Lugard, *A Tropical Dependency* (London, 1905); and the biblio­graphies given under the various countries named. For sources and history see Timbuktu. For the central Sudan the most im­portant work is that of Gustav Nachtigal, *Sahara und Sudan* (3 vols., Berlin 1879-1889). See also Boyd Alexander, *From the Niger to the Nile* (2 vols., London, 1907) ; Karl Kumm, *From Haussaland to Egypt* (London, 1910). For the eastern Sudan see the bibliographies under the following section. A good general work is P. Paulitschkc’s *Die Sudânländer* (Freiburg, 1885).

The Anglo-Egyptian Sudan

The region which before the revolt of the Arabized tribes under the Mahdi Mahommed Ahmed in 1881-84 was known as the Egyptian Sudan has, since its reconquest by the Anglo-Egyptian expeditions of 1896-98, been under the joint sovereignty of Great Britain and Egypt. The limits of this condominium differ slightly from those of the Egyptian Sudan of the pre-Mahdi period. It is bounded N. by Egypt (the 22nd parallel of N. lat. being the dividing line), E. by the Red Sea, Eritrea and Abyssinia, S. by the Uganda Protectorate and Belgian Congo, W. by French Congo. North of Darfur is the Libyan Desert, in which the western and northern frontiers meet. Here the boundary is undefined.@@1

As thus constituted the Anglo-Egyptian Sudan forms a com­pact territory which, being joined southwards by the Uganda Protectorate, brings the whole of the Nile valley from the equatorial lakes to the Mediterranean under the control of Great Britain. The Anglo-Egyptian Sudan extends north to south about 1200 m. in a direct line, and west to east about 1000 m. also in a direct line. It covers 950,000 sq. m., being about one- fourth the area of Europe. In what follows the term Sudan is used to indicate the Anglo-Egyptian condominium only.

*Physical Features.*—The Sudan presents many diversified features. It may be divided broadly into two zones. The northern portion, from about 16° N., is practically the south-eastern continuation of the Saharan desert; the southern region is fertile, abundantly watered, and in places densely forested. West of the Nile there is a distinctly marked intermediate zone of steppes. In the southern district, between 5° and 10° N., huge swamps extend on either side of the Nile and along the Bahr-el-Ghazal.

From south to north the Sudan is traversed by the Nile (*q.v.*), and all the great tributaries of that river are either partly or entirely within its borders. The most elevated district is a range of mountains running parallel to the Red Sea. These mountains, which to the south join the Abyssinian highlands, present their steepest face eastward, attaining heights within the Sudan of 4000 to over 7000 ft. Jebel Erba, 7480 ft., and Jebel Soturba, 6889 ft. (both between 21° and 22° N.), the highest peaks, face the Red Sea about 20 m. inland. Westward the mountains slope gradually to the Nile valley, which occupies the greater part of the country and has a general level of from 600 to 1600 ft. In places, as between Suakin and Berber and above Roseires on the Blue Nile, the mountains approach close to the river. Beyond the Nile westward extend vast plains, which in Kordofan and Dar Nuba (between 10o and 150 N.) are broken by hills reaching 2000 ft. Farther west, in Darfur, the country is more elevated, the Jebel Marra range being from 5000 to 6000 ft. high. In the south-west, beyond the valley of the Bahr-el-Ghazal, the country gradually rises to a ridge of hills, perhaps 2000 ft. high, which running south-east and north-west form the water-parting between the Nile and the Congo.

Apart from the Nile system, fully described elsewhere, the Sudan has two other rivers, the Gash and the Baraka. These are inter­mittent streams rising in the eastern chain of mountains in Eritrea and flowing in a general northerly direction. The Gash enters the Sudan near Kassala and north of that town turns west towards the Atbara, but its waters are dissipated before that river is reached. The Gash nevertheless fertilizes a considerable tract of country. The Khor Baraka lies east of the Gash. It flows towards the Red Sea in the neighbourhood of Trinkitat (some 50 m. south of Suakin), but about 30 m. from the coast forms an inland delta. Except in seasons of great rain its waters do not reach the sea.

*The Coast Region.—*The coast extends along the Red Sea north to south from 22° N. to 18° N., a distance following the indentations of the shore of over 400 m. These indentations are numerous but not deep, the general, trend of the coast being S.S.E. the most prominent headland is Ras Rawaya (21° N.) which forms the northern shore of Dokhana Bay. There are few good harbours, Port

Sudan and Suakin being the chief ports. South of Suakin is the shallow bay of Trinkitat. A large number of small islands lie off the coast. A belt of sandy land covered with low scrub stretches inland ten to twenty miles, and is traversed by khors (generally dry) with ill-defined shifting channels. Beyond this plain rise the mountain ranges already mentioned. Their seaward slopes often bear a considerable amount of vegetation.

*The Desert Zone.—*The greater part of the region between the coast and the Nile is known as the Nubian Desert. It is a rugged, rocky, barren waste, scored with khors or wadis, along whose beds there is scanty vegetation. The desert character of the country increases as the river is neared, but along either bank of the Nile is a narrow strip of cultivable land. West of the Nile there, are. a few oases— those of Selima, Zaghawa and El Kab—but this district, part of the Libyan Desert, is even more desolate than the Nubian Desert.

*The Intermediate Zone and the Fertile Districts.—East* of the Nile the region of absolute desert ceases about the point of the Atbara confluence. The country enclosed by the Nile, the Atbara and the Blue Nile, the so-called Island of Meroë, consists of very fertile soil, and along the eastern frontier, by the upper courses of the rivers named, is a district of rich land alternating with prairies and open forests. The fork between the White and. Blue Niles, the Gezira, is also fertile land. South of the Gezira is Sennar, a well- watered country of arable and grazing land.

West of the Nile the desert zone extends farther south than on the east, and Kordofan, which, comes between the desert and the plains of the Bahr-el-Ghazal, is largely barren and steppe land. South of 10° N. there is everywhere abundance of water. Darfur is mainly open, steppe-like country with extensive tracts of cultiv­able land and a central mountain massif, the Jebel Marra (see Sennar Kordofan, Darfur).

*Climate.·*—The country lies wholly within the tropics, and as the greater part of it is far removed from the ocean and less than 1500 ft. above the sea it is extremely hot. The heat is greatest in the central regions, least in the desert zone, where the difference between summer and winter is marked. Even in winter, however, the day temperatures are high. Of this region the Arabs say “ the soil is like fire and the wind like a flame.” Nevertheless, the dryness of the air renders the climate healthy. The steppe countries, Kordofan and Darfur, are also healthy except after the autumn rains. At Khartum, centrally situated, the minimum temperature is about 40° F., the maximum 113°, the mean annual temperature being 80°. January is the coldest and June the hottest month. Violent sand­storms are frequent from June to August. Four rain zones may be distinguished. The northern (desert) region is one of little or no rain. There are perhaps a few rainy days in winter and an occasional storm in the summer. In the central belt, where “ the rainy season” is from mid-June to September, there are some 10. in. of rain during the year. The number of days on which rain falls rarely exceeds, however, fifteen. The rainfall increases to about 20 in. per annum in the eastern and south-eastern regions. In the swamp district and throughout the Bahr-el-Ghazal heavy rains (40 in. or more a year) are experienced. The season of heaviest rain is from April to September. In the maritime district there are occasional heavy rains between August and January. In the sudd region thunderstorms are frequent. Here the temperature averages about 850 F., the air is always damp and fever is endemic.

*Flora.—*In the deserts north of Khartum vegetation is almost confined to stunted mimosa and, in the less arid districts, scanty herbage. Between the desert and the cultivated Nile lands is an open growth of samr, hashab *(Acacia verek)* and other acacia trees. Between Khartum and 12° N. forest belts line the banks of the rivers and khors, in which the most noteworthy tree is the sant or sunt *(Acacia arabica).* Farther from the rivers are open woods of heglig *(Balanites aegyptiaca'),* hashab, &c., and dense thickets of laot *(Acacia nubica)* and kittr *(Acacia mellifera).* These open woods coyer a considerable part of Kordofan, the hashab and talh trees being the chief producers of gum arabic. South of 120 N. the forest lands of the White Nile as far south as the sudd region are of similar character to that described. On the Blue Nile the forest trees alter, the most abundant being the babanus (Sudan ebony) and the silag *(Anogeissus leiocarpus),* while gigantic baobabs, called tebeldi in the Sudan, and tarfa *(Sterculia cinerea)* are numerous. In southern Kordofan and in the higher parts of the Bahr-el-Ghazal the silag and ebony are also common, as well as African mahogany (homraya, *Khaya senegalensis)* and other timber trees. In the Ghazal province also are many rubber-producing lianas, among them the *Landolphia owariensis.* There are also forest regions in the Bahr-el-Jebel, in the Mongalla mudiria and along the Abyssinian- Eritrean frontier. East of the Bahr-el-Jebel and north of the Bahr-el-Ghazal are vast prairies covered with tall coarse grass. Cotton is indigenous in the valley of the Blue Nile, and in some districts bamboos are plentiful. The castor-oil plant grows in almost every province. (See also § *Agriculture,* and, for the vegetation of the swamp region, Nile.)

*Fauna.—*Wild animals and birds are numerous. Elephants are abundant in the Bahr-el-Ghazal and Bahr-el-Jebel forests, and are found in fewer numbers in the upper valley of the Blue Nile.

@@@1 It was supposed to be indicated by the line which, according to the Turkish firman of 1841, describes a semicircle from the Siwa Oasis to Wadai, approaching the Nile between the Second and Third Cataracts. This line is disregarded by the Sudan government.