

explorations. On the west side we find high mountains in Adamaua, — which probably form the north-western corner of Central Africa, — and the volcanic Kamerun Mountains, which lie on one line with those of S. Thomé and Anno Bon.

THE PEOPLE OF CENTRAL AFRICA.

THE northern boundary of the Bantu language, to which almost all tribes and nations of Central Africa belong, is a line running from Kamerun to the outlet of the Mvutan Nsige, including the Victoria Nyanza, thence turning south to the Kilima Njaro, and reaching the coast in about latitude 1° south. As compared with the large area occupied by dialects of this linguistic stock, the extent of other languages is very limited. Those of the negroes of the upper Nile, the Niam-Niam and Mangbatu, the Galla, and also those of the Benue and Central Sudan, do not belong to this stock; and it is impossible, with our present knowledge, to classify them properly.

The anthropologist finds even greater difficulty in classifying the races of Africa than the linguist, for the different types of African people are connected by numerous links. There are only a few places where a characteristic difference in appearance may be observed. As one instance we mention the remarkable light tribes of the Welle-Nile watershed, — the Niam-Niam and Mangbatu, and the scattered dwarfs of Central Africa. In comparing the ethnological peculiarities of the Niam-Niam with those of their neighbors, it strikes us that the Fan or Mpongwe, who invaded the Gabun region from the east, are very similar to them, and that their characteristic throwing-knife is found in southern Adamaua, and in slightly differing forms over the whole area north of the Kongo.

The dwarfish Mucassequere of the Kuando, south of Lunda, the Watwa of the southern Kongo basin, the Akka of the Welle, and several other West African tribes, are, in their anthropological appearance, very similar to the Bushmen of South Africa. Their height is about four and a half feet, they are of a yellowish complexion, and have woolly hair. The scattered occurrence of these tribes all over Central Africa makes it very probable that they inhabited the whole country before the invasion of the Bantu. Their languages are little known, but all of them seem to have adopted to a great extent that of the people with whom they live. They do not till the soil, but live almost exclusively as hunters.

The majority of the negroes live on the products of agriculture and stock-raising. There are

no tribes without agriculture in Central Africa, except the dwarfish Watwa and Akka. Though their implements are very simple, they clear the dense woods, and fence in their fields. Hirse is the most important grain they grow. It is cultivated in all parts of Africa. Sorghum, manioc, and batatas are grown in the lower countries, maize and pulse on the highlands. In Uganda, bananas are the principal food. Stock-raising is the favorite occupation of many East African tribes. The herdsmen are frequently warlike nations who have subdued agricultural tribes. The Galla, Wahuma, and Watuta have founded empires of this kind. On the upper Nile the natives are engaged in both stock-raising and agriculture. Cattle, sheep, goats, dogs, and poultry are raised by these people.

The most remarkable industry of Africa is that of iron-working, which is known in all parts, the Bushmen alone being unacquainted with it when they became known to the Europeans. The Africans know how to obtain the iron from the ores, and manufacture beautiful implements of it. Besides iron, they manufacture copper implements and make copper and iron wire. The negroes do not know how to tan skins, but soften them by scraping and beating; neither do they practise the art of joining wood; while carving, plaiting, and weaving are highly developed.

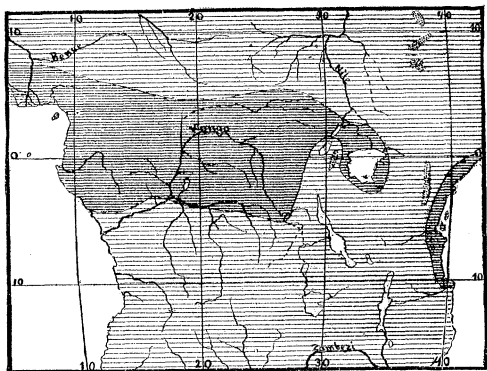
The civilization of the negroes is not at all a low one. Their mode of life, their industry, and their political institutions are ample proof of this. Large empires founded by men excelling in intelligence and character, and extensive migrations of energetic nations, are characteristic of its history. The observations of all explorers show that arts and industry are far more developed in the interior than near the coast. Here, as everywhere else, the contact with nations of a higher civilization, the whites and Arabs, tends to destroy the native culture. Here the ruthless Arabian slave-hunters devastate regions which were flourishing before their arrival, and the final destiny of the Africans will depend to a great extent on the end of the final struggle between the whites and the Arabs.

THE VEGETATION OF CENTRAL AFRICA.

THE peculiar character of the landscape of Central Africa is due to the great extent of its highlands and the frequently alternating woods and savannas. In the rainy districts of the west coast north of the Kongo, dense forests prevail, but farther south the vegetation is not so luxuriant. Here we find the baobab and the plants characteristic of the savannas of the central plateaus. But even in

the region of forests savannas are not wanting. Wherever the local climate is dryer, we find them, and the irregularity of the rainfall in this region may sometimes destroy woods. But besides this, the methods of agriculture applied by the natives are destructive to the forests, which are burnt or cut down. As the natives frequently remove their habitations from one place to another, large tracts of forest are annually destroyed.

The natives distinguish two forms of vegetation, — the *campina* and the forest. European travellers, particularly Pechuël-Loesche, who studied the vegetation of Central Africa, describes the character of the country as follows: In the *campina*, from one-fourth to one-half of the ground remains barren, while the rest is covered with grasses from three to six feet high. This is more particularly the case in the open *campina*,



VEGETATION OF CENTRAL AFRICA (according to O. Drude).

Dark lines, evergreen woods; light lines, woods with deciduous foliage and savannas; dots, tropical alpine flora.

which consists of *Andropogon*, *Cymbopogon*, and *Ctenium*. The period of vegetation is the season of thunder-storms, but before its end the seeds are ripe and the grasses begin to fade and dry up. There are only few shrubs mixed with these grasses, — *Leguminosae*, *Compositae*, *Malvaceae*, and *Verbenaceae*. Another characteristic form of vegetation is the bush, which is composed of evergreen thornless shrubs from twelve to fifteen feet high, with rigid leaves of a bluish or dark-green color. The bush is found on hills and slopes or on the plains in patches surrounded by the *campina*. Pechuël-Loesche distinguishes besides these the 'bush woods' and 'high woods.' The genera of these are identical, but the impression is very different according to the prevalence of high trees or of lower forms. In the 'high woods,' evergreen-trees prevail, the crowns of which are interwoven with climbers, while

enormous trees with deciduous foliage tower above them. Though the multiplicity of form of the American tropical woods is not found here, they are described as not less impressive and grand than any other tropical forests.

The accompanying sketch-map shows the distribution of this kind of woods. They occupy almost the whole of the Kongo basin except the highlands of Karagwe and the region adjoining the watershed between the Kongo and Zambezi. On the east coast they are confined to a narrow belt adjoining the coast. The rest of the country except the summits of the highest mountains is occupied by savannas, and forests of trees with deciduous foliage. In East Africa the district between the Kilima Njaro and Lake Rikwa is almost exclusively occupied by savannas. The caravan routes from the east coast to the Tanganyika cross it in Ugogo.

The deserts and steppes north and south of the fertile belt of Central Africa do not belong to the district under consideration, but are confined to the area north of latitude 10° north, and south of latitude 15° south. On the west coast, however, vegetation becomes more scanty south of the Kongo, and in latitude 12° south some parts have the appearance of real steppes.

THE latest additions to our knowledge of Central Africa are the exploration of the Mongalla and of the tributaries of the Obangi. We referred in *Science* of April 1 to Baert's exploration of the Mongalla. From the map in *Le mouvement géographique* of May 8, it appears that Baert reached latitude 2° 50' north, and longitude 21° east. The mouth of the Mongalla on Baert's map is 35' farther east than on Grenfell's map. The exploration of this river is very important, as it belongs to the unknown region of the watershed between the Welle and the Kongo. The only map of the tributaries of the Obangi yet published is that of the Ngiri, a small river draining the peninsula between the Kongo and the Obangi. In latitude 4° north the explorer of the Obangi, Captain van Gele reached the cataract of Zongo, which prevented further progress. This cataract is formed by a range of hills six or eight hundred feet high, through which the Obangi has cut its valley. The problem of the western tributaries is very essential to our knowledge of the orography of Africa, as the north-westerly rim of the large central plateau is still totally unknown.

—Dr. H. Labonne, who made some important explorations in Iceland last summer, left Cherbourg on April 15, to continue his studies on the geysers and glaciers of that island (*Gaz. géogr.*, April 21).