and extending from Adamawa to the Cameroons on the Bight of Biafra, corresponds with the eastern highland region of Abyssinia, lying between the Blue Nile and the Tagazze and dominating the Red Sea. North of Adamawa the land falls rapidly down to the vast depression of Central Soudan, whose lowest part is flooded with the waters of Lake Tchad (Chad or Tsad), the largest area of inland drainage, next to the Aral-Caspian basin, in the eastern hemisphere. This freshwater lacustrine de­pression, usually 10,000 square miles in extent, expands to 40,000 and even 50,000 square miles when swollen by the flood-waters of its great feeders,—the Logon-Shari from the south and the Komadugu from the west. From the Tchad depression, which is still 1150 feet above the sea, the ground rises again eastwards in the direction of Wadai and Dar-Fur, to heights of 3000 feet and upwards, culminating in the volcanic Jebel Marrah (6000 feet), which forms the natural eastern limit of Central Soudan, and the great divide between the Tchad and Nile basins. But politically the line between Central and Eastern Soudan is usually drawn more to the west along the con­ventional frontiers of Wadai and Dar-Fur, the latter pro­vince, although never completely reduced, being claimed as part of Egyptian Soudan. This region constitutes two distinct physical divisions,—the first comprising the pro­vinces of Dar-Fur and Kordofan, bounded E. by the White Nile and S. by the Bahr el-Arab, a tableland in which the steppe formation predominates, while the second is skirted east by the Bahr el-Jebel and stretches from the Bahr el-Arab southwards to the Monbuttu uplands, a vast plain watered by the numerous south-western headstreams of the White Nile. This plain rises gradually towards the south and south-west to the highlands, which appear to culmin­ate in Mount Baginze, and which form the water-parting between the Nile and Congo basins. Included in Eastern Soudan is also the extensive plain of Senaar, stretching from the Nile eastwards to the Abyssinian uplands, and rising southwards to the Fazokl and Berta highlands.

The prevailing geological formations are the crystalline rocks, such as granites, diorites, slates, gneiss, underlying the old and new alluvia of the plains, and found associated with sandstones in the highlands. In the Kong Mountains the granites underlie the sandstones, but in the Tagalé group (South Kordofan) they pass over to porphyries and syenites, interspersed with extensive diorites and auriferous quartz veins. Volcanic rocks (basalts, lavas, tufas) appear to be restricted to the isolated Defafaung and Alantika Mountains (Adamawa), although solfataras occur in the Tagalé district, where sulphur abounds. Mineral waters are also found in Dar-Fur and Adamawa. The most widely diffused minerals are iron and copper, the oxides of iron occurring almost everywhere from the White Nile to the Niger, while pure copper is met espe­cially in Dar-Fur and Fertit. Gold is chiefly restricted to the Tagalé and Kong Mountains, Bambarra, and Adamawa ; and lead, antimony, and tin are confined to a few isolated districts. Characteristic is the apparently total absence of limestones, coal, salt, and natron, the supplies of salt being imported mainly from the Sahara. Report, however, speaks of a large lake in the Jebel Marrah, from which salt is obtained.

The climate of Soudan is distinctly tropical, with two well-defined seasons, hot and rainy from April or May to October, warm and dry for the rest of the year. The former is accompanied by tremendous thunderstorms and continuous downpours flushing all the khors, wadies, and other watercourses, flooding large tracts along the lower courses of the Shari, Logon, Komadugu, and Niger, and interrupting the communications for weeks together in Baghirmi and Bornu. Before the rains set in the glass seldom falls below 98° or 100° F., rising at noon to 104°, while the mean annual temperature at Kuka (Bornu) is about 82° F. But in the dry season it is often lowered to 58° or 60°, and under the influence of the cool north-east winds water often freezes on the uplands, snow falls in Dar-Fur, and fires are kept up in the houses in the central districts of Kano. The chief ailments are ague and other marsh fevers in the low-lying tracts subject to inundations, the Guinea-worm, cutaneous diseases, and leprosy. The fevers are dangerous alike to Europeans and natives.

An exuberant forest vegetation is favoured by the rich alluvial soil and tropical heat wherever moisture abounds. Of large growths the

most characteristic and widespread are—the baobab *{Adansonia),* reaching north to the 13th parallel and attaining a girth of 80 feet ; the superb deleb palm, covering extensive tracts especially in the east, where it grows to a height of over 120 feet ; the shea or butter tree (*Bassia butyracea),* in the Niger basin and Kong uplands ; the cotton-tree, dum palm, tamarind, several varieties of euphorbias, acacias, and mimosas, the heglyg (*Balanites ægyptiaca),* and jerjak of Wadai, which yields a kind of vegetable honey. Owing to the absence of salt the date-palm is very rare. The chief cultivated plants are cotton, maize, several kinds of durrah *{Sorghum vulgare, S. cernuum,* &c.), hemp, tobacco, gourds, water-melons, indigo (of excellent quality and growing everywhere, wild and cultivated), and lastly the guru or kola nut (*Sterculia acuminata* and *S. macrocarpa),* which in Soudan takes the place of the coffee berry. Cotton of the finest quality has been raised on the rich alluvial plain of Taka and Senaar.

The beasts of prey, nowhere very numerous, are chiefly repre­sented by the lion, panther, hyæna, aud jackal. Elephants in herds of 400 or 500 frequent the swampy districts about Lake Tchad, but are not found farther north than the 12th or 13th parallel. The ordinary African rhinoceros is common, and the rare one- liorned species appears to have been met with in Wadai. The wild ass, zebra, giraffe, and antelopes in considerable variety abound on the eastern steppe lands, and endless species of monkeys in the forest districts. Crocodiles, some of great size, from 16 to 18 feet long, infest all the large rivers, the sangwai, —a web-footed variety, occurring in the Niger. The hippopotamus also abounds in these waters, which teem with fish, mostly of unknown species. These attract numerous flocks of waterfowl,—pelicans, spoonbills, cranes, ducks, and many unknown species. In the Tchad, Fittri, and other districts the fish are captured, dried, and exported in large quantities to Fezzan and the countries beyond the Niger. Flies and mosquitoes swarm in the marshy, and locusts in the dry districts ; and in the woodlands insect life is represented by myriads of ter­mites and some very large species of bees, wasps, and ants, besides beetles and butterflies in considerable variety.

The term Bílad es-Súdán is fully justified by the ethnical con­ditions of this region, which may be regarded as the true home of the Negro variety of mankind. Here this still everywhere forms the substratum of the population, constituting the distinct aboriginal element, in many places exclusively, in others intermingled with foreign intruders from the north and east. As far as can now be determined, these intruders belong to two separate branches of the Caucasic stock—the Hamitic and the Semitic. The Hamitic is represented by three divisions—Fulahs,@@1 Tibus, and Berbers—all of whom arrived in remote prehistoric times ; the Semitic by one division—the Arabs, who arrived at various periods since the spread of Islam in North Africa. The bulk of the Arab tribes appear to have penetrated from the Nile basin through Kordofan to Dar-Fur and Wadai, or from the Mediterranean seaboard through Fezzan and across the Sahara to the Tchad basin, and hence are still mostly restricted to the central and eastern districts. Owing to their later appearance and stronger racial sentiment they have kept more aloof from the surrounding populations than the Hamites, who have everywhere intermingled with the aboriginal Negro element. The result is that the present inhabitants of Soudan are of a very mixed character,—more or less pure Negro peoples predominating in the Niger basin, in Adamawa, Baghirmi, Wadai, parts of Dar- Fur and Kordofan, and in the Nile basin south of 10° north latitude ; half-caste Negroes and Fulahs especially in Western Soudan ; half-caste Negroes and Berbers in the northern districts of Western and Central Soudan ; half-caste Negroes and Tibus (Dasas) mainly in Kanem and Bornu; true Fulahs scattered in isolated groups between the Niger and Tchad basins ; true Berbers (Tuaregs) in the Timbuktu and Moassina districts ; true Arabs chiefly in Baghirmi, Wadai, Dar-Fur, and Kordofan.

In the subjoined table of the chief Soudanese races the Negro divisions have little more than a linguistic value.

Negro and Negroid Peoples.

Mandingoes : Madinka, Malinka, and in the east Vangarawa, the dominant race between the Joliba (Upper Niger) and Kong Mountains, where their simple and harmonious speech is everywhere current as the chief medium of intercourse ; tine Negro type, tall, very dark complexion from coffee-brown to black, long frizzly and woolly hair; agriculturists and traders; mostly Mohammedans out­wardly; population six to eight millions. Chief subdivision the Bambarras, whose capital is Sego on the Joliba ; population 2,000,000.

@@@1 Most ethnologists, adopting Fr. Müller’s general classification, group the Fulahs with the Nubians in a separate division (“Nuba-Fulah family”), and class the Tibus ns Negroes. But more recent research has shown—(1) that the Fulahs and Nubians differ fundamentally in speech and physique, the former being of Caucasie and the latter of Negro type (Krause, Rüppel), and (2) that the true Tibus, the Tedas of Tibesti as distinguished from the Dasas or southern group, are not Negroes but Hamites, akin to the Tuaregs of the Western Sahara, although the two languages are totally distinct (Nachtigal). The Tibu language has been described as a Negro form of speech ; but this is also a mistake. It forms an independent linguistic group, the oldest and purest branch of which is that of the Northern Tedas. From Tibesti it appears to have spread southwards to Kanem and Bornu, where the Dasa, Kanuri, and other dialects have been exposed to Negro influences. Had Tibu been originally a Negro language, its most primitive form would be found, not in Tibesti, but in Soudan, and its pro­gress would have been thence northwards, not from the Sahara southwards.