit, medlars, lanzon and durian, the last especially in the Sulu Islands. The islands are generally mountainous, and at proper elevations the fruits of southern Europe and of Florida flourish, as the orange, citron and sapotilla.

The cotton of this archipelago is excellent and its production makes some progress. The cacao can be successfully grown and of good quality, but little attention is paid to it. The tea plant has been tried in botanic gardens and is found to thrive. The islands are rich in odoriferous flowers, and the manufacture of essences and perfumes is increasing. Cinnamon, the pepper tree and many other of the valuable plants of the Malay Peninsula and the East Indies either grow here naturally or can be easily introduced.

The islands are very rich in forests and they contain many valuable woods, mostly unknown even by name in the rest of the world. There are said to be thirty-two tinctorial woods, giving the entire series of colors and shades. Among the valuable ones is the ebony, with very black and fine-grained wood, of high value for fine furniture. The magkano of the forests of Mindanao is said to be absolutely indestructible by rot. The forests generally remain intact in the interior except for Luzon, where they have been extensively thinned out or cleared off.

The chief domestic animal is that useful and tractable Oriental beast, the buffalo, not our bison, but the buffalo proper. He is especially useful in the simple and rude tillage still used by the natives. The horse is small, active, hardy, but rustic. He is derived by a mixture of Oriental and Occidental stocks. The ox, goat and hog do well, but the sheep are inferior. The most of these animals have in places escaped from domestication, and large numbers of wild ones may be found, usually in herds.

The native manufacturers of the Philippines are not few, and their textile fabrics are especially fine and worthy of a larger market than they have so far found. The natives make many other things, among them a coarse pottery of great utility.

Valuable minerals are generally diffused through the islands, but few are yet mined profitably. Gold exists generally over the entire area, in placers and veins, but usually in quantities which do not pay with the rude methods employed for its collection. It is mined in the Camarines Norte province in southeastern Luzon and in the Misamis and Surigao placers of northern and northeastern Mindanao, but with small results. With the refined modern methods of collecting gold it could be

profitably obtained in many places, and probably the prospecting has been incompletely done.

There are two known coal fields, one in southern Luzon, the other on the western slopes of Cebu and the eastern of Negros. The first probably extends over into Samar, and has furnished good steaming coal. One bed is known to be 10 to 20 feet thick. In the other there are at least five beds of varying thickness and quality.

Iron ore of excellent quality is known in southern Luzon, especially in the Camachin Mountains, where there are now a few small foundries. Copper ore has long been known in the province of Lepanto. It was early worked by the natives, and in 1862 a company was formed to conduct copper mining in this region. It is also found on Masbati Island, on Panay, and in several other places. Traces of lead and mercury are known, and also of rock oil. Sulphur is obtained on Leyte for use in the powder factory at Manila. It comes from a solfatara at Mount Manacagan.

FOOTGEAR FOR THE SOLDIER.

The greatest English soldier and commander of modern times said that the most essential thing for a soldier is a good pair of boots, and the second most essential thing is a second pair of boots. Every one who has had any experience with marching troops will be likely to agree with this immortal. Now that 125,000 of our National Guardsmen, from all walks and stations of life, have been mustered into the regular service, it behooves the commissary department of the army and its various agencies to use supreme vigilance, precaution and wisdom in providing suitable footwear for this vast number of practically raw recruits.

It probably does not overshoot the mark to say that eighty per cent of the men who have enlisted are improperly shod on entering service. And if the commissary department is not in possession of properly accredited and well advised purchasing agents, these soldiers are likely to be seriously handicapped and many of them made useless as implements of war when they come to be landed in Cuba or the Philippines, where they will be subjected to tests of unaccustomed climate and soil. The quartermasters of companies should therefore bear in mind in attending to the shoeing of their troops that they are not dealing with the normal foot in the vast majority of cases. This is the first obstacle to contend with. The second is the vanity of man concerning his feet, even though he be a soldier.

The absolute requisites in a shoe for marching are that it be comfortable and enduring; that is, that it be made on the right kind of a last from the proper material, and that it be properly and firmly put together. The essential elements of the first are that it have a straight inside line; that the sole lie flat or nearly flat upon the ground; that the arch be firmly and solidly supported; that the shoe fit snugly around the heel and the instep; and finally, in order that the pressure may be equally distributed, that there be sufficient room for the unhampered play of each pedal articulation when the weight of the body is successively thrown upon it. Unless the shoe fulfills these indications, it should be discarded. The sole should project beyond the upper so as to give firm support to the foot when it is fully expanded under the combined influence of the weight of the body and the resultant muscular relaxation of fatigue; and it should be composed of solid double sole, not paper or leather packing sandwiched between two thin pieces of leather, which, unfortunately, is often found. The uppers should be of stout, yet pliable, thoroughly seasoned hide, double stitched and by proper dressing made impervious to moisture. If these details are insisted upon, more will be done toward contributing to the capacity of the soldier than by the most elaborate system of acclimatization. It is more necessary to make Mulvaney immune to fatigue than it is to make him immune to fevers; by accomplishing the former you encompass the latter.

A properly clad, well fed American soldier is well prepared to give battle to the Cuban germ and the Spanish parasite, but he expects his government and its officers to provide him with the most approved implements of war and accouterment. It is the poorest sort of economy to grudge a few cents on a pair of shoes, especially in the light of what has just been said. Yet this is what the quartermaster's department has set out to do, if we may give credence to the reports in the daily press. In response to an invitation for estimates for 25,000 pairs of shoes, Chicago manufacturers offered to furnish army footgear at prices varying from 90 cents to \$2 per pair. It is not at all improbable that the latter figure embraces the cost of manufacture plus a fair profit for shoes that will meet all the requirements mentioned above, while it is just as certain that any figure very much below it does not do so. This is not the time to be cent wise and dollar foolish. A few cents extra expended on a pair of boots may mean a live, fighting soldier in time of pressure and of need, while a 90-cent pair will be very sure to be found bound in tatters on a lamed or dying sacrifice.—Medical News.