

its way through its valley, receiving through the picturesque glens many streams of water from the snows that clothe the mountain-tops. Here we have a splendid country, unfortunately harassed by the raids of the Wanyoro, in dread of whom the simple natives of the mountain-side often creep up to near the limit of snow. Up the mountain, which Lieutenant Stairs ascended for over ten thousand feet, blackberries, bilberries, violets, heaths, lichens, and trees that might have reminded him of England flourish abundantly. Here evidently we have a region that might well harbor a European population. The mountain itself, Ruwenzori, a great boss with numerous spurs, is quite evidently an extinct volcano, rising to something like nineteen thousand feet, and reminding one of Kilima Njaro, farther to the east. It is not yet clear whether it is the same mountain as the Gordon Bennett seen by Stanley in his former expedition, though the probability is that, if distinct, they belong to the same group or mass. Apart from the mountain the country gradually ascends as the Semliki is traced up to its origin in Lake Albert Edward. Mr. Stanley found that, after all, the southern Nyanza belongs to the great Nile system, giving origin to the farthest south-west source of Egypt's wonderful river, which we now know receives a tribute from the snows of the equator.

The southern lake itself is of comparatively small dimensions, probably not more than forty-five miles long, and is nine hundred feet above the northern Lake Albert. Mr. Stanley only skirted its west, north, and east shores, so that probably he has not been able to obtain complete data as to size and shape. But he has solved one of the few remaining great problems in African geography. The two lakes lie in a trough, the sides of which rise steeply in places three thousand feet, to the great plateaus that extend away east and west. This trough, from the north end of Lake Albert to the south end of Lake Albert Edward, is some two hundred and sixty statute miles in length. About one hundred miles of this is occupied by the former lake, forty-five by the latter, and the rest by the country between, where the trough, if we may indulge in an Irishism, becomes partly a plain, and partly a great mountain mass. But this trough, or fissure, a glance at a good map will show, is continued more or less south and south-east in Lakes Tanganyika and Nyassa, which are essentially of the same character as Lakes Albert and Albert Edward, and totally different from such lakes as Victoria Nyanza and Bangweolo. Here we have a feature of the greatest geographical interest, which still has to be worked out as to its origin.

There is little more to say as to the geographical results of the Emin Pacha Relief Expedition. There are many minute details of great interest, which the reader may see for himself in Mr. Stanley's letters, or in his forthcoming detailed narrative. In his own characteristic way, he tells of the tribes and peoples around the lakes, and between the lakes and the coast; and it was left for him on his way home to discover a great south-west extension of Victoria Nyanza, which brings that lake within one hundred and fifty miles of Lake Tanganyika. The results which have been achieved have been achieved at a great sacrifice of life and of suffering to all concerned; but no one, I am sure, will wish that the work had been left undone. The few great geographical problems in Africa that Livingstone had to leave untouched, Stanley has solved. Little remains for himself and others in the future beyond the filling-in of details; but these are all-important, and will keep the great army of explorers busy for many years, if not for generations.

#### USEFUL PLANTS IN GUATEMALA.

In a report on the trade, commerce, and industries of the Republic of Guatemala for 1888, the British Consul to that republic draws attention to the various vegetable products cultivated in the country. Coffee is described as the most important agricultural product, and, from its excellent quality, fetches a high price in the market. The area of land planted has possibly doubled in the last few years, and owing to failure in the last year's crop in Brazil, and the consequent rise in the value of the product, an unusually large acreage of fresh land is now being planted, and greater care taken with the present estates, many old plantations being renewed and added to. It is expected that next year, or the year after, 1,000,000 quintals will be produced, bringing, exclusive of consumption, a wealth of \$11,500,000 to \$12,500,000 to the country. There is

still a quantity of good land available for purchase. Sowing is generally done in June; and when about seven inches high, the young plants are transplanted into nurseries, watered in the dry season, and protected from the sun until ready to be planted out. About 100,000 quintals of coffee are yearly consumed in the country.

Sugar stands next among the most important vegetable products. Cacao cultivated in Guatemala is of superior quality, and at one time it was an important article of export, but has of late years greatly fallen off; and at the present time only about 400,000 pounds are produced, scarcely more than is required for interior consumption. The government are encouraging farmers to turn their attention to this branch of culture, and some new plantations have been made. The seeds have been distributed in considerable quantities in various parts of the south, the sowing has shown good results, and it is expected that the cultivation of this valuable plant will be much increased. It takes about six years from the time the seed is sown before a crop is produced; but after that period each shrub will yield one pound three times a year, and last for a hundred years. There is little cost in cultivating or gathering, and no machinery is required; so that, though there is some time to wait before new plantations give any return, the ultimate profit is considerable. A slightly earlier result may be obtained by surrounding the plantation with lime or orange trees, well preparing the land, and shading the plants with suitable trees.

A quantity of coca-seed (*Erythroxylon coca*) was last year imported from Peru for distribution among the people in a suitable zone for its growth; but the result was unsatisfactory, from the bad quality of the seed, and fresh means are being taken to extend the cultivation of this plant.

Pepper and cinnamon are grown in the department of Alta Verapaz. Good seed has been imported from Ceylon, and planting is extending in that fertile district, while satisfactory results have been obtained in the department of Escuintla, where a few plantations have been made.

Rice is a very large article of consumption in the republic, and the government have established at San José works for perfecting machinery to separate the husk.

Good tobacco is grown, but little attention is paid to the mode of preparing it. The production is being encouraged by the gratuitous circulation of the best seed procurable from Havana, the United States, and Sumatra, and many new plantations are being made.

In spite of endeavors made to protect the rubber or caoutchouc trees, the production of rubber continues to decrease, and only in Verapaz and Peten are trees found in any quantity; while the growers show no signs of replacing those that are worn out. Holes are made in the stems to extract the sap, and alum, saltwort, or some other juice, used to coagulate it. It might be made a profitable industry if proper knowledge and appliances were brought to bear. A few new plantations are being made in one or two low-lying farms; about 3,000 quintals are annually exported. The plant yielding Guatemalan rubber is *Castilloa elastica*.

Among other products grown are maize, beans, peas, and potatoes in sufficient quantity for home consumption; sarsaparilla and vanilla grow wild on the mountains all over the country. The price of sarsaparilla has fallen greatly. There was scarcely any exported last year, and in 1887 it only reached the value of \$8,105. The quality of the vanilla is good, but, though it figures as an export, it is not cultivated for that purpose.

Banana-planting in the east is occupying much attention as a profitable industry, some 200,000 trees being now yearly planted for the supply of the United States market. About 120,000 bunches are at present exported annually. Peruvian (*Bahmeria nivea*) was also introduced three years ago, and more than 600,000 shoots were distributed with a view to its general cultivation, but exportation of the fibre has not met with satisfactory results. Indigo-works are subsiding in the country, though a few still exist in the east, and means are being taken to encourage them. Indigo was exported to the value only of \$465 in 1888, though formerly a very large trade was done in it. The industry in cochineal has almost entirely disappeared: for thirty years it was the principal article of export, and now the little produced is used for native consumption, aniline dyes having ruined the trade.