## SCIENCE.-Supplement.

## FRIDAY, MAY 27, 1887.

## POLITICAL GEOGRAPHY OF CENTRAL AFRICA.

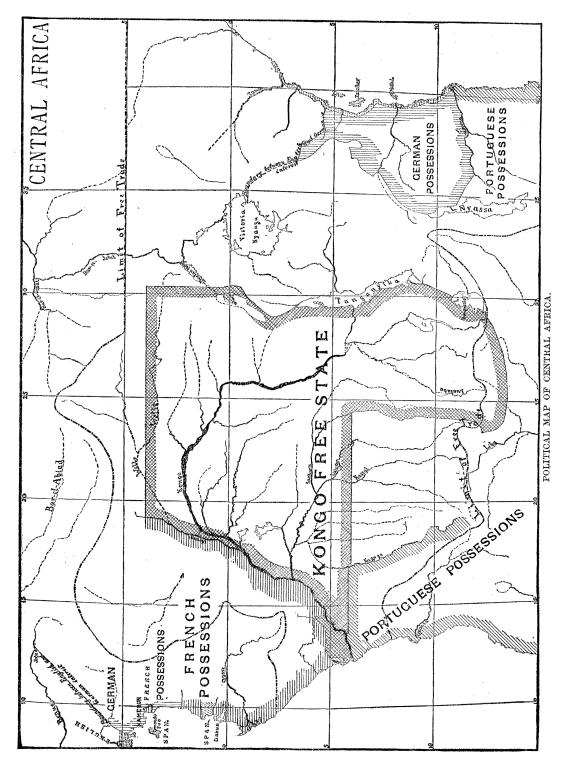
THE development of Central Africa is unparalleled in the history of discoveries. In 1877 its interior was totally unknown, and in 1884 we see the powers of Europe and the United States of America meeting in a conference to settle the affairs of this district, and acknowledging the young Kongo Free State.

In September, 1876, the Association internationale Africaine, for promoting the exploration of Central Africa and opening it to commerce, was founded under the auspices of Leopold II., king of Belgium. The original intention of this association was to establish stations in eastern Africa, and to use them as a basis for further explorations in Central Africa; but when the news of Stanley's discovery of the Kongo route, and his reports of the wealth of the interior, reached Europe, the base of operations was at once transferred to West Africa. The Comité d'études du Haut-Congo was founded at Brussels in November, 1878, and Stanley was appointed leader of its enterprises and expeditions.

Stanley reached the Kongo in 1879, and at once proceeded to establish the station of Vivi at the farthest point accessible to steamers. In January, 1880, this work was finished, and he started on his way up the river. The route from Vivi to Isangila is extremely difficult, the river being impassable on account of the numerous cataracts and rapids, and the land being intersected by deep gorges and valleys. Though a single traveller can accomplish the distance from Vivi to Isangila in six days, it took Stanley eleven months to get his stores and the sectional steamboat to that place. Steep declivities had to be graded and rocks to be blasted before he was able to carry his bulky luggage to Isangila, which place was reached in December, 1880. From here he proceeded on the river to Manjanga, where the third station was established in May, 1881. In July, Stanley Pool was reached.

Meanwhile Savorgnan de Brazza had started from the Ogove, reached Stanley Pool, and induced Makoko, the chief of the Bateke, to accept the French protectorate. Though Stanley's intentions were thus forestalled by the enterprising French officer, he did not hesitate to establish his fourth station, Leopoldville, on the left bank of the Kongo, in order to save this section from the encroachment of the French. In December, 1881, the first steamer floated on the upper Kongo, and no further obstacle lay between Stanley Pool and Stanley Falls. In 1882, Stanley established the station of Mswata, opposite Brazza's purchases, and visited Lake Leopold. In order to prevent the French laying hold on the lower Kongo, he sent, in 1882 and 1883, several expeditions into the district north of the lower Kongo, where stations were established and land purchased. In 1883 the steamer proceeded to Stanley Falls, and the stations of Aruvimi and Stanley Falls were organized. Meanwhile the Comité d'études du Haut-Congo had assumed the name of the 'Association internationale du Congo,' and at the same time diplomatic negotiations began in order to obtain the recognition of its possessions by the European powers.

When the results of Stanley's activity became known, France and Portugal claimed large tracts of land in which the association had established its factories. Brazza claimed the left bank of the river from the mouth of the Kuango to Stanley Pool as belonging to Makoko's territory, and Portugal maintained its old claim to the coast as far north as latitude 5° 12' south. The first to recognize the possessions of the Kongo association were the United States, which made a treaty with the association in April, 1887. As all commercial nations were interested in preventing a single power from getting control of the mouth of the Kongo and the rich countries of Central Africa, a conference was held in Berlin, the result of which was the recognition of the association as the 'Kongo Free State.' The negotiations for determining the boundaries of the state were not included in the programme of the conference, but were settled between the single states and the association. In February, 1885, a treaty with France was made at Paris, and the new state recognized by France. According to the stipulations of the treaty. France received the right bank of the Kongo from Stanley Pool to Manjanga, and the coast as far south as the mouth of the Chiloango. On the other hand, France relinquished its claim on the left bank of the Kongo. In the same month an understanding with Portugal was reached. Portugal received the south bank of the mouth of the Kongo, while the association



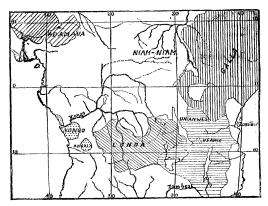
kept twenty-three miles of coast line on the north side of the Kongo.

At the conference the neutrality of the new state was guaranteed by the powers, the right of the single states to declare their colonies in Central Africa as neutral in case of a war was established, and free trade was declared in the Kongo basin and the adjoining territory from the Atlantic to the Pacific Ocean. Thus a great step forward in the development of Central Africa was made.

After the consolidation of the Kongo Free State, the European powers defined the much-disputed boundaries of their colonies by special treaties. The Portuguese territory north of the mouth of the Kongo was enlarged by a treaty between France and Portugal, May 15, 1886, and the northern boundary-line between French and German territory was fixed on Dec. 24, 1885. It was only a few weeks ago that the doubtful boundary-line on the east side of the French possessions, which was originally between the Likoma and the Obangi, was determined. The French territory extends now to the Obangi River. After Germany had taken possession of Kamerun, its claims came into conflict with those of England. In July and August last it was decided that a line from the great bend of the Calabar (Cross) River to Jola on the Benue should form the boundary between the two colonies. By this treaty the navigable Niger and Benue, which form the best route into the interior of West Africa, came into the possession of the In East Africa we find the posses-English. sions of the German East-African company, which are under the protectorate of Germany. A consequence of their purchases was the conference of England, Germany, and France in December, 1885, to determine the extent of the sultanate of Zanzibar. This question was settled by an exchange of notes on the 1st of November, 1886. The principal point of this agreement was the determination of a line separating future claims of both states. This line, which runs from the coast to the Victoria Nyanza, may be seen on the accompanying map. South of the German possessions, the Kongo Free State, and the French possessions, the African coasts belong to Portugal. The extent of its possessions towards the interior is not limited by a boundary-line acknowledged by the powers. Germany may raise a claim to the country south of the Kongo Free State, which is almost exclusively known through the explorations of German travellers.

Our notes on the political geography of Central Africa would be incomplete without a description of the states of the natives. Though a great part of Central Africa consists of small communities which do not form large states, we find several extensive empires, and several others have been destroyed since the Europeans invaded the country.

The peoples of Africa are frequently changing their habitations : large empires which are kept together by an energetic king, fall to pieces, and new ones take their place. Several large states, however, have existed for a long period. The most extensive of these is the empire of Muata Yamvo in Lunda. His residence is Mussumba. The government is feudal, there being a number of sub-chiefs who govern their own territories independently, but must send tribute to the Muata Yamvo, and have to follow him in case of war. So long as they conform to these obligations, the tributary states are independent, and the Muata Yamvo does not even interfere with the election of a successor in case one of the chiefs dies. Several relatives of these sub-chiefs, however, must live in the Muata Yamvo's residence, being kept



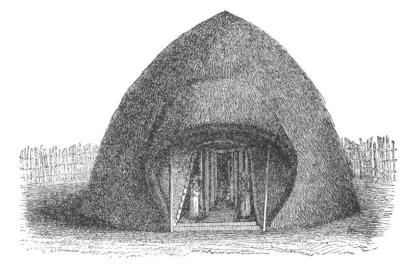
STATES OF CENTRAL AFRICA (according to Fr. Ratzel).

there as a kind of hostage. Besides the Muata Yamvo, an unmarried woman called the Lukokesha has a position of high rank in the state. The Muata Yamvo and the Lukokesha are elected by a council, and the election of either of them must be confirmed by the other. The court of the Muata Yamvo consists of a number of councillors and an aristocracy. The whole people is called to an assembly to decide on war or peace and other important public affairs.

Similar to the constitution of this state are those of most other African states, — despotism combined with an oligarchy. The empires of Kongo, Angola, and Loango, near the mouth of the Kongo, had a similar form of government; Angola and Loango were probably tributary to the king of Kongo.

The history of the Watuta in East Africa shows the origin of the states of that region, so far as they are under the influence of Zulu-like tribes. Between Lake Nyassa and the Rovuma we find the Wahiyao, and on the plateaus west of the lake the Maviti, both warlike tribes closely related to the Matabele and Zulu. About 1840 the Watuta, who were a sub-tribe of the Maviti, separated from the main body on a predatory excursion which extended far north. They came to Urori, and after a war of five months with the strong and warlike tribe of that country, the Warori, being unable to subdue them, went north-west, and made war upon the inhabitants of Ujiji. Thence they turned north-east. fought with the Wahua and Warundi, and reached the Victoria Nyanza, where they remained for several years. They did not settle permanently, but returned to The position of Europeans in the equatorial province has become very difficult through the hostility of the king of Uganda. While Mtesa, the last king, was friendly to the Europeans, his successor, Mwanga, has prevented them from passing his land, and the death of Bishop Hannington is due to him. At the present time he keeps Emin Pasha and his companions from Zanzibar, and his attitude compelled Stanley to take the Kongo route. A brief account of this region, which is so frequently mentioned in reports from Africa, may be of interest.

Formerly the large empire Kitara occupied the whole region between the Victoria Nyanza and Mvutan Nsige. In course of time it had the same fate as most other African states : it was divided



AUDIENCE-HALL OF KING MTESA (according to Stanley).

Usambara and Ugomba, where Mirambo founded the empire which has so frequently been described by European travellers. The development of this tribe to a powerful kingdom is characteristic of the unsteadiness of African states, the existence of which greatly depends on the personality of the chief.

In north-eastern Central Africa we find the Galla, Massai, and Wahuma. These are warlike tribes of herdsmen who have subdued the agricultural tribes which formerly possessed these districts. The Galla states are remarkable for the democratic character of their constitution. The chiefs are elected for eight years, and their power is limited by a council. They have no residence, but must continuously travel from one village of the tribe to the other to settle disputes and perform other duties belonging to the office.

into several smaller kingdoms, but every one of these is still powerful. Uganda, Unyoro, Karagwe, and Usinja are fragments of the old empire. The inhabitants of the land belong to two different races,-the agricultural Waganda, and the Wahuma, who are herdsmen. The royal family belongs to the Wahuma, who keep apart from the Waganda, have a language of their own, and live in separate villages. The Waganda are chocolatecolored, and have short woolly hair. The Wahuma are of a far lighter complexion. They have straight noses, thin lips, and large lustrous eyes. The traditions of the Wahuma refer to their immigration from the north, and their anthropological features agree with this statement, they being very similar to the Galla.

The power of Uganda is principally due to its military organization. The population consists

of four classes, ---- slaves, peasants, sub-chiefs, and chiefs. The peasants, who are the main body of the population, form the army. The sub-chiefs, who are elected from among the peasants, govern the provinces, and have the command of a certain number of soldiers. They are responsible to the Wakungu, the chiefs. These form a council, which in reality decides the affairs of the state. Every one of the chiefs must live three months out of every year at the residence of the king. Thus the state is thoroughly centralized, and the government has as much influence on the borders of the state as in the central provinces. If war is decided upon, the war-drums are beaten, and the whole army assembles before the royal palace. In time of peace the Waganda wear a toga made of bark; but in time of war they lay it aside, paint their faces white and red, and go into the battle naked, with the exception of a piece of cloth wound around the loins. Their weapons are beautiful spears with points more than a foot long, and oval shields of light wood covered with twigs and having a boss in the centre. Besides the spears, they use powerful bows, and poisoned arrows with formidable barbs. It is the privilege of the king to bear a copper lance. Armed with two of these lances, and wearing his shield, he stands before the entrance of his palace, surrounded by the chiefs, and gives his orders to the army. The palace is built of reeds and straw, and is about a hundred feet long, the roof resting on heavy timbers. The accompanying sketch shows the hall in which Mtesa gave his audiences, and where Stanley met him. A large fleet of canoes which the Waganda have on the Victoria Nyanza makes their army still more powerful. Some of their canoes carry as many as forty men, and it is said that from sixteen to twenty thousand men can be transported by the whole fleet.

This powerful nation is strong enough to shut off the region north of the Victoria Nyanza, and to prevent the passage of caravans through its territory. The distrust of the new king Mwanga hinders the work of European explorers and missionaries just as much as the friendliness of Mtesa had helped them. Though the kingdom has been for two generations in contact with Arabs, and later on with whites, it has retained its independence and power.

## PHYSICAL GEOGRAPHY OF CENTRAL AFRICA.

THE map of Central Africa which accompanies the present number shows the river system of the Kongo, the head waters of the Nile, and East Africa. This part of the continent forms one of

the large plateaus which give Africa its peculiar character. An immense highland occupies the continent south of a line drawn from Abyssinia to the Niger. Its rim is formed by mountain-ranges, which fall off in terraces toward the sea. A depression indicated by the valleys of the Kunene and Zambezi separates the plateau of South Africa from that of Central Africa. The eastern side of the latter consists of a number of high mountainranges and plateaus. The highlands of the Bangweolo and Nyassa lakes, which are from 4,000 to 5,000 feet high, extend to the caravan route leading through Unyamwesi. Its descent towards the Zambezi is very steep, while in the north-west it gradually falls off towards the plateau of the Kongo basin. Lake Bangweolo, which occupies the south-western portion of the highland, is 3,700 feet high. North of Unyamwesi the land rises to the mountainous district of the Victoria Nyanza and Muta Nsige, which attains a height of 11,000 feet in the mountains of Karagwe and Ruanda, west of the Victoria Nyanza. East of this region enormous volcanoes indicate the edge of the plateau, the Kilima Njaro rising to 19,000 feet, and the Kenia to 16,000 feet, in height. Northeast of the Victoria Nyanza we find the highlands of Abyssinia.

This mountainous district contains the sources of all the rivers of Central Africa except the southern tributaries of the Kongo, which come from the swamps on the watershed between the Kongo and Zambezi. The latter river drains the southern slope of the plateau. Numerous small rivers, among which the Rovuma and Rufiji are the most important, descend from its eastern slope : the lofty mountains of Karagwe feed the sources of the Nile, and the Kongo has its origin on the western side of these highlands.

The large lakes which collect the head waters of all these rivers are characteristic of this part of Africa. Steep mountains surround the stormy Lake Nyassa, which occupies a long and deep valley on the southern side of the plateau. The large basin of the Victoria Nyanza is in part surrounded by low hills, and filled with many islands, but on its western side the steep mountains of Karagwe reach to its shore. This lake and the Mvutan Nsige are the collecting basins of the White Nile. From the Victoria Nyanza, which is 4,100 feet high, the Nile descends 1,350 feet, until it reaches the Mvutan Nsige, 2,750 feet above the level of the sea.

The Tanganyika is situated on the western slope of the highlands, and sends its water by the Lukuga into the Kongo. When the rivers belonging to the Kongo system have descended the terraces forming the eastern rim of the highland,