



mining undertaking expensive, but some localities are being profitably worked. The native inhabitants of the western foothills of Abyssinia obtain a fair return in gold from washing the river sands.

The localities whence the inhabitants could procure building and ornamental stone have always been more extensively worked in Egypt than the mineral deposits, and in ancient times the granite of Aswan, the diorite, porphyry, basalt, marble, &c., from the hills in the eastern desert were extensively worked for the provision of statues, inscribed monuments, and for the decoration of temples. At the present time there is not a sufficient demand for these ornamental stones to justify re-opening the ancient quarries which are mostly at a distance from the river and from the sea-coast; but there is a very large industry in quarrying limestone from the desert plateaus which border the Nile in Egypt, and sandstone in Nubia and in the Sudan near Khartoum. These stones were used largely in the construction of both tombs and temples in ancient times, and if not subjected to alternate drying and wetting in the presence of soluble salts are fairly durable, as may be seen from the quay walls and stairways of the ancient temples which still remain on the Nile banks, and those portions of them which are out of reach of the damp of the cultivated soil.

At the present day the erection of better houses, public buildings, and the numerous works required in connexion with the improved irrigation of the country make large demands on these modern quarries.

Salt is obtained from lagoons near the margin of the Salt delta, from the saline lakes of the Wadi Natrun in the western desert, from natural salines along the Red Sea coast, and at many points in the desert where small deposits occur and are regularly exploited by the wandering Beduin.

Mineral oil occurs on the western shore of the Gulf of Oil. Suez at Jemsa and Jebel Zeit, and of late years much has been done to investigate the probable value and richness of the oil deposits. Several deep borings have



been made and some success has been met with in the development of an industry which, if fully successful, will be of the greatest importance to both Egypt and the Sudan.

Manufacturing industries.

Manufactures are comparatively few and are such as meet the local needs of the inhabitants, being therefore mostly used in the country and not exported. A cloth woven by hand from the wool of their flocks is worn by many of the people, and cotton is also largely woven for local requirements, but the great bulk of the textiles which are used is imported from Europe. Pottery is manufactured at many parts of the country, and the produce of special towns, which have a reputation for the quality of their pottery, is carried far up and down the river for sale.

Communications.

Until the middle of the last century the Nile and the caravan routes of the desert were the only lines of communication along which trade was carried on. Cairo was then connected with Alexandria, Suez, and Middle Egypt by railway, but it is during the last twenty years that railway transport has had its greatest extension ; first to Aswan, then from Wadi Halfa to Khartoum, and now on to points on the Blue and White Nile, with a branch line from El Damer, reaching the Red Sea at Port Sudan near Suakin : there is now railway communication from Cairo and Alexandria to the Red Sea coast, the Sudan, and Kordofan, except for a short interval between Aswan and Wadi Halfa.

The river route:

The Nile has always been the main line of communication in Egypt and Nubia, and at the present time hundreds of sailing boats and numerous steamers ply on its waters, carrying produce to and from the different towns on its banks. Flowing generally from north to south, it offers the especial advantage that boats can sail up-stream with the prevailing northerly winds of the trade region, and then lowering their yards and sails, can return northwards, drifting with the current of the river ; thus a constant communication may be maintained up and down throughout the year. The Nile communicates with the Mediter-



anean Sea by its two branches which enter the sea at Rosetta and Damietta, but on account of the quantity of suspended material which is brought down by the river, and deposited at its junction with the sea, the depth of water over the bar thus formed is small and only vessels of shallow draught can enter. Indeed, at the low stage of the river all ingress is prevented, since the river water is all required for the irrigation of the delta, and therefore the sea water has to be kept out of the river bed by a dam at the mouth of each deltaic arm of the river.

From the delta to Aswan the Nile still maintains its importance in spite of railway competition, for it is the more economical means of transporting all the more bulky and imperishable products of the country, and also the coal and building materials which are now largely imported. At Aswan the resistant crystalline rocks occurring in the bed of the river form three miles of rapids, through which boats were formerly toilfully dragged, but now since the construction of the great dam they can pass through a series of locks into the Nubian valley of the Nile. The break in the navigable waterway made the town of Aswan for some time a place of some importance. At first the rapids so hindered transport that all goods for the Sudan passed by caravans through the desert and Aswan was little used. The expeditions of 1884 and the following years, and the maintenance of the frontier at Wadi Halfa until 1896, and the reconquest of the Sudan after that date, made this line of transport most important, and Aswan developed largely as a dépôt and a transmitting station, but with the opening of Port Sudan and the completion of the railway from Khartoum to the Red Sea, its rise has been checked.

North of
Aswan ;

South of Aswan the Nile, though having several long navigable reaches of several hundred miles in length, loses much of its value on account of the rapids which separate them. The rapids of the Second Cataract just south of Wadi Halfa have a length of 20 miles, and above them the minor rapids of Semna, Wadi Atiri, Ambigol,

South of
Aswan ;



and Tanjur interrupt the waterway ; these are followed at intervals by others, and then an open reach of about 80 miles brings us to the rapids of the Third Cataract ; a farther open reach of about 200 miles intervenes between the Third and Fourth Cataract ; and about 80 miles divides the latter from the Fifth. Thus, the Nile in Nubia is of little more than local importance as a navigable waterway.

South of
Khar-
toum.

Above Khartoum conditions change. The Blue Nile is navigable in flood up to the Abyssinian frontier near Famaka, but its waters rapidly fall, and steamers can only ascend for a limited distance after December. Similarly the Atbara, after the winter, becomes soon a series of pools and of no use for transport. On the other hand, the White Nile has always been of the greatest importance to the traders of the Sudan, for the Albert Lake provides a constant minimum supply throughout the dry season, and with what is brought down by the Sobat, the White Nile has water enough at all times of the year for steamers and sailing craft to ply on it. As soon as the southerly winds of the rainy season cease, and the north-east trade-winds again extend southwards of Khartoum, sailing boats are able to voyage up the White Nile and its tributaries, the Sobat, the Bahr-el-Jebel, the Bahr-el-Zaraf, and the Bahr-el-Ghazal, to obtain the produce of the sub-equatorial regions.

Canal
routes.

Besides the Nile itself, there is a large amount of transport carried on by means of the larger canals of Egypt, where the Sohagia and Ibrahimia canals, and the Bahr Jusuf, an ancient side channel of the river, supply many towns which are remote from the banks of the Nile itself. In the delta, too, there are some six or eight main canals which are largely used for navigation as well as for carrying water to irrigate the land, and the Mahmudia canal, which leads from the Rosetta branch of the Nile to the city of Alexandria, may be specially mentioned, since it not only provides the town with an inland waterway, but also furnishes its water-supply.

Railways.

Railways have now come to compete with the river and canals, and at the present time the State railways of

Egypt run from Aswan to the ports of Alexandria, Port Said, and Suez, while a network of light railways covers the delta to bring the produce of the land to the railway system. In the Sudan the railway is required to connect the principal centres of production and supply ; Wadi Halfa, at the southern end of the navigable reach of the river beyond the First Cataract, is the nearest point of the Sudan railway system to Egypt. Port Sudan, near Suakin on the Red Sea, is its seaport, and from these two points lines run to Khartoum, the centre of Sudan administration, joining at El Damer on the Atbara, near Berber. Extensions have now been pushed on up the Blue Nile into the fertile land of the Gezira where cotton can be profitably grown, and from Sennar the line crosses westwards to the White Nile and thence to El Obeid into the region of the gum-bearing acacia.

Before railways were available to link up the navigable reaches of the Nile and to bring the Red Sea ports into touch with the heart of the Sudan, caravans numbering sometimes several thousand camels crossed the deserts from north to south and from east to west. Great caravans from Murzuk, in the hinterland of Tripoli, passed eastwards by the oases of Aujila, Siwa, &c., into northern Egypt ; from Cairo and Assiut caravans passed southwards by the oasis of Kharga along the track known as the ' Derb el Arbain ' into Darfur and Wadai. From Aswan and other points on the Nile in Upper Egypt, regular communication was kept up across the Nubian desert with Berber and Shendy, and thence caravans were constantly passing eastward to Suakin on the Red Sea coast. These caravans carried all the export trade of the Sudan in former days, and in the case of the great caravans from Wadai and Darfur they brought produce of the equatorial lands to Cairo, which was the great dépôt and market-place for western, southern, and eastern produce before the Suez Canal was made. Their progress was slow, months being occupied in some of the longer journeys, for long halts were made at points on the route to feed and water the camels. Such caravans were costly,

and only produce which was valuable and could be easily transported was worth the outlay involved. Consequently the caravans which moved between east and west carried silk, carpets, precious stones, and articles of a costly nature which would repay the cost of carriage. The caravans from the south brought gold, ivory, ostrich feathers, gum, and especially slaves, whom the traders bought or captured from the negro tribes of the equatorial districts. For all these Cairo was the great *dépôt* and market where such merchandise was sold or exchanged for transport to other countries. The suppression of the slave-trade practically put an end to the caravans from the south by reducing the profits to be made, and after the re-conquest of the Sudan had stimulated trade, which had greatly dwindled during the fourteen years of the Dervish power, the extension of the railway system has turned the local camel transport into a collector which brings produce to the railway and to the river-steamers for export.

People

Fellahin.

Much additional knowledge has been gained in recent years of the origin of the ancestors of the modern inhabitants of Egypt and Nubia. Systematic excavation and the careful study of the human remains which have thus been brought to light have shown that in very early times, some 5,000 years ago, one population of uniform character occupied the Nile valley in Egypt and Lower Nubia. This river valley, which leads from the fertile equatorial regions, must always have been populated, but for long ages the marshes occupied much of the valley floor, and settlements could only be formed in favoured spots. The scattered population which settled along the banks of the Nile was closely related to the peoples who occupied the sub-tropical coast-lands of Eastern Africa, and whose descendants, the Nubia, Beja, Danakil, Gala, and Somali populations still retain physical characteristics which demonstrate their relationship to the early Egyptians. From time to time waves of immigration northward

modified the Egyptians of Lower Nubia, and throughout their earliest history, as well as in later times, a continual movement of people and produce passed down the Nile.

As the silt-laden waters of the annual flood effected a slow reclamation of the valley lands of Egypt a concentration of inhabitants took place in this favourable region to the north of the First Cataract, and here they came within reach of the great inland waterway, the Mediterranean, whereby the peoples on its shores came in contact with the Egyptians. There is good evidence of the influence which the contact of the northern Egyptians with the Mediterranean races, and of the southern Egyptians with the negroid races dwelling to the southward, had on the early inhabitants of the Nile valley.

Since the complete settlement of this narrow belt of fertile land little change has taken place in the physical character of the inhabitants. Now, as then, they are mainly an agricultural people tilling the fertile alluvial lands of the valley. In Egypt the 'fellahin', as the bulk of this agricultural population is termed, are the true descendants of the ancient Egyptians, whom they still closely resemble in their physical character. The immigrations and incursions of foreign races, which by the nature of the country are restricted mainly to the delta on the north and the Nile valley on the south, have influenced the mass of the people less than is commonly supposed. By the seventh century Egypt and Nubia were wholly Christian, and although the Arab conquest of Egypt resulted in a change of language, and in course of time in a change of religion, the character of the fellahin was little affected. At the present day the great majority of the inhabitants are Muhammadans, there being now 10,250,000 of the former to about 900,000 Christians.

Besides these settled inhabitants in the valley there have always been a number of nomad tribes roving in the deserts who were related to the inhabitants of the valley. To-day these are represented by the Ababda, Bisharin, and Hadendówa tribes of the Nubian desert, and by

Unchanging
 character
 of the
 fellahin.

a certain number of Arab nomads in the north who have come in from Arabia. The arid region of Upper Nubia and the northern Sudan restricts the population there to small settlements along the river and a small nomad population in the hilly regions of the desert. Farther southward, where the summer rains cause greater fertility, we find the modern descendants of the brown-skinned races who so largely peopled this north-eastern part of Africa, and on their southern and western limits the negro races of equatorial Africa with the mixed descendants of these two types. Here the inhabitants are largely pastoral and are therefore widely scattered, so that only approximate estimates are available, and the most reliable of these puts the population of the Anglo-Egyptian Sudan at about 2,000,000 in 1907.

Wherever Arab influence has established itself the religion is Muhammadanism, but the negro tribes of the White Nile are pagans.

Occupa-
tions.

The occupation of the inhabitants of this portion of north-eastern Africa is very strictly controlled by the climatic conditions which prevail. The almost rainless character of the greater portion of this region restricts the settled peoples to the immediate vicinity of the rivers or wells, and renders a very large proportion of the country available only to pastoral and nomad tribes, who can maintain their flocks and herds by moving continually from one grazing-ground to another according as the conditions of occasional rainfall require.

Popula-
tion of the
Delta ;

Beginning at the north we find a small fishing population occupying many of the villages on the north shore line of the delta and on the lakes and lagoons Mariut, Buroillos, Menzala, &c., which lie near the Mediterranean. But almost the whole population of the delta and of the Nile valley up to the Cataracts are agriculturists, tilling their fields and raising two and even three crops annually wherever irrigation and drainage facilities are adequately developed.

of the
Arabian
and

On either side of the valley of the Lower Nile lie the so-called Arabian and Libyan deserts, in which nomad

Libyan
deserts.

tribes alone occur. Except in favoured spots, so inhospitable are these tracts that groups of nomads are few in number, and a considerable proportion of them spend a part of the year at least on the edges of the cultivated lands, hiring out their camels for transporting farm produce and so supporting themselves. On both sides of the Delta, and especially on the eastern boundary, where large tracts of land have been reclaimed of late years by irrigation, many nomads have passed over into sedentary settlers and have practically given up their nomad life. Many more are becoming yearly more closely connected with the fertile lands and find the conditions of life there much easier than in the desert. The same process is in progress to a greater or less extent all along the Nile valley in Egypt, but the steady increase of the agricultural population is working against the accommodation of these pastoral nomads, since the land is all required. On the other hand, the almost complete cessation of transport by camel across the desert makes it harder than ever for these Beduin tribes to maintain themselves. Along the northern portion of the Libyan desert to the west of Alexandria the conditions are easier, for a moderate rainfall enables a semi-nomadic population to subsist, but farther south the desert is almost completely bare of vegetation except in the oases of Baharia, Farafra, Dakhla, and Kharga, where 'islands' of population exist who raise dates and a few cereals on which they subsist. So long as the desert caravan routes were in regular use these oases had a considerable population, but the failure of this source of profit has told upon them.

Tribes of
the Red
Sea hills.

In the Arabian desert, among the hills which border the Red Sea and the Gulf of Suez, showers of rain are more frequent, and both water and forage are obtainable in small quantities at numerous points; consequently the nomad tribes here are more numerous and better off than those in the Libyan desert. The tribes of the Howeitat and the Maazi Arabs were numerous and fairly prosperous when there was a large carrying trade between the Nile valley and Syria and the ports on the Red Sea,



but in these days it is insignificant, and they have consequently diminished greatly in importance.

Farther south, to the east of the Nile, we find the Ababda, Bisharin and other nomad tribes who are the descendants of the ancient nomad races of this part of Africa and inhabit the main valleys of the complicated hill system which forms the western shore of the Red Sea. These tribes had formerly the monopoly of all transport from Aswan and places in Upper Egypt to the Sudan and profited greatly thereby, but to-day little goes by this route, though there is a certain amount of demand for camel transport at points which are distant from rail and river.

Transport
and tribes
in the
monsoon
region.

From the latitude of Berber southwards we pass into the region of the monsoon rains, and though for a considerable region, practically up to 10° N. lat., the camel is still the most useful means of transport, the facilities for obtaining water and forage are much greater. Tribes therefore are more widely distributed, there are more places at which they can remain for considerable periods, so that at some points their encampments are almost permanent in character. Here there is still a very large amount of transport work to be done, and the varied produce of these lands, gum, hides, &c., is collected and brought in to the principal dépôts and markets by camel transport as has always been the custom. In Kordofan and on its southern borders we pass from the camel, goat, and sheep-owning tribes to the great cattle-owning races, the Shilluks, Dinkas, &c., whose principal wealth consists in their herds of cattle, and who were, until a settled government was established of recent years, constantly raided by the nomad tribes (Baggara, &c.), who ranged over the country to the north of them.

Among these cattle-owning tribes, who inhabit a region receiving ample and even abundant rain in the summer months, permanent villages are common, but as the vast level plains which lie between the different drainage lines soon dry up when the rainy season has terminated, they become in many parts incapable of supporting the herds,



and a regular seasonal emigration takes place from the burnt-up plains to the lower-lying swampy valleys until the early rains of the next summer set in. In these southern parts of the Sudan plains a primitive form of agriculture is extensively carried on round the villages, and supports a moderate population in a well-forested region where there is a sufficient rainfall.

On the whole, from various causes, this part of northern Africa is sparsely populated; only in the delta of the Nile and its valley below the First Cataract at Aswan is the population really dense. Over the desert areas the number of inhabitants is naturally extremely low, and then it increases gradually where more favourable climatic conditions prevail. The Delta, or that area which is known as Lower Egypt, contains 5,105,400 inhabitants, who occupy 4,796,000 feddans of land, besides about 295,000 nomads, thus indicating a density of rather more than one person to a feddan, which is very slightly more than an acre. But this density is very greatly increased in some of the more fertile provinces, such as that of Menusia at the apex of the Delta, where there is a population of 970,581 inhabitants to 373,000 feddans or 608 square miles, thus indicating an average density of almost 1,600 persons to the square mile. This occurs in a province which contains no large town, and of which the whole available area is highly cultivated. The population therefore are densely crowded in the villages, which are closely packed groups of mud-brick buildings, since any expansion or extension trenches on the valuable cultivable land. In Upper Egypt also the provinces of Assiut and Girga show a high population density, as also does the reach between the First and Second Cataract if the population is compared with the cultivated area.

Distribution of density of population.¹

Outside the valley inhabitants are practically absent, since only wandering groups of nomads occur until some of the southern valleys of the Red Sea hills are reached, where conditions admit of some semi-permanent encampments. Along the rest of the Nile accurate determinations

¹ Census of Egypt for 1907 has been followed.



of population are not yet available, but since the reconquest of the Sudan and the termination of Dervish rule every cultivable patch of ground along the river in Nubia has its small group of occupants. During the fourteen years of Arab domination whole tribes who were settled on the plains of the Sudan were wiped out and thousands perished by sword, disease, and famine throughout this region, so that only since 1900 has there been any opportunity for a steady increase. Utilizing the Sudan returns for the same year as for Egypt, viz. 1907, the estimated population of the Anglo-Egyptian Sudan, as stated above, was then about 2,000,000, of whom nearly 500,000 were in the province of Kordofan, and nearly the same number were probably inhabiting the southern province of Bahr-el-Ghazal.

Settle-
ment.

The grouping of the settled population is closely determined by the local conditions. The trade ports at Alexandria and Suez occupy natural sites which have long been occupied, while those of Rosetta and Damietta are now of little importance, since river transport along the arms of the Nile is now insignificant, and the bar of silt before each river-mouth prevents the entrance of any but small vessels. Port Said, a new port due entirely to the Suez Canal, has since its connexion with Cairo by railway grown rapidly in importance. Cairo, situated just above the apex of the Delta, has always been of primary importance, and so long as trade passed mainly overland by caravan it was the great mart and dépôt for Eastern trade. It is now rather of administrative importance, and most of the commercial activity is concentrated at Alexandria. In the same way some towns of Upper Egypt and the Sudan had formerly a great importance from their position with reference to the great caravan routes: Assiut on the Darfur road, Kena on that to Kosseir on the western coast of the Red Sea, Luxor on the road to the Sudan, which terminated at Berber, &c.

Of smaller centres of population those in the fertile plains of the Nile valley stand usually in the centre of a group of lands owned by the inhabitants, and in many



cases it can be seen that the town stood originally on a branch of the river which has long been silted up and is now under cultivation. In the Sudan the town sites have usually been determined by the intersection of main trade routes, and special facilities of forage and water; but except Khartoum and Omdurman at the junction of the Blue and White Nile, and Suakin and Port Sudan on the Red Sea, the others are small and of comparatively little importance.

In a warm and dry climate little protection is necessary for shelter from the weather and consequently habitations are of the simplest character. Sun-dried bricks made of river mud are used almost everywhere except in the modern structures of the larger Egyptian towns. Cool, easily constructed and readily repaired, they are well suited to the country and climate, and have not materially altered since early historic times. South of Khartoum, where the summer rains have to be considered, the mud-brick dwelling gives place to the thatched hut of grass, which in one form or another is typical of all the southern part of the Sudan.

Administration

Egypt and the Anglo-Egyptian Sudan are administered under totally different conditions, and much that can be done in the one may be impracticable in the other. Egypt is a province of the Ottoman Empire, and each succeeding Governor is appointed by firman by the Porte. By the Convention of London, 1840, the Sultan undertook to make Muhammad Ali Pasha hereditary ruler of Egypt, and his descendants have held it ever since. In 1867 the title of Khedive was granted and is held by Abbas Helmi Pasha, the present ruler. A Council of Ministers, instituted by a decree of 1878, is the principal administrative body and is formed by the Ministers of the various State Departments. There was also the Legislative Council, a purely consultative body, to which the budget and all the more important legislative measures were submitted; as well as an elected body, the General Assembly, meeting



once in every two years, whose consent was necessary for the imposition of any new 'direct' tax. These two have been replaced by a single Assembly, partly elected and partly nominated.

Provincial
division.

The country is divided into fourteen provinces or *mudirias*, each under a provincial governor who, with two elected members from each district, constitutes the Provincial Council. These provinces are divided into from five to ten districts (*Merkaz*), each under an official who is under the orders of the governor of the province, and he is responsible for the administration of the group of villages which form his district. These vary largely in number, and in the area of the lands belonging to them some villages contain several thousand acres of land. In each village is a responsible headman (*omda*), who has certain powers and to whom the authorities look for all that goes on in the village.

This system is largely the outcome of Muhammad Ali Pasha's reforms in the early years of the nineteenth century.

In virtue of the privileges granted by the Capitulations which have been accorded by the Sultans of Turkey and extended by custom, foreigners resident in Egypt are not subject to Egyptian laws unless the consent of their government has been obtained ; and on the same grounds no tax can be levied on them without the consent of their government.

British
occupa-
tions.

In 1882 Britain intervened at the request of the Khedive, Tewfik Pasha, in order to put down a rebellion of the Egyptian army which had overthrown the government of the country and endangered the lives of Europeans resident in the country. The rebellion was suppressed by an expedition sent out from England, and since that time Egypt has been under British occupation. A British military force is maintained at Cairo and Alexandria, and a British Adviser is appointed by the Khedive to the finance ministry on the recommendation of the British Government. Thus the government of the country is carried on in accordance with the general views



of the British Government, though as much latitude as possible is left to the ministers in carrying on the work of administration, but it has been definitely laid down that the wishes of the occupying Power must not be disregarded.

The Capitulations are not, however, valid in the Anglo-Egyptian Sudan, for after its reconquest a treaty between Britain and Egypt, dated January 19, 1899, declared an Anglo-Egyptian condominium over the reconquered provinces, and throughout them the British and Egyptian flags fly side by side. The Sudan is under a governor-general who is appointed by the Khedive on the recommendation of the British Government, and who cannot be removed without the consent of the latter. Besides the greater part of the Egyptian army which is now quartered in the Sudan there is also a British battalion quartered at Khartoum.

Anglo-Egyptian Sudan.

After Omdurman had been taken the new town of Khartoum was built on the tongue of land between the Blue and White Nile, where the previous town had stood which the Dervishes had destroyed after its capture in 1884, and this new town of Khartoum is the seat of government, and the capital of the Sudan. The rest of the country is divided into provinces under British governors, and these again are divided into districts in which an official deals with smaller matters and keeps the governor of the province informed of current affairs.

During the last two or three decades much has been done in Egypt to advance the education of the inhabitants. The government now maintains 6 secondary schools, besides an agricultural college, 33 higher primary schools, and 146 elementary schools, besides some technical schools. There are also the professional colleges of law, medicine, and engineering, as well as teachers' colleges. In these about 100,000 students are now being educated, and there are besides about 250,000 children who receive a certain small amount of instruction in the 'Kuttab' or inferior elementary schools, only some of which are as yet under official inspection. Besides the official activity

Educational.



in this direction, a great deal is done by various foreign schools, French, English, American, and others. These have about 55,000 pupils and contribute very materially to the education of the country. There is, however, a great deal still to be done, for at the census of 1907 10,500,000 out of a total population of 11,250,000 could neither read nor write.

General
effects of
geogra-
phical
environ-
ment.

The geographical environment has been such as to make the conditions under which the inhabitants of the northern part of the Nile basin lived exceptionally permanent and regular; the Nile flood arriving annually furnished the water-supply which, if sometimes more and sometimes less abundant, varied but little on the whole; a temperature which rendered plant growth possible all the year round if water was procurable; immigration and invasion were comparatively infrequent, and were such as to effect but little the bulk of the population. Change of religion and change of language connoted little if any change in the character of the people, and this, like their physical form, has on the whole varied extremely little. These peculiarities, evolved under residence among geographical conditions peculiarly constant and strongly marked, must be carefully considered by all who have to deal in any way with the probable effect of that closer contact with the west which has come about of recent years.

Tendency
towards
political
division.

In this narrow valley, whose length is more than sixty times its breadth, and in which the river and the desert margins form the lines of communication, there has always been a strong tendency for the community to split up politically, and to form separate independent small states more or less at variance with those above and below them. All through Egyptian history this feature constantly recurs, and whenever the central power became weak, semi-independent chiefs arose along the valley and in the delta; from being a powerful and united state the country degenerated into anarchy and confusion until one or another of the local leaders accumulated sufficient power to restore the central control of





the country. Then his first care was to put in order the irrigation system, the communications, and the administration of justice on which the welfare of this populous region depends. The largest of all the desert oases where a fertile soil, a warm climate, and an ample water-supply are present, firm administration alone is necessary in Egypt, in order that a dense population may thrive upon it; and periods of decadence and diminished number of inhabitants have always been the result of enfeebled control and divided authority.

[In addition to works quoted in foot-notes above, reference may be made to the following among recent works: P. Arminjou, 'La Valeur économique du Soudan anglo-égyptien,' in *Revue Écon. Intern.*, 1911, pp. 470-513; Yacoub Pasha Artin, *England in the Sudan*, London, 1911; A. L. Butler, *Notes on the Game Birds of the Sudan*, London, 1912; D. C. E. Comby, *Service and Sport in the Sudan*, London, 1910; Count Gleichen, *The Anglo-Egyptian Sudan*, London, 1906; H. A. MacMichael, *The Tribes of Northern and Central Kordofan*, Cambridge, 1912; C. E. Muriel, *Report on the Forests of the Sudan*, Cairo, 1901; H. L. Tangye, *In the Torrid Sudan*, London, 1910; D. Westermann, *The Shilluk People*, New York, 1912.

A large number of maps embodying results of preliminary surveys in the Anglo-Egyptian Sudan (where this work is practically complete) have been published on the scale of 1 : 250,000. The Survey Department has also made large-scale surveys of the Gezira and of Khartoum and other towns.]



WEST AFRICA

CHAPTER XVI

THE GAMBIA COLONY AND PROTECTORATE

BY MAJOR A. J. N. TREMEARNE

Position
and
extent.

THE Gambia Colony and Protectorate consist of a narrow strip of territory on each side of the lower reach of the Gambia River, together with various small islands situated in the river, the most important now being those of St. Mary and McCarthy, though that of St. James was Britain's first possession (1620) on the coast. The whole forms an irregular triangle, lying entirely between the 13th and 14th parallels of N. latitude, with an area of 3,600 square miles; i.e. about equal to that of the combined counties of Devonshire and Cornwall. The Protectorate takes up most of this area, the size of the Colony proper being only 69 square miles; i.e. equal to the islands of Jersey and Guernsey. The base of the triangle lies across the estuary of the river, some 27 miles wide, while the apex is about 250 miles up stream. Owing to short-sighted policy at the Colonial Office in former days, France has gradually become possessed of more and more territory which was once British, and fear is still expressed that she will some day have the whole.

The capital is Bathurst (7,000) on the island of St. Mary at the mouth of the river, founded in 1816, one of the cleanest towns in West Africa.

Physical
features
and
geology.

Boring operations have revealed the fact that the deepest formation (about 40 feet below sea-level) consists of an extremely fine and highly crystallized siliceous sand, mixed with magnetic crystals and ooze. It is supposed that this is the former ocean and river-bed, the rocks and sedimentary deposits having been laid down upon it gradually, and that after the land had been raised (and the sea had assumed its present level), the estuary and river valley



were eroded anew. The sedimentary deposits were found to be arranged in the order of their specific gravities, and have come from the granitic, dolomitic, and magnesian limestone rocks found *in situ* higher up the valley.

The level of the plateau through which the river Gambia flows is some 60 feet above high-water mark at Cape St. Mary, and it increases gradually, until, at a distance of some 200 miles from the coast, the height is on the average about 150 feet, with many ridges some 25 to 50 feet higher still. The rise from the coast to the interior is gradual and regular, except where there are hills which still have their original crown of laterite, but here and there, near the lower river, the hills are more rounded and worn away.

The present surface of the ridges standing above the plateau is composed of ironstone which now carries but sparse stunted trees, but there are signs that a much more luxurious vegetation flourished formerly, for the rock was covered with a layer of silt and slime, left by the receding ocean, until the heavy tropical rains washed it off. Under the laterite come layers of limonite and haematite, sharp siliceous grit, magnetite, clay and sand, finer clays, magnesian clays (white, yellow, and red), then under the sea-level, magnesian loam and clay with phosphates (white, purple, and violet), and the quicksands mentioned above.

The Gambia is rich in deposits of iron ore, ochres, and china clay, but so far these have not been worked commercially, nor has it yet been thought worth while to extract the gold and silver which are found in minute particles. At one time gold-dust was to be obtained from native traders on the coast (the precious metal being brought, probably, from what is now French territory in the interior), but the abolition of slavery put an end to the caravans, and so to the trade.

Mineral
deposits.

The rainy season lasts from June to October, and the country is then so unhealthy that business is practically at a standstill, for on account of the great change from extreme dryness to close, damp, enervating weather,

Climate.

many of the Europeans proceed on leave. The change is felt more there than in other places on the coast where the climate is more humid throughout the year. In the dry season, however, the climate is better than that of most of the other West African countries lying near to the equator. In Bathurst from November to May there is usually a refreshing breeze. In April—the most pleasant month of the year—a welcome sea-breeze blows. The rainfall varies greatly, the highest recorded being 66·7 inches in 1905; the average is about 51 inches at Bathurst. The mean temperature of Bathurst is about 80° F., but the thermometer sometimes varies as much as 30° in the twenty-four hours. The country farther up the river has an average temperature some 20° higher than that of the coast stations.

Vegetation.

The flora is that of West Africa generally (vide article on 'The Gold Coast'). The mangrove is common, the mahogany and rosewood (*Pterocarpus crinaceus*) are found, and the rubber-vine exists, though it is scarce. There are many varieties of fern, and the indigo plant is useful

Animals.

commercially. The fauna includes the elephant (only a few now, and only in the eastern portion of the Protectorate), the camel, giraffe (extremely scarce), hippopotamus, Senegambian buffalo (scarce, and protected by law), lion (very scarce), leopard (common), hyena (striped and spotted varieties), antelope (twelve species: West African or Darbian eland, roan, water-buck or sing-sing, West African and Korrigum hartebeestes, West African situtunga, Cobus or Bufrons Kob, Nagor reedbuck, harness antelope or lesser bushbuck, Gambian oribi, crowned duiker and redflanked duiker); the serval, African lynx or caracal (rare), civet-cat, wart-hog (*Phacochoerus africanus*), hunting dog (*Lycan pictus*), jackal, ant-bear, porcupine, hare, squirrel, weasel, horse (though not much used), donkey, goat, dog, pig, cat, and rat and mouse, and several kinds of monkey, the commonest being the dog-faced baboon. The baboon is the bane of the ground-nut planter, and large numbers of dogs are trained to watch the farms and assist in organized drives. There

is a large number of cattle, in many places greater than the land can properly support. They are not bred for profit, but are kept simply as a display of wealth. Of reptiles, there are the crocodile, iguana, lizard (several varieties), snake (several), tortoise, and turtle.

The list of fish includes the shad, barbel, barracouta, Fishes. bream, cod, eel, gar, grouper, mackerel, mullet, snapper, sole, trout, and tunny. But owing to the quantity of food in the river, the fish will not touch artificial bait, so sport is not good. Sharks, crabs, sword-fish, porpoises, and rays are also found. Quantities of oysters are obtained in Oyster Creek and are cooked by the natives for food, the shells being made into lime.

There are many different kinds of birds, the principal Birds. being duck, goose, plover, 'bush-turkey' (bustard), 'bush-fowl' (francolin), guinea-fowl (gallini), quail, sand-grouse, crow, weaver, fire-finch, shrike (several varieties), swallow, night-jar, hornbill (several), kingfisher, cuckoo, pigeon (several), parrot (several), eagle, vulture, hawk, egret, ibis, stork, crane, ostrich, wood-pecker, owl, heron, bittern, marabout, pelican, cormorant, and, of course, the domestic fowl.

Among insects, &c., are the ant (several varieties), bee, Insects, butterfly, centipede, scorpion, spider, hornet, mosquito, &c. fly (several varieties, including the tsetse), locust, grass-hopper, tape-worm, guinea-worm, and others.

At the present time the great majority of the native male population is engaged for about eight months of the year in the cultivation of the ground-nut, which is valuable commercially on account of its oil. This article was introduced into the country about the beginning of the last century by ex-slaves from America, but it was not until 1832 that much attention was paid to the industry commercially. In 1860 the export amounted to 10,000 tons, and it has now grown to five times as much, but it is estimated that one-third comes from French territory. Thousands of foreigners arrive each June to assist in the planting, which takes place immediately after the early rains have fallen, and they are

Agriculture, &c., mining, and manufactures.

given farms to work, being housed and fed by the landlords. When the crops have been reaped, these tenant farmers hand over one-half of the produce to the owners of the farms, sell their own share, and leave the country again.

The government's policy of issuing seed-nuts to the people, thus introducing fresh seed, and ensuring an interchange of seed from one district to another, has been very successful.

Land in the Protectorate can be obtained for agricultural purposes for 21 years on payment of 2*d.* per acre per annum, but the government has really done but little to develop the resources. There are no mines. The cultivation of the ground-nut is the only important industry in the colony, and there are practically no manufactures, with the exception of the weaving of native-grown cotton into pagns ('country-cloths'), the preparation of vegetable oils, boat-building, and the making of bags, sandals, &c., from locally tanned leather and dyed grass.

The rates of wages in Bathurst are high, and labour is scarce. Throughout the Protectorate the people are happy, and their wants are not great; their prosperity is evidenced by the ever-advancing revenue returns.

Transportation.

The River Gambia is navigable for ocean-going steamers of moderate draught up to McCarthy's Island, and boats drawing no more than six feet can go for a considerable distance beyond that point. The width at the estuary is 27 miles, and there is 26 feet of water over the bar at low tide, while at the Kai Hai the channel is being deepened so as to allow of the passage of steamers drawing up to 16 feet. There are numbers of sailing-boats on the river. A government steamer maintains a regular weekly service between Bathurst and McCarthy's Island, carrying passengers at 2*d.* and 1*d.* per mile, and letters at 1*d.* each. There are no internal telegraphs, but most of the Government Departments are connected by telephone. The charge for cables (by the African Direct Telegraph Company) to the United Kingdom is 3*s.* 6*d.* per



word. There is no direct parcel post to foreign countries, so all European parcels must be sent through the London office.

There are no railways. Overland travelling is accomplished by Europeans on horseback or in hammocks, but there are no metalled roads. The colony suffers through being situated off the beaten track of the principal steamers (which proceed from England direct to Sierra Leone), but smaller boats of the Elder Dempster Line call once a fortnight, and vessels belonging to French, German, Danish, and other British companies pay irregular visits.

The principal products are ground-nuts, hides, beeswax, Trade. rice, cotton, maize, corn, palm-kernels, cassava, rubber, wax, indigo, a species of jute fibre, and country-cloths. Of the exports, about three-quarters go to France, but more than one-half of the imports come from Great Britain. A considerable entrepôt trade is done with the French settlements and the adjoining coast districts in cotton goods, spirits, tobacco, rice, kola-nuts, and hardware. Both export and import trade were declining until 1906, when an improvement took place, and this has been maintained.

Sites for trading stations, or 'factories', as they are called, are granted by the government at a rental of 1s. per 100 square yards, the minimum payment allowed being £3 per annum.

The population of the Colony and Protectorate is about 146,000, of which some 180 are Europeans, mostly officials or traders. The chief peoples forming the native population are Joloffs (or Woloffs), Mandingos, Serers, and Jolas. The first-named are the superior race, and in Bathurst they constitute the bulk of the non-Christian population. They are noted for their powers of conversation, and for their extremely black colour, and, as they are good traders, their language is widely spread in Senegal and Guinea. They are a handsome, fine-featured people, and have now embraced Islam, though it is thought (from the shape of the ancient graves) that at

Popula-
tion.

one time they were sun-worshippers. The Mandingos are the representatives of the once powerful Melli, and have a somewhat Mongolian type of face. They were the first to become Muhammadans. The Serers are still pagans as a rule. The Jolas, the direct descendants of the Floops, retain the primitive form of communal government in their own country, each patriarch with his family and dependents occupying and defending a walled and stockaded village, and owning no allegiance to a tribal chief ; but combining against a common enemy. Independent families of the great Fula race are to be found wandering through the country with their flocks and herds, but they hardly form an important part of the population at the present day. From time immemorial the Mandingos and the pure Fulani have dwelt in amity, the former protecting the latter, who looked after the cultivation and the breeding of cattle.

Government.

The country under British rule is divided into the Colony—consisting of the island of St. Mary, British Kommo, Albreda, the Ceded Mile, and McCarthy Island—and the Protectorate, but for practical purposes the whole, excepting only St. Mary's Island, is treated as a Protectorate. The Colony is governed by the governor with an executive and a legislative council, the Protectorate is ruled by commissioners (responsible direct to the governor) through the native chiefs. There are two municipal boards, the Board of Health and the McCarthy Square Board, each being composed of official and non-official members.

An English company traded to the Gambia in 1618. In 1783 and 1857 the trading rights of the French then there were exchanged for those of Britain in Senegal, and the Gambia was formally recognized as a British river. Until 1807, the settlement was an important centre of the slave trade, and furnished annually many thousands of human beasts of burden for America and the West Indies. From 1807 until 1843, and from 1866 to 1888, the settlement was under the government of Sierra Leone, but in the last-named year it was finally made a separate



PLATE XXI (a). GOVERNMENT HOUSE, MCCARTHY ISLAND, GAMBIA



PLATE XXI (b). FACTORY ON THE UPPER GAMBIA

(Photos. Captain C. Morley)

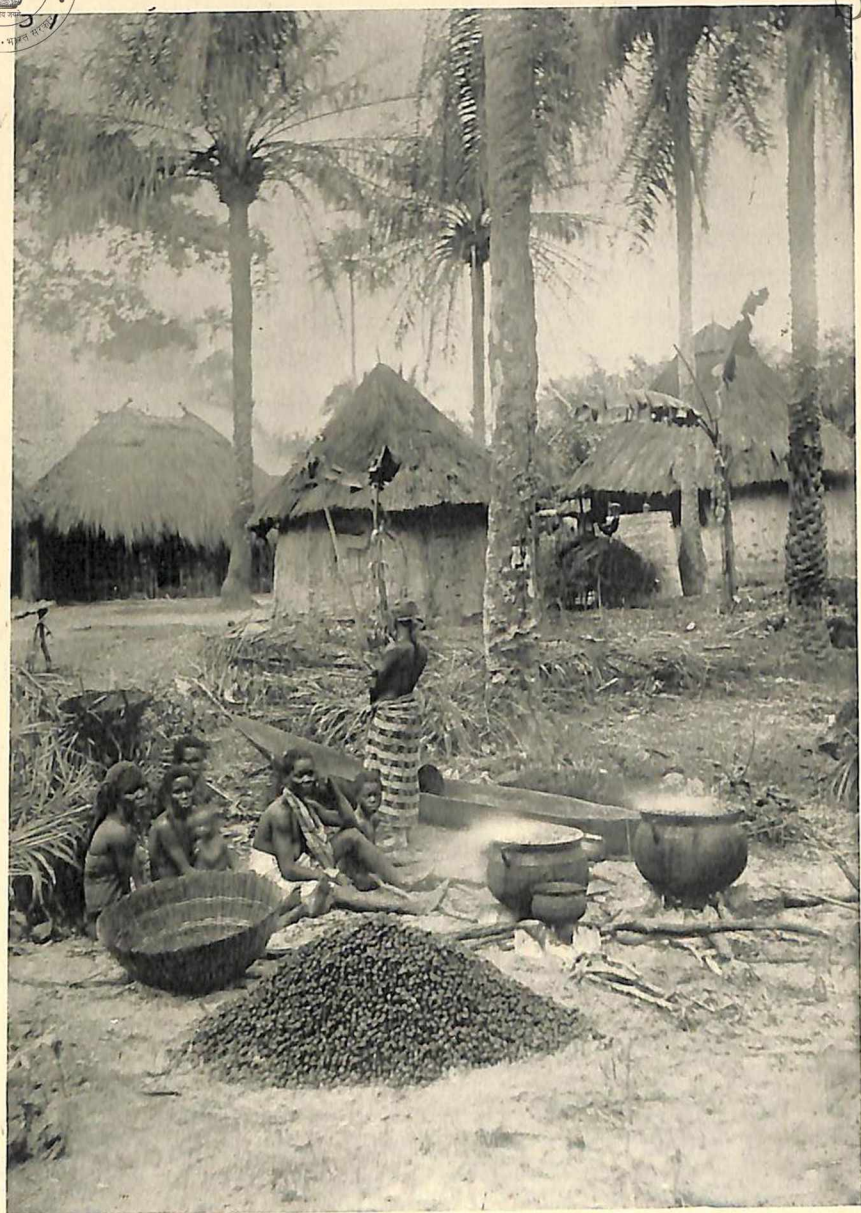


PLATE XXII. SHERBRO, SIERRA LEONE (NATIVES
EXTRACTING PALM OIL)
(Mr. T. J. Alldridge)



possession. The Protectorate was established in 1894, and added to in 1901 and 1902, but it was diminished again in 1904, when about 30 miles of the river at the eastern end of the country was handed over to France.

A company of the 'Waffs' (West African Frontier Force) and a volunteer battery, the members being mostly government clerks, are stationed at Bathurst, and also a small police force.

There is no public debt. There is a Government Savings Bank in Bathurst under the treasurer of the Colony, and a branch of the Bank of British West Africa. The legal tender, and usual currency, is that of the Latin Union, but a number of French five-franc pieces are in circulation. There is no colonial coinage or note issue, but Bank of England notes are accepted by the Bank of British West Africa.

Schools are maintained by the various denominations, assisted by grants-in-aid from the government, the amount of the assistance being based upon the average attendance of pupils, and upon the results of examinations conducted by the Government Inspector of Schools. An agricultural school is managed by Roman Catholics at Abruko, and there is a Wesleyan High School which imparts secondary education. The Muhammadan School at Bathurst is managed by a Board of leading Muhammadans with the Governor as chairman. The government pays the salaries of the teachers at this school and of the superintendents of the other schools. There are more than forty native friendly societies in Bathurst. In the Protectorate, prizes are awarded to the cleanest village in each province.

See *The Colonial Office List* (Annual); *The Annual Report. The Gambia*, Biblio. by H. E. Reeve (1912). *The Niger and the West Sudan*, by A. J. N. Tre- graphy. mearne (1910). *The Encyclopaedia Britannica*, s.v. Major Cowie's map (1904-5), 1 : 250,000.



CHAPTER XVII
SIERRA LEONE
CROWN COLONY AND PROTECTORATE

BY T. J. ALLDRIDGE

Position
and
extent.

SIERRA LEONE proper, with the Protectorate, is situated on the west coast of Africa between $6^{\circ} 55'$ and 10° N. lat. and between $10^{\circ} 40'$ and $13^{\circ} 21'$ W. long. Its coast-line from Kiragba, by the Great Scarcies River to the Mano River, is 210 miles in length. It is bounded on the north and north-east by the French possession, Guinée Française, and on the south-east by the negro republic of Liberia. The estimated area is for the Colony proper 4,000, and for the whole territory 25,000 square miles.

Deriva-
tion of
name.

The derivation of the name Sierra Leone, or Lion Mountain, is uncertain. Its mountainous outline, seen from the sea, bears no resemblance to the king of beasts, although the tropical thunder heard as the storm rolls over the heights may possibly have suggested to certain imaginative persons the roaring of a gigantic lion.

Physical
features.

Approaching Freetown, the capital, from the Atlantic, the traveller's attention is attracted by the beauty of the mountains, covered with luxuriant vegetation, rising in most places by undulating slopes practically from the water's edge to densely wooded ranges with lofty peaks, the highest of which are the 'Sugar-loaf' (2,496 feet), Leicester Peak (1,954 feet), Mount Auriol, and Kortright Hill.

The whole of Sierra Leone may be described as more or less mountainous. There is rarely any extensive view that is not bounded by at least a hilly horizon. The mountains naturally form great catchment areas, consequently rivers are numerous.

Cape Sierra Leone, on which stands the lighthouse, at the point of what is known as the Sierra Leone Peninsula, is about six miles from Freetown. Here vessels bound



for Freetown turn towards the broad estuary of the Sierra Leone, or more properly, the Rokel river. This estuary forms a splendid harbour, the finest, indeed, in West Africa, with a wide open roadstead, which is about seven miles from Freetown to the opposite Bullom shore, and much wider from the lighthouse. Even before landing in the colony its two most marked natural features command attention—the mountains and the water-way.

No exhaustive geological survey seems as yet to have been made of the whole country. There is, however, a concise description of such of its geological features as were observed by G. A. Scott-Elliot, M.A., F.L.S., to be found in his report on the country traversed by the Anglo-French Boundary Commission; Professor Scott-Elliot having, as botanist, accompanied the Commission in 1892. The following extracts are from his official report : Geology.

‘The country seems to be everywhere underlaid by a gneissose or granitoid rock, which varies greatly in appearance from that of a very coarse red or grey granite to a distinctly foliated gneiss. This rock appears on the sea-coast at Sierra Leone, and it also forms the tops of most of the higher plateaux which we saw; thus the Sugar-loaf at Sierra Leone consists of a rock of this nature, and it also forms the immensely broad watershed crossed between Falaba and Farana which separates the Scarcies, Rokel, and Niger drainage areas. This rock, though extremely common and apparently fundamental everywhere, is not often, at least in the lower districts, seen on the surface. Almost the whole of the country lying between the sea-level and 2,000 feet, is covered by varieties of a reddish laterite or ironpan, sometimes exceedingly hard and barren, but usually porous, easily worked, and apparently of a very fertile nature. There is also a very well-marked dolerite or basalt flow in the north-west corner of the English sphere of influence, traces of which were found at places on the Scarcies River, and which forms a very marked dyke 20 to 30 miles long, on the summit of the hills about Ninia and Duunia in the Talla country. In the immediate neighbourhood of this flow there are some hardened slates or argillites, and the country is especially fertile where fragments of this dolerite are mingled with gneiss and sandstone.

Iron.

'The dolerite itself is used by the natives as hones for sharpening knives, &c.

'The only mineral of importance is iron, of which the country appears to contain a very large amount.

'There is a peculiarly rich belt of titaniferous iron ore in the hills behind Sierra Leone.

'In other respects the country seems destitute of mineral wealth, though, of course,' Mr. Scott-Elliott adds, 'not being a geologist, I cannot speak with any certainty.'

Classes of soil.

'The soil, so far as we saw, could be roughly grouped into three classes:

'First. That of the plateaux and hills about 2,000 feet, or sometimes descending to 1,000 feet, which is due to the disintegration of gneiss or granite rocks.

'Second. The red laterite which covers almost invariably all the lower hills from the sea-level to 1,000 or 2,000 feet.

'Third. The alluvium due either to the action of the mangrove along the coast, or to rivers and streams inland.

'The effect of the mangroves could be very clearly seen. The trees seem, in fact, to have been designed by nature to change any bay or indentation of the coast-line into fertile soil. Thus the whole of the country from Mahala to Rokon, and round from Digipali to Kitchom seems to have been at one time a wide bay or arm of the sea, in which sand and mud banks accumulated through the action of the tides and currents.

'Wherever such a mudbank is in process of formation, the mangroves grow upon it. They require brackish water. The trunk divides at the base into six or seven curved buttress-like roots; each of which subdivides repeatedly so that it covers a wide area, with curved grasping supports. This is, however, but the first stage of growth; after a very short time long hanging roots are sent down vertically from every branch of the tree, and about the level of high tide, each of these pendant roots divides into five or six grasping fingers, which grow down into the water and root themselves so firmly in the silt that they cannot be torn up by any ordinary force of current.

'As each branch of every mangrove acts in this way, the soil becomes pierced by roots in every direction, so much so, that where the natives have made a clearance for rice-growing, the numerous standing roots in the ground seem like a harrow with the points turned upwards. Hence the leaves of the mangroves and all the silt and soil

in the water, are held by this meshwork of roots and root-lets, and the accumulation of soil advances rapidly. As the level of the ground (through this accumulation) rises above high tide, the mangroves, which require a constant supply of brackish water, die off and the whole grove advances seaward, leaving behind it a mass of rich vegetable alluvial mud, better suited for rice than probably any soil in existence.

The climate is tropical. There are two seasons, the Climate. wet and the dry ; the former begins towards the middle of May, lasting till November, with many short intervening spells of fine weather. Indications of the approaching and terminating rains are given by tornadoes. During the year 1910 the greatest variation in the barometer was 0.361 inch, the highest reading being 29.980 inches in May and the lowest 29.619 in July. The highest monthly mean temperatures were 90.7° F. in February, 91.4° in March, 92.2° in April, 90.2° in May ; the lowest were 71.2° in January, 71.7° in July, 71.7° in August, 72.1° in September, and 71.8° in October. The minimum humidity was reached in January, when it registered 55. The total rainfall in Freetown was 133.44 inches. The greatest rainfall was in July, when it rained every day, 43.24 inches, 4.99 inches falling in one day. During the year rain fell in Freetown on 170 days.

The climate has been considered deadly to Europeans ; Climate and health. but great attention has been directed of recent years to the causes of its unhealthiness, with excellent results. The following facts have been established :

(1) That the low-lying coast and the mouths of rivers where the mangrove flourishes are exceedingly malarious.

(2) That malarial and yellow fevers are due to the bite of the *Anopheles* and *Stegomyia fasciata* mosquito when in an infected state, and that the mangrove swamps and insanitary towns are the chief breeding-places of these mosquitoes.

(3) That as the coast is left the high ground of the hinterland is found to be healthy, and, to those who can stand the heat, agreeable.

(4) That much of the unhealthiness of Freetown is due



to causes that are, it is true, preventable, but can only be overcome by incessant warfare with the conditions of an intensely congested native town. How to enforce sanitary regulations in the native compound is a very grave problem.

The railway into the healthy interior is proving of immense service, as is also the mountain railway from Freetown to the government bungalows on Wilberforce Hill, only 6 miles from the city, at an elevation of some 900 feet ; where free from mosquitoes the officials who reside there have quiet and undisturbed nights in an invigorating atmosphere absolutely different from that of Freetown. We may conclude, then, that the climate largely depends upon elevation, and on distance from the breeding-grounds of the mosquito. The application of scientific knowledge is steadily modifying the worst features of the climate and gradually lessening the load of opprobrium under which Sierra Leone has hitherto suffered. The work that the London and Liverpool Schools of Tropical Medicine have done, and are doing, is invaluable in this direction.

Hydro-
graphy.

The whole country is exceptionally well watered. Even in the dries a water famine is unknown. There are numerous excellent rivers and water-ways, but although, in many instances, they run great distances through the country, their usefulness for inland transport is lessened by the blocking of their channels at 20 to 40 miles from the sea. In the upper country some of the interior rivers, such as the Bafi, are found to be blocked by a mass of enormous boulders with not a trace of water showing.

The principal river is the Rokel, on the magnificent estuary of which Freetown is situated. A branch of the Rokel leads up to Port Lokko about 50 miles from Freetown, the chief starting-point for the Karene and Falaba areas. South of Freetown are the Ribbi, navigable for small craft up to Mafengbeh ; the Bompeh, navigable to Rotifunk, both running into Yawry Bay ; and the Bagru, navigable to Tasso (about 30 miles). The mouth of the

Bagru is opposite to Sherbro Island. The rivers most important to trade are in the Sherbro district, either behind the island itself or at the back of the narrow sand-spit known as Turner's Peninsula. Between this peninsula and the mainland runs a great water-way parallel with the sea. It is navigable all the year round, and is the most valuable trade water-way in the whole colony. It is called the Bum (pronounced Boom) Kittam up to its confluence with the broad Big Boom, when it becomes the Lower Kittam, a continuation of which, after passing the bar-mouth of the Upper Kittam River, leads into the magnificent Kase Lake.

During the rains the interior rivers are greatly swollen and navigation is possible for much longer distances than in the dry seasons; large quantities of native produce are brought down, and the banks of the rivers, behind Turner's Peninsula and Sherbro Island, present a very busy scene.

The Kase, about 7 miles wide and 15 miles long, and the Mabesse, a smaller lake about 10 miles inland from Kase, are the only noteworthy lakes in the Protectorate. Beyond Turner's Peninsula is the Sulima or Moa River, and five miles further on is the Mano, running between British territory and Liberia. At the mouths of these two rivers are two bad sea-bars that are continually shifting and can only be passed in good weather, during the dry seasons, by means of surf-boats manned by experienced natives from the Kru country. The banks of all rivers, as long as the water remains brackish, are lined by forests of tall mangrove trees. The rivers are generally only navigable for small craft. The Sherbro River, however, is navigable for ocean steamers up to York Town on York Island, about 25 miles.

Vegetation is profuse in the extreme, but one indigenous tree is of such incalculable importance that every other form of vegetation hardly counts in comparison. ^{Vegetation.} Sierra Leone is pre-eminently the domain of the oil-palm (*Elaeis guineensis*). This tree reigns here in unchallenged supremacy. The whole life of the country and its value

to the world at large depend on this most beneficent sovereign. Springing untended from the ground, asking nothing from human hands, it gives of its substance without stint and with unfailing regularity, supplying the native with the simple necessities of daily life, as well as his work and trade. Up-country and on the coast the oil-palm flourishes in the greatest luxuriance. It is a source of indigenous wealth that has indeed hardly yet been more than gently tapped. In the far interior it grows in thick forest-belts, many of which are practically untouched.

Next in value is the kola. This tree grows to a great size with wide-spreading branches. It is indigenous but is cultivated to great advantage, and is a source of considerable profit to the natives. Its dark greenish pod may contain up to a dozen nuts, which have a very bitter taste. The people not only use them at country ceremonies, but consume them as preventives against thirst, &c. The nuts are entirely a native food, and trade in them forms a gigantic industry, enormous quantities being exported yearly to the Gambia and Senegal ports, these nuts taking second place in the exportations from Sierra Leone, though a very small quantity is shipped to Europe.

The cane palm (*Rafia vinifera*) grows in abundance for mile after mile on the banks of the rivers. It provides palm wine, also a bass fibre known on the European markets as piassava, chiefly used for scavengers' brooms. Coco-nut palms are to be found everywhere near the seaboard and yield prolific crops, at present only consumed locally. Fan palms, locust and gum trees, are plentiful in certain places, and amongst the numerous fruit-bearing trees may be mentioned the mango, pawpaw, orange, lime, sour-sop, sweet-sop, bread-fruit, kashew, tamarind, guava, &c. Bananas grow everywhere, and pine-apples form a dado to many of the bush paths in Mendiland. The silk cotton trees, from which the fluffy vegetable down ('kapok') is obtained, are common, and from their great height and enormous top serve as useful landmarks, their tall and mighty buttresses radiating from the trunks and losing themselves in the dense undergrowth. It was



from these immense spurs that solid slabs were hewn to form the gates to the war stockades in earlier times.

In 1910 a forestry officer was appointed to organize Forestry. a forestry department. During that year an inspection was made of the various forests in the Colony and Protectorate. It was found that the forests of the country divide themselves naturally into rain forests, where the trees reach 100 feet and over, and savana forests or open woodlands. Ninety-nine per cent. of the rain forests in the Protectorate have been destroyed by the natives through their wasteful methods of farming. At one time the rain forests must have covered the whole country ; they are now confined to certain limited areas. The destruction of the forests is gradually lessening the rainfall, and consequently altering the climate of Sierra Leone.

Sierra Leone is hardly suited to big-game hunting in the ordinary acceptation of the term, the larger animals being comparatively scarce. A game licence costing £25 is required. Numbers of animals inhabit the forests and bush, but few are seen ; they seem to shun the invader. The dense mangroves are the home of countless grey monkeys. There are neither lions nor tigers, but the following are to be found : elephants, hippopotami, leopards, and tiger cats, bush cows, wild boars, chimpanzees, monkeys of different kinds, armadillos, porcupines, &c. Crocodiles of great size infest the rivers. Pythons and snakes of many varieties, poisonous and non-poisonous, are found. Birds include white egrets and numerous kinds of cranes ; pelicans, grey parrots, spur-winged geese, &c. Fish abound in the sea and in the rivers in great variety, amongst them being tarpon of enormous size and manatee. Excellent oysters mature on the lower limbs of the mangroves in vast quantities.

Animal life.

Amongst the numerous insects are butterflies of gorgeous colouring and markings in endless variety ; scorpions, tarantulas, centipedes, mangrove flies, hornets, praying mantis, armies of ants and most destructive termites, jiggers, enormous cockroaches, mosquitoes, and sand-flies innumerable.

Agriculture.

The soil is extremely fertile and is easily worked. All agriculture is termed by the country people 'farming'. The methods they adopt are of the most primitive kind. To clear a space in the bush for cultivation for cassada, usually the first crop, the bush, which is a tangle of all kinds of vegetation, is hacked down with matchets, but the young oil-palms which are generally met with are left to mature after being carefully trimmed. The cuttings are then burned, but the fire while scorching the stems and fronds of the palms does not vitally injure them; this burning is called 'brushing farm'. The surface is scraped by a narrow hoe and the ground is then planted. In a few days the crop appears. Little more attention is needed, until, as in the case of rice, bird-driving time arrives, when a high rough platform is erected here and there on the rice-fields, upon which a child sits and scares off the birds with sling and stone.

Food-crops, &c.

The principal articles of food are rice and cassada, which are grown all over the country. Rice can be grown in damp alluvial soil by the side of the rivers within reach of the tide. This is white 'American rice', and has to be transplanted. It is an early crop, useful until the heavy dry-land crops of many varieties are available. In the upper country cotton seed and guinea-corn seed are usually sown with the rice. Maize, cuscus, and benni seed also grow well, but are not largely cultivated, although they might be. Ground-nuts used to be one of the leading exports of Sierra Leone; some years ago prices went down so low that the industry entirely dropped; but so great is the present demand, with increasing price, for vegetable oils, that there are indications of its revival. Ground-nuts are one of the simplest crops to raise.

Rubber.

The rubber vine (*Landolphia owariensis*) that formerly swooped down from the tall forest trees, has been destroyed in the ordinary course of making farms. The government within recent years introduced Para rubber seeds. The seedlings planted out at Kennema were apparently thriving at the date of the last official report, some of them reaching a height of from 10 to 15 feet.



So far cacao has not been taken up by the natives, Cacao. although it has been tried, here and there, with moderate success, but as there is now an Agricultural Department, better methods of cultivation will probably follow for cacao, and for other crops requiring more technical knowledge. As a whole, no fault can be found with the soil as a crop-producer; but to make it yield its full results, more knowledge and more scientific treatment are required.

No mining is carried on either in the Colony or in the Protectorate. Excavations for plumbago have been made in the Bagru locality, Sherbro; but it was shown that although this mineral was there, it was in such small pieces as to be unprofitable to work, so nothing has resulted from the discovery. Minerals and manu-
factures.

The few native manufactures that until recently were practised in Sierra Leone are rapidly disappearing; destroyed either by the now easily obtained imported articles, or by the phenomenal prices paid for oil-palm products, which make the people disinclined to work less profitable industries. A few 'country cloths' are still woven on primitive looms in very narrow strips, and then sewn together to form cloths of considerable size. The cotton used was formerly all of native growth, but now much imported yarn of brilliant and fugitive colours has been introduced. The women spin the cotton and dye it in the village indigo pot, of which they are the custodians. Until the recent changes this was a great industry, as these cloths were the principal currency. Many were of artistic merit, but they are now difficult to obtain.

Iron-stone is found everywhere throughout Sierra Leone. The natives in the upper country smelt it and extract splendid iron from it. When smelted the iron is made up into a shape somewhat resembling a small T-square, twisted and brought to a 'fish-tail' end, the value of one such piece being equivalent to a penny. In Upper Mendi 200 pieces would formerly purchase a wife. All swords, spears, knives, hoes, and other implements are made by the native blacksmiths, with the aid of sheepskin Iron-
working.

bellows and country-burnt charcoal, of this iron, which is extremely malleable and retains a silvery brightness. It is not exported ; on the contrary, iron bars, rods, &c., are imported for trade purposes.

Pottery. A rude kind of pottery, mostly water-beakers and bowls, is made by the women in different parts of the country, from a greyish-coloured clay. Mat-making and bamboo-thatching from the leaflets of the *Rafia vinifera* or bamboo palm, also constitute a considerable industry. Some very excellent leather work is made in Freetown from country skins locally tanned with the bark of the mangroves.

Communications. The railway described below has effected a complete revolution in the districts within its sphere. Great tracts of country, however, are quite beyond its influence, and in them the native methods of transport are still what they have always been. Produce is packed into palm-leaf hampers and carried upon the heads or backs of men to the branch factories of the European firms or the Creole (Sierra Leonean) traders established along the railway, or at the head of navigation on the rivers, and either conveyed by the railway to Freetown or put on board small craft and water-borne to the coast, most frequently to the port of Sherbro, where useful water-ways are available, and whence it can be shipped to Europe by ocean steamers. The limit of this human transport is about 50 miles ; beyond that distance produce is rarely collected by this method to any appreciable extent.

In 1909, the government, as an experiment, imported twenty-four donkeys from the Gambia with a view to adopting them for transport purposes in Sierra Leone. They were taken to Port Lokko in the Karene District, and after only five and a half months eighteen had died, twelve succumbing to the tsetse fly. The experiment has therefore been discontinued. Horses cannot live for any time in the colony, except far up country.

Railways. In 1896 the government began to construct the first railway in West Africa, running from Water Street, Freetown, to Baiima, 220 miles in an easterly direction.



This railway has been extended by tram-line (a distinction without a difference) to Pendembu in Bambara, Upper Mendi country, and has 34 stations. At Boia Junction, 64 miles from the terminus at Freetown, a branch tram-line has been opened to Mafunkia, 22 miles to the north-east, which has proved so successful that it is now being rapidly pushed on through Yonni Banna, a further 16 miles, and thence through the Timne land by Makump and on to Rowalla, in the neighbourhood of the Rokel River; in all, about 84 miles from Boia, and 148 from Freetown. This railway and its branches penetrate the heart of prolific oil-palm areas, and some very fertile agricultural land. The changes that have been wrought by the introduction of this railway are extraordinary. It has proved of inestimable benefit to the people, and in regard to commerce, some idea may be formed of its economic importance by a comparison of the exportations of palm-oil and palm-kernels before and after its advent. In 1896 the shipments were for palm-oil 326,089 gallons, and palm-kernels 21,084 tons. For the year 1910 they amounted to 645,339 gallons and 43,031 tons respectively, the greater portion, before the opening of the railway, coming from the Sherbro.

In Freetown there is the Government Mountain Railway which runs to the cantonment of the West African Regiment, and on to Hill Station at Wilberforce, 900 feet above sea-level, where are situated the government bungalows for European officials. The whole distance is 6 miles, through enchanting scenery, occupying 30 minutes, and, as stated elsewhere, the benefit to health is incalculable.

In connexion with the railway are numerous government roads to facilitate the overland carriage to the stations. It is now no uncommon sight to see both Europeans and Creoles bicycling over these roads, and it is not too much to anticipate that motor traffic will speedily follow, as these feeder-roads are good. Away from the railway, overland carrying is still upon the heads or backs of the natives, a load being of 50 lb. weight

if for the government, or double that if for a chief. Much has been done in developing the country traversed by, or in proximity to the railway, but it must be remembered that enormous areas of unworked country, owing to want of transport, are still in their primeval condition, and must remain so until they are provided with modern means of locomotion. How greatly the railway is appreciated may be seen from the fact that in 1910 the number of passengers carried was about 350,000, together with over 53,000 tons of goods, producing a revenue of more than £100,000. The railway has enabled a great number of Sierra Leoneans to leave the congested Freetown and open up profitable trading along its route in the healthy hinterland.

Trade.

Trade in Sierra Leone is in a state of transition. The old barter system has passed away and payment in cash has taken its place. The railway affords great facilities for the transport of produce, but the actual preparation of produce is still carried on by the old slow and wasteful methods.

Production and export.

Produce, alike by the native and the European merchants, is classed simply as palm-oil and palm-kernels. There are other articles, but palm-oil and palm-kernels, like the oil-palm itself, reign supreme. Trade is good or bad as these two staple commodities find their way to the coast in larger or smaller quantities. Palm-oil is still expressed from the fibrous oleaginous pericarp of the fresh palm fruit in the most primitive way ; after which it is sent down in large casks to the coast and shipped as oil. Palm-kernels are the kernels of the inner nut of the same fruit. To obtain them the hard shell of every nut is broken by hand, a most tedious operation. The breaking of one bushel of nuts is a good day's work for an experienced person, and only provides a quarter of a bushel of kernels. These kernels are shipped as kernels to Europe, where they are treated, and produce a whitish-grey oil of thinner consistency than the palm-oil of commerce.

Vegetable fats are imperatively required in many of



the greatest European industries. This has caused very high prices to be paid to the natives of West Africa, who are alive to the value of the harvests they are reaping, and consequently desert other employment for that of dealing with the oil-palm cone. Slow as the native methods are, the railway finds considerable difficulty in coping with the enormous quantities of these two staple articles waiting to be carried down to Freetown for shipment. What dimensions the trade would reach if the vast oil-palm belts lying far beyond the influence of the iron road and practically untouched, because transport to the coast is not to be had, were worked by scientific machinery, it is impossible to imagine. Certainly in the scientific treatment of this immense indigenous wealth lies, in the near future, the economic development of the Sierra Leone Colony and its Protectorate.

The kola-nut trade is growing year by year, but has no direct influence upon the European produce markets, the nuts being almost entirely used by the natives at one place or another upon the coast. It causes, however, a great interchange of imported goods.

Freetown itself produces nothing. It is a distributing centre; its people are born traders, and the up-country natives are rapidly becoming just as eager to follow their example.

Imports are of the most varied kinds, but are mainly Imports. Manchester cottons, American leaf tobacco, kerosene oil (the chief illuminant), enamel ware, and gin and rum. These last, under the heading of spirits, bring in about half the Customs-revenue. The whole country within reasonable carrying distance of the railway is covered by itinerating traders, while trading simbeks (or shanties) spring up like mushrooms near every station.

The population may be roughly classed under three Population. heads—natives, Sierra Leoneans, and Europeans. The natives number well over a million and a quarter. The term 'Sierra Leoneans' is exclusively applied to the descendants of the original settlers and 'liberated Africans' who were rescued from slave-ships captured by



British cruisers, and settled at Freetown when Sierra Leone became a British Colony. The European residents, including colonial government officials, military officers and men, and the commercial community, number about 640.

Speaking generally, both Sierra Leoneans (often called Creoles) and natives are capable of considerable intellectual development. Many of the former have been well educated in Europe ; some have qualified for the Church, while others occupy high local positions in the legal and medical professions. Considering that much of the hinterland, only some 20 years ago, was entirely at the mercy of the chiefs, who were continually at war, it is remarkable that its people now show a more than ordinary aptitude for receiving information. There are many schools, mostly connected with missions, in and about Freetown, and in the nearer up-country districts. At Bo there is a large government school for the sons and nominees of chiefs, which seems likely to carry practical knowledge, not only of reading and writing, but of farming, carpentry, &c., into the far interior, the boys there taking a very keen interest in their studies, and proving capable of culture. The girls in the mission schools are also bright and intelligent. The belief in 'fetish', however, still keeps the African in a slavery from which it is most difficult to escape.

Ethnology. There are about fifteen native tribes, offering striking differences in their physique, languages, and general characteristics. The largest tribe are the Mendis, on the eastern side, occupying a very wide tract of country, known as Upper and Lower Mendi. They are pure negroes, of medium stature, well grown, and of great endurance. They are the principal overland carriers, equal to carrying heavy loads over long distances. They are also the best hammock-men, and are capable of profiting by education. They are extremely superstitious, and firm believers in all kinds of fetishes and 'country medicine'. They are for the most part pagans or moderate Muhammadans, but by no means abstainers.



The Timnes are the next most numerous tribe, and are physically and intellectually much the same. They are principally Muhammadans, and have been chiefly engaged in agriculture; they also make good canoe-men and petty traders.

The Mandingos are an exceptionally fine race, tall and of striking appearance, distinguishable even from a distance by their flowing robes and sandals. They are devout followers of the Prophet and strict abstainers. They are the principal purveyors of Arabic phylacteries and written fetishes, and are the recognized soothsayers everywhere in Mendiland, being known as 'Mori' or book-men.

The Sherbros are not as advanced intellectually or socially as many of the other tribes. They are not so hard-working as the Mendis. They do not understand the art of weaving, their principal occupations being farming and fishing; they can, however, work up some of the fibres into excellent nets. They speak their own Sherbro language, and are useful as canoe-men and labourers. Their physique is on a par with the others, excepting the Mandingos.

In the lower countries, the Gallinas, otherwise the 'Vai' people, are distinctly ahead of all others on the Sherbro side, having their own written characters and language. Their tribe extends from Kase over the Mano river into Liberia. They are strict Muhammadans, and are specially noted for their superior weaving and the elaborate designs of their country cloths.

The Sierra Leoneans are found mostly in Freetown and the Peninsula. They are essentially traders. They speak a peculiar 'pidgin English', profess Christianity, and take a great interest in public religious services.

An interesting allusion is made to the Krumen colony in Krumen. Freetown in the official report for 1908. The home of the Krus is that stretch of the coast which lies between Grand Bassa and Grand Lahou, but being a sea-going people they were at an early period attracted by the shipping trade to Freetown. The year 1908 was the



hundredth anniversary of their official recognition by the Sierra Leone Government, for it was in 1808 that General Thompson, governor of Sierra Leone, granted to them the special reservation in Freetown which they still inhabit. It is an interesting fact that although Krumen are found on the ships all along the coast, Freetown is the only place outside their own country to which they bring their families, and where they make any attempt at permanent occupation. This is due, no doubt, to the incentive to settle here given to them by Governor Thompson, who in the same year offered a premium of five guineas to each of the six Krumen who 'should first introduce their wives and families into the colony, and live with them in one or more distinct houses to each family, and cultivate a quantity of ground not less than two acres, for the space of two years'.

Govern-
ment.

Sierra Leone is a Crown Colony. The governor is aided by an executive council composed of the general officer commanding the troops, the colonial secretary, the attorney-general, the colonial treasurer, and the collector of customs.

The legislative council, of which the governor is *ex officio* president, is composed of the members of the executive council as official members, with the addition of the principal medical officer and the senior district commissioner, and four unofficial members nominated by the Crown.

For administrative purposes the colony and the protectorate are divided into the following districts:

Freetown Police District

Head-quarters	„
Karene	„
Ronietta	„
Railway	„
Koinadugu	„
Sherbro	„
Northern Sherbro	„

Justice.

The judicial system at Sierra Leone varies according to the Colony proper, the Protectorate, and the area techni-



cally within the colony but now regarded as Protectorate, and subject to tribal authority. Certain limited powers are vested in the tribal headmen of Freetown and in the Peninsula villages. In the Protectorate the mass of the judicial work is performed in the chiefs' courts, which have jurisdiction in all civil and criminal cases between natives, with the exception of crime such as murder. Serious crimes and all important civil cases are disposed of by the circuit court, while the district commissioner's court possesses a jurisdiction analogous to that of summary and county courts in England in all cases in which non-natives or natives and non-natives are concerned. A force of about 250 civil police, under a European commissioner, is employed in the colony proper, whose duties, besides ordinary constables' work, are varied.

The official departments are the secretariat, treasury, Government customs, audit, post office and savings bank, judicial and legal, police, frontier police force, railway and telegraph, forestry, education, medical, and public works.

The imperial military forces are represented by a battalion of the West India Regiment, a company of Royal Garrison Artillery, a company of Fortress Engineers, and a battalion of the West African Regiment, a native corps, &c. The barracks are at Tower Hill, Mount Auriol, and at Wilberforce Hill. There is also a frontier force under the colonial government, for interior duties, a native force numbering 600, under British military officers.

A municipal council was created in 1893. The mayor, elected yearly, is assisted by a council of fifteen, twelve of whom are elected by the citizens, and three appointed by the governor in council. The first mayor was Sir Samuel Lewis, a highly educated negro barrister.

Sierra Leone has seen many governmental changes. Up to 1874 it occupied the supreme position in the British possessions on the west coast of Africa. The governor was styled the governor-in-chief of the West Africa settlements, which included the Gambia, Sierra Leone, and the Gold Coast as far as Lagos. After the Ashanti War in 1873-4 the settlements were divided.



The Gold Coast and Lagos were created one government, while the Gambia remained under Sierra Leone. In 1886 there was another alteration, Lagos becoming a separate government, and later in 1886 the Gambia was severed from Sierra Leone, and since that time Sierra Leone has been alone.

Bibliography.

The Sierra Leone *Annual Reports* are admirably compiled and supply a fund of interesting information upon all topics in connexion with this Colony and its Protectorate.

The *Colonial Office List*, published annually.

A *Bibliography of Sierra Leone*, by H. C. Lukach, M.A., furnishes in classified form all necessary particulars in regard to the literature on this colony published since 1628 to 1910 (Clarendon Press, Oxford).

Maps of Sierra Leone are compiled by the Intelligence Branch of the War Office.

The works of T. J. Alldridge, I.S.O., *The Sherbro and its Hinterland* (1901), and *A Transformed Colony* (1910), contain in considerable detail descriptions of the country and of the peoples, with their manners and customs, collected during many years of residence in the Colony and Protectorate as H.M. Commissioner. These books also contain maps compiled by the Intelligence Branch of the War Office.

For Botany and Geology see official *Reports* by G. F. Scott-Elliot and Miss C. A. Raisin (1893), A. H. Unwin (1909), and C. E. Lane-Poole (1911).

CHAPTER XVIII

THE GOLD COAST COLONY, ASHANTI, AND THE NORTHERN TERRITORIES

BY MAJOR A. J. N. TREMEARNE

**Position
and
extent.**

THE Gold Coast Colony, Ashanti, and the Northern Territories are three adjacent strips of territory the boundaries of which are practically parallel to the coast-line of the Gulf of Guinea—so called either from *Genowa*, 'black,' or (more probably) from Jenne, the once great city in the interior. The Colony proper extends along the coast for nearly 270 miles, being bounded on the north—at an average distance of about 130 miles from the coast—by Ashanti, above which, again, come the Northern Territories. The area of the whole is about equal to that of England and Scotland combined, being made



PLATE XXIII. SHERBRO, SIERRA LEONE (NATIVE ASCENDING
OIL PALM FOR CONES)
(Mr. T. J. Alldridge)



PLATE XXIV (a). TRAVELLING IN FOREST, NEAR
 CAPE COAST, GOLD COAST



PLATE XXIV (b). AN ASHANTI VILLAGE
 (Photos. Major A. J. N. Tremearne)

up as follows : the Colony, 24,200 square miles ; Ashanti, 20,000 square miles ; and the Northern Territories, 35,800 square miles. The eastern neighbour is German Togoland, from which it is divided partly by the river Volta, and partly by an irregular line running on each side of the meridian of Greenwich. To the west is the Ivory Coast (French), from which it is divided partly by the Black Volta, and partly by an irregular line running on each side of the meridian of 3° W. To the north also is French territory, the boundary being roughly the parallel of 11° N. The capital is Accra (or Akra).

The landscape generally is flat and low-lying, being broken only by conical peaks, with a belt of lagoons on the western and eastern frontiers. But from the shore, between Apollonia and Sekondi, at Cape Coast, and thence on to Berraku, there are gentle undulations, and the central portion of the coast-line is bold, while hills in the Akwapim district reach a height of over 2,000 feet. Farther inland the country assumes a hilly character, the chief ranges being the Akwapim, Akropong, and Krobo Hills (1,600 feet), merging into the Atiwa range in the north-east (2,000 feet).

There are no natural harbours, so passengers and goods are usually landed in surf-boats, which are thrown by the waves on to the beach, the best landing-places being at Axim, Dixcove, and Cape Coast Castle, behind rocks jutting out into the sea. At Accra steps have been taken to give artificial protection, and at Sekondi a jetty has been built by means of which surf-boats and lighters can be unloaded without having been beached, while at Ada a branch-boat passes from the ocean-going vessels in the roads over the dangerous bar at the mouth of the Volta to the harbour within.

There are several rivers, the greatest being the Volta Rivers. (mentioned above), which has a length of about 900 miles, most of which is in British territory. Its course is extremely tortuous, and owing to this fact the Portuguese gave it the name by which it is now known. The Ankobra flows for the greater part of its course of 150 miles through

auriferous country. The Prah is a sacred river, but although it has a length of nearly 400 miles it is almost useless commercially because of the cataracts. The Tano forms the lower part of the boundary between the Colony and the Ivory Coast; it is connected with Half Assini by the main lagoon.

Geology. Cretaceous rocks are to be found here and there near the coast, but they are usually hidden under later deposits. Basalt exists in the Axim district. Farther inland occurs a belt of sandstone and marl, with occasional bands of auriferous conglomerate. The alluvial deposits, as indicated in the native shafts, vary in depth from 10 to nearly 40 feet, being succeeded by a decomposed schist, and sometimes layers of cemented gravels are found consisting of pulverized quartz, mixed with pebbles, garnets, and black sands, embedded in a matrix of silica. These conglomerates resemble to some extent the 'bankets' of South Africa, but instead of consisting of water-worn pebbles (held together by a gold-bearing cement, in which they have been carried along for a considerable distance), the fragments of quartz have sharp edges, and it is evident that these West Africa conglomerates are of more recent date than those in the south of the continent. This wash has evidently been deposited by successive floods, sweeping from the north-east to the south-west, and meeting in their courses with tilted rocks and other obstructions, thus causing the hummocks, ridges, and isolated hills, upon which over-burden the forest thrives.

In Ashanti, the country rock is a granite, containing a large quantity of feldspar, with evidence of other igneous and metamorphic rocks. On the surface, and even to some depth down, there is a deposit of fine alluvium, then a clay matrix, having horizontal laminations, in which great numbers of small angular fragments of quartz are embedded. This alluvium contains small quantities of gold, the result of the denudation of the reefs in the vicinity.

Climate.

The climate of the whole possession is hot, moist, and generally unhealthy, although Europeans can live much more easily in the interior than they can on the actual



coast-line, owing to the more open nature of the country, and to the absence of the great humidity which is always encountered near the sea. Accra, in spite of the improvements, has the worst reputation of all the European settlements in British West Africa. Europeans suffer more from fevers and dysentery than do the natives, but the latter are more subject to chest complaints. The mean temperature of the towns on the coast-line is from 78° to 80° F., this being slightly lower than that in the interior.

The rainy season lasts from March until November (with a break, however, in August), the first six months being known as the period of 'the greater rains', the remainder that of 'the smalls'. The rainfall varies in different parts of the country, usually in proportion to the density of the forest-belt. Axim and Tarkwa are particularly wet places, Accra is dry in comparison. The commencement and the end of the rains are marked by tornadoes, violent thunderstorms, accompanied by heavy rain. The storms uncover the filth which has been deposited during the preceding months, and the air becomes much polluted and unhealthy. At the end of the rains the falling rivers produce a similar effect.

From December to the beginning of March the harmattan blows. This is a very dry and cold wind from the Sahara, so dry, in fact, that the lips crack and the throat and nose become very sore. An extremely fine dust is usually held suspended in the air, which is at times almost motionless, and this may cause such a haze that it is extremely difficult to distinguish objects even at a hundred yards' distance in open country. It dies down as the day wears on, and the temperature then rises rapidly, falling again when the harmattan recommences in the afternoon. It is only in the interior, however, that the real harmattan is encountered—and there the difference between the midday and midnight temperatures may amount to 50° F.—for as one approaches the sea the phenomena become less and less pronounced, and on the actual coast-line there is more mist than dust.



On account of the prevalence of a sea-breeze from the south-west, the western three-quarters of the colony is known as 'the windward district', the remainder being 'the leeward'.

Vegetation and animal life.

The shore is usually a strip of glistening sand, and except at some spots west of the Prah, between it and the forest-belt there is a strip of country varying in width from 3 miles in the western districts to some 20 miles in the eastern, which is covered with palms and shrubs from 8 to 20 feet high. From Winneba to Ada this strip becomes a succession of wide grassy plains, dotted here and there with shrubs. At Accra euphorbias are to be seen. From Prampram to Ada the plains are farther from the sea and north of the chain of lagoons, which begins here and reaches to Lagos, the water in which is separated from the ocean only by narrow spits of sand.

About three-quarters of the colony is still *primaeval* forest, and in it the sky is frequently hidden from view. The traveller proceeding to the interior finds that the vegetation is not overcrowded at first, so a fairly extensive view can be obtained, but the trees are still sufficiently numerous to give a shady sylvan aspect to the landscape, and although they are not so gigantic as those farther to the north, they are, nevertheless, imposing because their noble proportions can be all the better seen. In some places there are large groves of oil-palms, interspersed with plantains, the stems of the palms often rising to a height of 50 feet. As the trees increase in number, and the glare of the open country gives place to the shade and comparative cool of the thin forest, the forms of animal life exhibit a corresponding change, and many fresh ones appear. The ground is covered by a dense growth of herbaceous plants, and ferns, never seen nearer the coast, become abundant. Here and there are bamboo thickets, the canes growing in independent groups, but branching over and meeting at the top to form vast and gloomy natural crypts. Gradually the trees increase in height, and the vegetation becoming more and more luxuriant, a desperate struggle takes place for air and light, for 'a



place in the sun', the frequent electrical discharges no doubt helping the combatants in their fight for life. Every plant, from the tiniest to the most immense, rises erect and slender, drawn out to an absurdly disproportionate height in its endeavour to force its own head above those of its neighbours. The tangled vegetation fills up every available space, and the earth is hidden by a mass of herbage and ferns, while numbers of tottering decaying trees, some still leaning against a neighbour and not yet quite overthrown, are coated with thick velvety moss, a sign of defeat. Up from this leafy tangle spring the slender stems of bushes and small trees, and towering far above these the forest-giants rear their enormous trunks and shut out the heavens with an almost unbroken roof of foliage. Great creepers hang in long loops and festoons, twisting round everything within reach, and binding trees and bushes into a tangled impenetrable mass. And here and there, in the dim light that prevails, even at midday, in this natural crypt, looms some sturdy, great iron-tree, or an immense bombax, 200 feet high, perhaps, and nearly 100 feet in circumference, its branches encrusted with orchids, its trunk smeared with lichen, and its roots coiling over the surface of the ground like gigantic serpents. Other trees are there also, the mahogany, teak, ebony, and camwood among them, though these are less beautiful than they are valuable. Orchids appear on some of these, too, and are characteristic of the forest, but it is the lianas or 'monkey ropes' or 'tie-ties', mentioned above, which are the most conspicuous plants here, and are principally responsible for the weird aspect of scenery which makes so great an impression upon the traveller. Some, slender as twine, float like fairy cradles in the air; others, thick as a man's thigh, and coiled and re-coiled round each other, seem like aerial hammocks of some giant of the forest, and, indeed, often it is due entirely to their support that some of the larger trees remain upright.

The forest vegetation may be divided into three distinct strata. First, there is the immediate covering of

State of
forest
vegeta-
tion.



the surface, the lower undergrowth, consisting of herbaceous plants and ferns. A few of the former attract attention by their blossoms, especially a beautiful and fragrant white lily ; but flowers of any kind are rare, and most of those which are found are small, faintly coloured, and odourless. The ferns, however, are in great profusion and variety, and the forest in some parts is a veritable fairy-land. Some of the ferns are curious climbing forms, which twine round the boles of the trees up to a height of perhaps 40 feet ; others resemble dainty little maidenhair-like plants, only 2 or 3 inches high. The ferns seem to be quite at home in the dim light and moist air of the forest. They spread in clusters all over the surface of the ground, they pounce upon the spongy remains of fallen trees, they hide themselves in the dark corners between the huge buttressed roots of the great silk-cottons or in the crannies of rocks, or they droop with indescribable grace down shelving banks, daintily bathing their delicate fronds in the fairy forest streams. Meanwhile above stand the giants of the country, as if desirous of seeing their reflections in the quiet water, and anxious to know their fate in the never-ceasing battle. The second stratum of vegetation, consisting of the upper layer of the undergrowth, rises to a height of between 30 and 60 feet. It is composed chiefly of bushy plants and small trees, mimosas, and palms of various kinds, which reach a much greater height here in the forest than in the open, for their growth is almost entirely vertical, and this may be said of the herbage of the lower undergrowth also. The third or upper stratum is formed by the great forest trees, and it is these which modify the other vegetation by shutting out the light.

After having passed the forest-belt, the traveller enters 'the bush', and here the trees, although still high, are farther apart, and their branches begin lower down. The bamboo and the mimosa are here also, and the rubber-vine and other creepers are still plentiful at first, but gradually the weird fairy forest-land is left behind, and the country becomes more and more 'park-like',



i.e. the trees are smaller and more sparsely set. Here are found the wild plum, shea-butter, kola, baobab, dwarf-date, and fan-palm, and the beauty of the landscape takes a new form.

In the north-east corner there is splendid open country, which gives rich crops and pasture, and is capable, probably, under suitable conditions of transport, of supplying the whole of the Gold Coast with cereals and fresh meat.

The coco-nut palm, the banana (imported), and the plantain (the 'bread' of the native) are plentiful in most parts of the country, as also are the pine-apple, orange, mango, mangostein, pawpaw, lime, and avocado pear. Other products include cassava, copra, copal, castor-oil, the calabar-bean, benniseed, piassava, ginger, okro, tiger-nut, ground-nut, yam, amankani, and maize, and the ramie and rafia fibres.

The fauna is not so rich now as formerly, for the advent of the European with his rifle, and the native huntsman with his imported long flintlock muzzle-loader, or 'Dane-gun', has rendered some species extinct. A few elephants are still to be found, and there are also buffaloes, antelopes (several varieties), leopards, hyenas, hogs, many kinds of monkeys, squirrels, sloths, otters, porcupines, manatees, and the ordinary domestic animals. Of reptiles there are pythons, cobras, adders (horned and puff), water-snakes, tortoises, crocodiles, and lizards.

The list of fish includes the herring, mackerel, grouper, sprat, sole, skate, mullet, barracouta, bonnetta, snapper, flying-fish, fighting-fish, shynose, and cat-fish. Sharks infest the mouths of the rivers, and in some parts turtles, crabs, cray-fish, lobsters, prawns, shrimps, sword-fishes, dolphins, and sting-rays are found. Oysters grow on the rocks and on the roots of the mangrove trees.

There are many birds, among them being parrots, hornbills, kingfishers, ospreys, herons, cross-bills, curlews, woodpeckers, doves, pigeons, storks, pelicans, swallows, pert-plover, and vultures.

The insect-world is represented by beetles, spiders, ants

Insects.

(many varieties, some being very destructive to the crops), fireflies, butterflies, mosquitoes, moths, and flies (some of which destroy the native-grown cotton). The driver-ants are among the worst pests of West Africa. They are divided into several castes, the workers being about $\frac{1}{4}$ -inch in length, the soldiers about $\frac{1}{2}$ -inch, and the officers nearly $\frac{7}{8}$ -inch. The workers march in close formation, perhaps twelve abreast, forming a line some two inches wide, the soldiers being distributed along the flanks and at regular intervals amongst the workers, on much the same plan as that laid down for a British column in thick country. The force travels at the double, and generally at night, taking as straight a line as possible and selecting all available cover, an advance party having already prepared the way. These insects construct tunnels in exposed spots, perhaps 30 feet in length, with a height and breadth which may be as much as 1 inch, and provided with air-shafts. Every animal makes way for them, for they will attack anything in their path, even fire, their system of communication enabling them to send reinforcements to any threatened point.

Agriculture, &c.,
 mining,
 and manu-
 factures.

Agriculture is the staple occupation of the natives living in the interior, and the statistics show that the value of the products has steadily increased. The greatest advance is in the cultivation of cacao (introduced into West Africa by the Portuguese), to which serious attention has been given latterly ; whereas in 1891 the value of the export of that article was only £4, in 1910 it actually exceeded that of the gold-dust, and has since been showing a satisfactory advance. The industry is almost entirely in the hands of native farmers, so no accurate estimate has been formed of the area under cultivation. The exports of rubber and timber have also shown a steady increase, and there is but little doubt that with a more perfect knowledge of the cultivation and preservation of the former, and greater facilities for the transport of the latter, the improvement will be maintained.

The soil is so fertile that the native agriculturist of the past had but little to do for his living, and, having no



thought, except for the supply of immediate wants, his methods were wasteful, and certain articles (e.g. rubber) would soon have become extinct. But greatly improved conditions now exist, owing to the wise foresight of the government in establishing agricultural stations, where natives are taught how to practise economy and how to improve their land and its products. The first step was the establishment of a botanical station of some 50 acres at Aburi (in the north-east part of the Accra district) in 1890, under a curator from Kew Gardens, and since then hundreds of cacao plantations have sprung up all over the country. Certain of the natives were trained as instructors, and these now travel about in every district teaching the native landowners on their own farms, while thousands of plants are distributed annually from the central station to both Europeans and natives. Periodical agricultural shows also stimulate the native producers.

Other vegetable products are cotton, kola-nuts, plantains, and other fruits mentioned before, yams, cassava, peas, peppers, tomatoes, ground-nuts, Guinea-corn (millet), and maize. An experimental cotton farm was started in 1903 at Labolabo in the Volta district under the auspices of the British Cotton-Growing Association, but the cultivation of this commodity has not been an unqualified success owing to the lack of interest of the natives, and the depredations of the moth. The kola-nut is almost a necessity to the natives of the West Sudan, and this article had almost as great an effect as gold in promoting the commercial prosperity of Ashanti among the neighbouring native kingdoms, the Dyula acting as middlemen between the Melli (Mandingo) and the western Hausa trading districts. The nuts consist principally of starch, and contain a little caffeine and theobromine, to which substances is due the stimulating properties for which it is so much sought after. There has been a small European demand for the nut, which reappears in the shape of chocolate, wine, or biscuit. The plantain furnishes by far the greater part of the food of the natives, being eaten raw, roasted whole on the embers,



or beaten in large wooden mortars into a tenacious pulp called *fufu*. Of the peppers, the most famous were the 'Grains of Paradise' (though these come more from Liberia than from the Gold Coast), which were the rage in Europe between the tenth and the eighteenth centuries. From this arose the 'pepper-corn rent', a tax amounting to between £5 and £10. Queen Elizabeth was passionately fond of their taste, and their use in beer at last became so excessive that it had to be made illegal. Maize (Indian corn, or 'mealies') is an important article of diet, and two crops per annum may be produced.

Forest
products.

Of the forest products, there are many which are valuable commercially. One of the commonest of the timber trees, and certainly the most magnificent in appearance, is the bombax or silk-cotton, from the soft wood of which the native canoes or 'dug-outs' (because made of a single log hollowed out and chopped into shape) are made. Mahogany furnishes the bulk of the timber exports, but the teak (*Odum*) is even more valuable, and a species of ebony is obtained from more than one tree. Other trees furnish wood for paddles, shingles, and the Ashanti stools.

There is a great amount of rubber, both *Landolphia* and *Funtumia*, but extensive plantations of the Para variety have lately been established because it has been found that it thrives remarkably well in West Africa, maturing even more quickly than the *Funtumia*, and it is free from the local pests and diseases.

The oil-palm (*Elais guineensis*) is one of the handsomest and most graceful trees in West Africa, its plume of leaves being usually embellished by long drooping parasitical ferns. The natives use the oil in many of their dishes, and even the European enjoys a 'palm-oil chop', while it is exported to Europe to be used in the manufacture of soap and candles. The Volta district is the chief scene of the export, the oil-casks being rolled to the river, towed by canoes to Akuse, and taken thence by launches to Ada for shipment.

Minerals.

The Gold Coast is probably the richest area known in



proportion to its size. Here nature gives man very material assistance by placing at his disposal an immense mass of crushed debris containing dust and flour-gold, the latter deposited by the evaporation of the gold-bearing moisture produced by the rays of the sun. Furthermore, nature's poundings, roastings, and washings in the past ages have disintegrated the gold-bearing quartz, accumulated the precious metal thus set free, and deposited it in beds of clay. Gold therefore has from time immemorial been one of the principal exports of the country—hence the name—and since the pacification of Ashanti, gold-mining has gone ahead very rapidly. But gold is not the only hidden treasure, as indications of oil and coal have been found.

The native artificers in gold and silver and brass are exceedingly clever, models of implements, of human beings and animals, and even groups (e.g. a hunting scene) being cast in various places, and rings with the signs of the zodiac find favour on the coast. In the sense in which the word is usually understood in European countries, however, there are practically no native manufactures. Certainly there is a good deal of native cloth woven by primitive methods from the native-grown cotton and dyed with the native-grown indigo into strips some four to six inches in width. Salt is roughly prepared from the lagoons between Accra and Kwitta, and is sent to the north. Bags, bottles, &c., are made of leather for local use and for export. And there are several kinds of baskets, pots and other household utensils (many of them having ornamental stoppers and being profusely decorated with geometric designs), canoes and fishing-nets made by the natives for their own use. But these are not strictly manufactures, and the building and repairing of the rolling-stock in the railway workshops, the production of bricks, tiles, and cement in the European factories, and the aeration water for drinking purposes, are not of native origin.

The fisheries of the coast employ about 5,000 canoes and a proportionate number of people, for there is a considerable trade in dried fish, particularly with the natives

in the interior. No fishing takes place on a Tuesday, however favourable the climatic conditions, for that day is sacred to the fetish of the sea, so the fishermen rest then or repair their nets if necessary. A good deal of salted fish is imported from the Canary Islands, the supply of native-cured fish not being sufficient for the requirements of the community.

Transport-
ation :
rivers.

The Ankobra is navigable for about eight miles by light launches, but its chief interest is that in it heavy timber is floated down for the mines. The Volta is navigable by launches for some sixty miles, and is the centre of the oil industry ; it forms the most direct route to the Northern Territories. The Tano forms the lower part of the boundary between the Colony and the Ivory Coast. It is connected with Half Assini by the main lagoon and by tram, and it is navigable by light launches as far as Tanoso, some sixty miles up-stream. All these rivers have sand-bars at the mouths, which prevent the entrance of ocean-going steamers, except for the branch-boat at Ada, as has been mentioned.

Railways.

A railway (gauge 3 feet 6 inches) runs from Sekondi to Kumasi via Tarkwa (whence a branch line runs to Prestea), and is 168 miles in length. It was finished in 1902, the total cost being nearly £2,000,000, this figure including the sums for the provision of rolling-stock, permanent bridges, offices for the staff, and landing-jetties. In the rate per mile (about £10,000) and the rapidity of construction, it compares very favourably with some of those of neighbouring countries under foreign protection. Another line to Kumasi starts from Accra, passing through Mangoase. A Caillet's mono-rail runs around the rapids at Krachi. There is no doubt that the country is rich enough to support large extensions in the length of the lines.

Roads.

Horse-drawn vehicles are in use in certain parts, and motors have been tried, but away from the railway line head-porterage is the rule, and it is not likely that the carrier with his load weighing from 50 to 70 lb. (or much more if it is his own) will ever be displaced. Europeans



travel on horseback in the Northern Territories, in some parts of Ashanti, and near Accra (i.e. in the districts comparatively free of the tsetse-fly), but elsewhere they are carried in hammocks.

The chief roads are maintained by the Public Works Department, but the others are under the care of the chiefs of the respective districts through which they pass, a certain amount per mile being paid by the Government for their upkeep. Where a chief neglects to perform this duty, the department takes it over, and the chief may be punished.

There is a weekly express passenger service of the Shipping. Elder Dempster Service (African Steamship Company, the Elder Line, and the British and African Steam Navigation Company) from Liverpool, Accra (about 4,000 miles) being reached in a fortnight. There are also services of cargo boats running at less regular intervals which have limited passenger accommodation. The same company runs steamers to the west coast from London and from Hamburg. The Woermann line sends two mail steamers monthly from Hamburg, calling at Dover on the homeward voyage, and French boats from Marseilles and Dunkirk call at ports along the coast at irregular intervals, as do the cargo boats of several lines from various ports.

Owing to its great riches and also to the fame of the Trade. warlike inhabitants who guarded them, the Gold Coast (and particularly that part of its hinterland, Ashanti) has always been much more in the public eye than has any other West African possession. Nor was the attention undeserved, for even now the value of the gold-dust exported is enormous (being far above that of any other item except cocoa), and it was only in 1900 that the Ashantis were finally conquered after a long series of conflicts in which we were not always successful. The other chief exports are rubber (most of which comes from Ashanti), timber, palm-oil, and kola-nuts. The principal imports are cotton goods, machinery, spirits, tobacco, rice, sugar, and other provisions, and beads.

Once Ashanti had been finally reduced, and the railway to its ancient capital, Kumasi, had been opened, the trade advanced by leaps and bounds. But even yet, full advantage has not by any means been taken of the possibilities of the country, for in addition to its already proved mineral wealth, there are still virgin forests of timber and much fertile soil yet untouched, though capable of growing cotton, rubber, cocoa, coffee, copra, fibres, and other commodities. The government prefers to encourage the native agriculturist, however (under a certain amount of official European supervision), rather than to give concessions to British companies.

Of the total trade, over 66 per cent. is with the United Kingdom or with other British colonies, Germany being second on the list, then France, and then the United States of America.

Popula-
tion.

The population of the whole possession (Colony, Ashanti, and the Northern Territories) is about 1,500,000 (Census, 1911), including some 2,000 Europeans, mostly miners, officials, or traders, about one-half of the number being in the Colony itself. It is estimated that over 3,000 labourers enter the Colony each year in order to obtain employment, leaving again when the work has been completed.

The Fanti were the first to come into contact with Europeans, and by their means the vast riches of the countries lying beyond came to be known. The Fanti and the Ashanti are supposed to have had a common origin, and both have been conquering races, though at the present time the Fanti is very much inferior in every way to his northern neighbour. These people live in the more westerly parts of the Colony, and, with their exception, the districts are usually named after the tribes inhabiting them. The Accra are held by some authorities to be the descendants of the original inhabitants of the country; they are now on a fairly high level, many of them being excellent artisans or sailors. The Ahanta (one of the tribes of the Accra stock) in the west of the Colony were at one time much feared because of their prowess in



war. The Apollonians, a kindred race, live on the Ivory Coast border, the handsomest of the negroes, and the first to be enslaved. Other important tribes are the Akim in the north-east part of the Colony, the Akwapim living next to them to the south, and Adangme on the marshy ground near the Volta, the Krobo between the last named and the Akim, and the Asin south of the Prah. The Ashanti are divided into various tribes, of which the chief are the Bekwai, Adansi, Juabin, Kokofu, Kumasi, Mampon, 'Nsuta, 'Nkwanta, Dadiassi, Daniassi, Ofinsu, and Adjisu. In the Northern Territories are found large colonies of Hausa, immigrants from the east in all probability; and Mossi and Dagomba who speak the same tongue. The Hausa are the great travellers and traders of West Africa, and are found at many places between Alexandria and Tunis in the north, Senegal in the west, and Lake Chad in the south-east.

The Tshi language group greatly predominates on the Gold Coast, being divided into two principal sections, the Akan and the Fanti, and although these again are subdivided into numerous dialects, the difference between them is not very great, and a man from one part of the country can usually make himself understood in another. The River Volta forms a rough boundary between the Tshi- and the Ewhe-speaking peoples. In the south-eastern corner Ga (Accra) is spoken, and this also has several dialects.

The first British settlement was that of Koromantine in 1618, and soon after it had been established, Cape Coast Castle, Accra, and other settlements were captured from neighbouring European Powers with which England was at war. In nearly every case, only so much of the surrounding country was under control as lay within range of the guns of the fort, and no semblance of European authority was to be seen outside. This state of affairs was made worse by the fact that many of the forts belonged to different nations at different times, being taken or retaken whenever reinforcements arrived from Europe for one side or the other. In 1672 the Royal African

Government, &c.

Company established forts along the coast, and other companies followed, the affairs of as much territory as they could get being administered by the servants of the companies. But in 1821 the British Government took over all the settlements, and placed them as a whole under the Governor of Sierra Leone, and they continued thus (except for a short period) until 1874, when they were combined, with some territories purchased from other European Powers, to form the Gold Coast Colony.

The Ashanti had been defeated in 1873 by Wolseley, but it was not until 1894 that a Resident was installed in Kumasi, and it was only in 1901 that Ashanti was annexed, by which time the Northern Territories of the Gold Coast had already been constituted (i. e. in 1897) by agreement with France and Germany.

At the present time, the Colony proper is administered by a Governor, an Executive Council composed of nominated members, and a Legislative Council to which both official and unofficial European or native residents are appointed. Ashanti and the Northern Territories are under their respective Chief Commissioners, who are directly responsible to the Governor of the Colony, but they rule through junior officers in charge of districts, who again rule through the native chiefs.

Law

The law of the Colony proper is a mixture consisting of the common law of England, the doctrines of equity, and statutes in force in England up to 1874, but local ordinances passed by the Governor-in-Council may modify or be substituted for any of these, or may be enacted to cover new issues. The criminal law was codified in 1892. In purely native cases, customary law is not interfered with unless in conflict with local ordinances (which do not apply to Ashanti and the Northern Territories unless the contrary is stated), or unless repugnant to British ideas of justice.

Defence.

At first the defence of the settlements, then separate and distinct, was carried out by the servants of the several companies, and even after the government had 'taken over the forts, no special effort' was made to



enlist native troops. In 1852, however, the Gold Coast Corps was raised, and this became the Gold Coast Artillery Corps five years later, but it had to be disbanded in 1863 because it became unreliable. A Hausa Force was brought by Glover from Lagos (raised there in 1865) to take part in the Ashanti Expedition of 1873, and from this grew the Gold Coast Constabulary ('Gold Coast Hausas') six years later. After Willcocks's expedition, the Northern Nigerian system was adopted, and in 1901 the Hausas and others became a regiment of the West African Frontier Force ('Waffs'), consisting of two battalions of infantry and a battery of artillery, the 2nd battalion being disbanded six years later. In addition to these, there are several volunteer corps and gun-detachments, some of which are formed entirely of Europeans. The civil police also have sprung from the Gold Coast Constabulary.

The bulk of the land in the Colony belongs to the tribal 'stools', and, theoretically, there is no land without an owner. The definition of the exact boundaries of tribal lands is often very difficult, as towns and villages have sprung up independently, with large tracts of intervening land, sometimes dense forest, at first unoccupied but brought gradually under cultivation from all sides. The decision in cases of dispute is made in accordance with native law and custom.

There is a Government savings bank, the Bank of British Money. West Africa has branches in many towns, and penny banks exist in some of the schools. The currency and legal tender are British, but certain Spanish, French, German, and American coins are accepted. Gold-dust is still used by the natives, but cowrie-shells are not now much in request owing to their bulk and to the people's acquaintance with the valuable and more portable metals. The weights and measures in use are the same as those used in England, except that natives in the Windward District use for the purchase of small articles gold weights representing $1\frac{1}{2}d.$, $2d.$, $3d.$, $4\frac{1}{2}d.$, $5d.$, and $9d.$ The last is named *teku*, and six *teku* are equal to one *akki*, which is approximately $\frac{1}{16}$ oz. troy.



Culture.

Fetishism is the prevailing religion still, although Christianity and Islam are making rapid strides, particularly the latter. There are numerous European missions, the Moravian (founded in 1736), the Basel (1828), and the Wesleyan (1835) being the oldest. There are Anglican churches at Accra and Cape Coast with colonial chaplains, and many churches, chapels, and Sunday schools exist in other parts.

There is a great number of government and private primary schools, some of which are assisted by the Government financially, the majority of these belonging to the Basel and Wesleyan Missions. The Government encourages technical and industrial training. The educational machinery of the Colony is controlled by a Board of Education consisting of members of the Legislative Council and others appointed by the governor.

The first Government Printing Office was established by Governor McLean in 1840. There is now a large office capable of doing all the official work. There are several newspapers published by educated natives.

Tele-graph.

All the principal towns are connected by telegraph, and some have local telephones. When first installed, large lengths of telegraph wire were being stolen continually for fetish purposes and for use as ammunition, so the chiefs were made responsible for the maintenance of the lines in their respective districts.

Biblio-graphy.

See *The Colonial Office List* (Annual); *The Annual Report*; *The Gold Coast Civil Service List* (1911); *The Gold Coast, Its Wealth and its Health*, by F. Hart (1904); *Britain Across the Seas*, by Sir H. H. Johnston; *The Niger and the West Sudan*, by A. J. N. Tremearne (1910); *Travels and Life in Ashanti and Jaman*, by R. A. Freeman (1898); *Gold Coast Palaver*, by L. P. Bowler (1911); and *The Encyclopaedia Britannica*. A good map (1:125,000) and an index giving the position of every town, village, river, &c., in the Colony, has been prepared by Major Guggisberg, R.E.



CHAPTER XIX

NIGERIA

BY J. D. FALCONER

THE British possessions in the neighbourhood of the River Niger have hitherto been known respectively as Southern and Northern Nigeria, and although they were in 1912 grouped together under the single title of Nigeria, it is useful for descriptive purposes still to retain the old names as convenient designations of regional divisions. The united colony is situated wholly within the tropics, between 4° and 13° N. lat., and with the exception of the Niger delta and the coastal plain lies entirely upon the continental plateau, with an average elevation of 1,000 feet. It possesses a total area of 335,600 square miles, and is bounded on the north and north-east by the French Sudan, on the east by the German Kamerun, on the south by the Gulf of Guinea, and on the east by French Dahomey. The most striking physical feature of the colony is the river system of the lower Niger and the Benue, with the extensive delta of the Niger projecting into the Gulf of Guinea between the Bights of Benin and Biafra. The great inland extension of the colony, however, affords scope for much variation in the physical character of its surface. The southern creeks and forests give place northward to open park-like plains; mountains and plateaux rise within the colony to heights of over 4,000 feet above the sea; while in the extreme north-east the British possessions extend inward to the margin of the northern desert and to the swampy shores of Chad, the mysterious lake of the central Sudan.

Natural Conditions

All along the seaboard of Nigeria there stretches a belt of low-lying land, a region of swamp and almost impenetrable forest, varying in width from 5 to 15 miles

The coastal plain and Niger delta.

in the neighbourhood of Lagos to 60 or more in the Niger delta. In the west the shore is fringed by a system of lagoons which communicate with the Gulf of Guinea by narrow channels, half blocked by sandy bars. Into them the rivers from the interior discharge the sediment brought down by their waters, with the result that the lagoons are slowly shallowing into muddy flats. In places these flats are three or four miles in breadth, but, except in the navigable channel, the water rarely exceeds 4 feet in depth. When the channel is kept sufficiently cleared of sodd, however, this system of lagoons and estuaries running parallel with the shore-line for more than 150 miles within the colony provides an inland water-way for small steamers of light draught from Lagos eastward to the Benin River.

It is believed that the formation of these lagoons is only in small part attributable to the constructive action of the sea. The belt of land on the south side is too broad to have been produced simply by the piling up of sand and mud and gravel by the waves and tides and currents. Moreover, in places on the south side are found low hills, 40 feet or more in height, composed of the same red clays and sands which predominate on the mainland to the north. It seems probable, therefore, that the formation of the lagoons was due primarily to a slight submergence of the southern portion of the coastal plain, which allowed a shallow sea to cover the sunken stretch between the mainland and an out-lying fringe of islands. This space in time became partially silted up by the delta deposits of the rivers, while the channels between the islands became obstructed by bars of sand built up by the waves.

To the eastward there projects into the Gulf of Guinea the great delta of the Niger, built up almost entirely of alluvial deposits, while beyond lies the estuary of Calabar, mainly formed by the Cross River. In Calabar there is some evidence that, as in the case of the lagoons of Lagos, the formation of the delta was at first due in part to a slight submergence of the foreshore. The original coast-line probably formed a gentle curve from the Lekki



lagoon eastward between Abo and Onitsha to the mouth of the Cross River. To the south of this line now lies a vast network of rivers and creeks and swamps, the interlacing arms of the delta, lined with dense vegetation and separated by strips and patches of drier ground covered with primaeval forest. In the brackish tidal waters the high-arching roots of the mangroves serve to moor the slime, and thus provide a suitable foundation for yet another step outward into the ocean.

From Benin northward almost to the bend of the Niger at Egga, and from the Cross River northward to the Benue valley, stretch the southern forests, which to some extent obscure the irregularities of the surface. The southern portion bordering the delta is low-lying and undulating, frequently swampy, but rising towards the north. The extreme east, however, in the bend of the Cross River, becomes rocky and mountainous in the Oban Hills (3,000 feet); the Udi plateau interposes between Onitsha and the Cross River; a great series of ridges and escarpments runs east and west to the north of Afikpo; while the Kukuruku Hills rise to a height of 1,800 feet to the north-north-west of Asaba. In the region of the confluence of the Niger and the Benue the surface of the dissected plateau into which the rivers have cut reaches a height of 1,200 feet above the sea, while from the Oban Hills north-eastward along the German frontier runs a tract of broken and difficult country which culminates in the Sonkwala Mts. in peaks over 6,000 feet in height. The surface sinks again to the Benue valley in the north, where much of the great plain of Muri is under 600 feet above the sea.

With the exception of the uplands of Udi and parts of the middle Benue valley where grass-land is in places abundant, the whole of the region is covered with forest, and there are few or no open spaces except where the bush has been cleared for villages or farms. Naturally, however, over such an immense area there is much difference in the type of forest growth. On the lower ground nearest the delta the forest is high, dense, and evergreen, but with increasing



latitude and decreasing rainfall the forest becomes lower and more deciduous, until over wide areas in the Munchi country and on the upper Benue it is reduced to a grassy orchard-bush with tall trees intermingled. On the lower Benue, however, and in the region of the confluence, along the banks of the rivers and streams, and wherever the land is low-lying and well watered, the characteristic high bush reappears in vigorous growth.

The Lagos
hinter-
land.

To the north of Lagos and beyond the coastal strip of lowland, the surface rises gently to a height of 1,200–1,500 feet to form the fertile plains of Yorubaland. This higher region of lessened rainfall, inhabited by a more progressive race, has been largely cleared of bush and more extensively cultivated, and now presents a park-like aspect with scattered patches of forest and strips of woodland along the water-courses. Detached hills, isolated kopjes, and smooth rounded turtlebacks of granite project at intervals from the plain and form prominent features in the landscape. This type of scenery prevails throughout Ibadan and Ilorin, and extends northward almost to the Niger at Jebba. The plains of Nupe beyond the Niger present a somewhat similar appearance, though here the isolated hills which rise from the sandy plains assume more frequently a tabular or pyramidal form.

The cen-
tral belt
of hills.

From Jebba and Borgu eastward to Yola and approximately along the tenth parallel there stretches a belt of hilly and mountainous country whose peaks in the Murchison Range rise to a height of 6,000 feet above the sea. In the middle of this belt, in the vicinity of 9° E. long., is interposed the Bauchi plateau, whose surface lies at an average elevation of 4,000 feet. Precipitous walls mark off the southern limit of the plateau from the plains of Muri and Nassarawa, while to the north it descends in a series of steps or terraces to the higher plains of Zaria and Bauchi. The whole of this tract of country is broken and rocky and particularly difficult to penetrate, and has therefore become the refuge of innumerable primitive tribes who have been driven to the hills by the conquerors of the northern plains. With



the exception of the Bauchi plateau, which is practically treeless, the greater part of this belt of country is lightly forested and covered with a thin deciduous bush.

Beyond the central belt of hills there stretch northward towards the desert the fertile plains of Hausaland and Bornu, the great savanas of the central Sudan. In the neighbourhood of Kano and Zaria, these great rolling plains lie at an average height of 1,800 feet above the sea. In the west, however, towards Sokoto, they fall to an average elevation of 1,100 feet, while in Bornu they sink gradually north-eastward to Lake Chad, which occupies a tectonic depression only 800 feet above sea-level. Where uninhabited these plains are covered with scattered orchard-bush which becomes prickly towards the north. In Hausaland, however, the greater part of the surface is under cultivation, and the landscape presents a park-like aspect with kopjes, domes, and turtlebacks of granite or isolated groups of hills rising at intervals from the undulating plains. Much of Bornu is bush-covered in the west; blown sand predominates on the northern frontier, while in the east and in the neighbourhood of Lake Chad large tracts of low-lying country are annually flooded during the rains.

The northern plains.

Over more than half of the united colony, the fundamental crystalline basement of granites, gneisses, and schists rises to the surface. These rocks extend (1) over much of the Lagos hinterland from Abeokuta northward through Yorubaland and over the greater part of Kabba, Ilorin, and Borgu; (2) from the Oban Hills in the bend of the Cross River north-eastward along the Kamerun frontier and through the Shebshi Hills to Yola; and (3) over the greater part of the northern plains, the central belt of hills, and the Bauchi plateau, where the granites become rich in tinstone. Cretaceous sandstones, shales, and limestones, fossiliferous and often salt-bearing, extend from the Cross River northward through the Munchi country to the Benue valley, and thence eastward to Yola and up the Gongola valley as far as Nafada. Tertiary (Eocene) sandstones, ironstones, clays, and in places

Geological structure.

lignites extend eastward from the neighbourhood of Lagos through Asaba on the Niger to the Udi plateau, thence up the Niger valley by way of Idah, Lokoja, Baro, and Bida to Ilo, Gando, and Sokoto. Sandstones, clays, and iron-stones, probably of similar age, occur also in Kerri Kerri, Gombe, Duguri, and on the upper Benue. Pleistocene and recent deposits are represented by the loosely compacted Benin sands and clays which cover much of the surface in Lagos, Benin, Asaba, and Calabar, by the alluvium of the Niger delta and of the Chad basin, and by the accumulations of drifted alluvium and blown sand of variable depth which extend over the greater part of the surface of the northern plains. Centres of volcanic activity formerly existed on the Bauchi plateau and in southern Bornu, and a line of extinct volcanoes of varying age now connects the eastern and the western foci. Groups of *puy*s are found also on the middle Benue in the neighbourhood of Awe, and the Shebshi Hills on the Kamerun frontier are in places capped by basaltic lavas. The formation of the Bauchi plateau has been ascribed to differential elevation during some recent period of crustal movement.

Hydro- graphy.

The river system of Nigeria is believed to be entirely of recent origin and intimately related to a series of intersecting flexures into which the surface of the continent was thrown during a recent period of crustal warping. The rivers fall naturally into four major groups: (1) the rivers to the west of the Niger, the Ogun, Oshun, and Oni, discharging into the Lagos lagoon, the Oluwa, Owena, and the estuary of the Benin River which is connected by creeks with the Niger delta; (2) the rivers to the east of the Niger, the Imo, Kwa Ibo, Cross, and Calabar Rivers; (3) the Niger-Benue system and the southern delta, with the Rima, Kaduna, and Gurara, tributaries of the Niger, the Okwa, Modu, Ankwe, Gongola, Tarabba, Donga, and Katsina, tributaries of the Benue, and the fourteen principal mouths of the delta, of which the rivers Forcados and Nun are the largest and the most important; (4) the Yo and the Yedseram



forming part of the inland or Chad system in the north-east.

The primary watershed which separates the Niger-Benue system from the inland or Chad system runs south-south-east from the neighbourhood of Katsina to Bukuru on the summit of the Bauchi plateau, thence north-eastward to Gujba in Bornu and then south-east to the Yola border. The watershed separating the Niger system from the rivers to the west runs east-south-east from Ogbomosho to the Kukuruku Hills and thence southward between Benin and Asaba parallel with the Niger, while that between the Niger and the rivers to the east runs approximately south to north through the Udi plateau, describes a semicircle to the north-east round the Cross River system, and meets the Kamerun frontier in the Sonkwala Mts. These watersheds do not to any great extent coincide with belts of hills or lines of mountains. On the contrary, they run imperceptibly along the crest-lines of the higher plains, and the headwaters and tributaries of the larger rivers in most cases flow placidly for long distances in wide and shallow channels over the upper plains before descending by rapids and waterfalls to join the trunk streams. This peculiarity of the river system is one of the proofs of the recent establishment of the present hydrographical régime by the irregular elevation of a former peneplained surface.

Of the various groups the Niger-Benue system is the most important. It provides a system of inland waterways by means of which at the height of the season direct access may be had by way of the Benue and Gongola to Nafada on the eleventh parallel, 200 miles from Lake Chad and 900 miles from the sea. The Niger itself is navigable as far as Jebba, and the Kaduna to Wushishi, but above these points the channels are blocked by waterfalls and rapids. The Benue, on the other hand, and many of its tributaries, are navigable in the season for their whole length within the colony. It is characteristic of the rivers of the colony, however, that their catchment basins possess com-



paratively small reservoir capacity, thus occasioning quick rises in the water level and rapid falls in the amount of discharge. Further, during the dry season, on account of the enormous amount of evaporation, most of the smaller streams cease flowing and the water in the larger rivers becomes very low. The rise of the Niger and the Benue due to local rainfall takes place in August and September, and may amount to as much as 35 feet above low-water level.

A small portion of Lake Chad falls within British territory. The lake occupies a shallow tectonic depression in the continental surface, varies much in extent according to the season, rarely exceeds 4 feet in depth, and reaches its maximum in the month of February. The water is fresh, but becomes brackish on the margins towards the end of the dry season. Pools of water, more or less temporary in character, occupy occasional hollows in the drift-covered surface of the northern plains, but they rarely persist throughout the dry season. Around Awe on the middle Benue, and in the Munchi country to the south, small salt lakes are common, fed by brine springs in the vicinity. There is, however, a remarkable absence of permanent freshwater lakes throughout the whole colony.

Meteoro-
logy.

Southern Nigeria is well equipped with meteorological stations, and continuous records have been kept for a series of years. Less accurate information is available with respect to Northern Nigeria, where the stations are further apart and more recently equipped.

Tempera-
ture.

Over Southern Nigeria the average maximum shade temperature is 91.45°F. , and the average minimum shade temperature 65.47° , giving an average mean temperature of 78.5° . In Northern Nigeria, however, while the mean daily temperature is about 80° , and little above the average for Southern Nigeria, the diurnal range is everywhere much greater than in Southern Nigeria and greatest towards the north. The greatest diurnal range of temperature in 1911 was 39° at Sokoto in January. The greater range of temperature in the

northern territory is due to the less relative humidity of the atmosphere and to the absence of forest, which encourage greater insolation by day and greater radiation by night.

The tropical rains follow the sun northward in the summer, with the result that the southernmost portions of the colony receive the earliest and the heaviest rains. In Southern Nigeria three rainfall belts may be distinguished, having respectively over 100 inches, over 75 inches, and under 75 inches of rain per annum. The greatest rainfall is precipitated in the Niger delta, and varies from about 100 inches at Abo to 150 inches at Calabar. The boundary between this belt of excessive rainfall and the second belt runs from the Benin River east-south-east through Abo at the head of the delta to the neighbourhood of Calabar on the Cross River. The second belt includes the lagoon system of Lagos, and its northern boundary curves eastward by way of Benin city, Onitsha, and Afikpo to enclose the Oban Hills on the eastern frontier. The remainder of Southern Nigeria has less than 75 inches of rain and the average rainfall decreases rapidly with distance from the sea. In Northern Nigeria data are wanting for a subdivision into belts. The rainiest regions, however, are the south-west provinces, the central belt of hills, the southern margin of the Bauchi plateau, and the Shebshi Hills on the Kamerun frontier. Even in these districts the rainfall rarely exceeds 55 inches per annum; while on the northern plains it sinks to an average of 33·5 inches at Kano and 26·5 inches at Sokoto. In 1910–11 the greatest rainfall in Northern Nigeria was 56·44 inches at Ankpa in Bassa province to the south-east of Lokoja, and the lowest 16·87 inches at Geidam on the north-east frontier of Bornu.

Nigeria experiences a regular alternation of rainy and dry seasons. In summer a low-pressure system forms over the Sahara and south-westerly rainy winds blow inland from the Gulf of Guinea. In winter the equatorial low-pressure system reasserts itself and dry dust-laden winds (*harmattan*) from the north and north-east blow

outward over Nigeria. In Southern Nigeria the dry season extends over five months and the rainy season over seven, heavy rains falling from April to July and light rains from August to October. The *harmattan* blows regularly from December to February, and there is a pronounced tornado season before the rains begin. In Northern Nigeria the dry season extends over seven to nine months according to latitude, and the rainy season over three to five, the rains being preceded and followed by a tornado season of variable length. The lowest minimum temperatures are experienced during the *harmattan* season (November to February), and the highest maximum temperatures at the change of the seasons before and after the rains.

Vegetation.

The mangrove is the characteristic tree of the delta, where it lines the estuaries of the rivers and creeks. The stem, whose average girth is about 18 inches, is raised above the mud on numbers of stout arching roots. It grows only in brackish tidal waters, and on the Niger and Cross Rivers ceases at a distance of 60 miles from the sea. Beyond the limit of the mangroves the land becomes drier and firmer and clothed with a dense and lofty forest and a thick undergrowth of creeping and twining plants. Palms of many kinds form the characteristic vegetation, interspersed with giant trees often 200 feet in height and 16-20 feet in girth. Hardwoods are abundant, including mahogany, ebony, teak, redwood, African cedar, and plane, but the most noticeable of all are the silk-cotton trees (*Eriodendron bombax*) with smooth bark, straight columnar shafts, and great buttressed roots festooned with gaudy creepers. Rubber vines are characteristic of the undergrowth, and tree-orchids flourish on decaying and fallen branches. Further north the forest belt changes into an open orchard bush of luxuriant grass and herbs and scrubby trees, with rich forest only in the river valleys. The kuka or baobab tree (*Adansonia digitata*), with its gnarled and knotted arms and fluted fleshy stem, replaces the cotton tree as the most prominent member of the bush, while locust trees, shea-nut trees, and tamarind trees become much

appreciated for their shade. Bamboo is common along the water-courses of the central belt of hills, and fan or deleb palms (*Borassus*), 60–80 feet in height, become characteristic of the flood-plains of the rivers. In the more arid regions of the north acacias and mimosas predominate and form in places dense low-growing prickly bush, while date-palms occur in clusters near the springs.

The mammalian fauna of the southern forests is closely related to that of the great forests of the Congo and Kamerun, while the fauna of the northern plains is similar to that of Senegal, the two types intermingling on the lower Niger and in the Benue valley. The high bush, wherever found, is the home of several varieties of monkeys and baboons, but the chimpanzee is unknown. The African elephant is found in the open forests of the south, and, though less abundant than formerly, ranges northward through the Benue valley to Lake Chad. The hippopotamus is abundant in the larger rivers, and is found also in Lake Chad and the River Yo. Crocodiles are common, up to 20 feet in length, among them the sangwar; a web-footed variety in the Niger. The rhinoceros is unknown in Nigeria, although it is found in the Shari River immediately to the east. The thin bush and the open grassy plains of the Lagos hinterland and the middle Benue valley, and the well-watered portions of the northern plains, are inhabited by numerous ungulates with associated carnivores. The most important of these are the Nigerian giraffe (rare), the West African hartebeest, the Senegal hartebeest, the West African oribi, the water-buck, cob, eland, koodoo, roan antelope, bush-buck, lion, leopard, hyena, and jackal. Various gazelles, including the Dorcas gazelle, are found in the neighbourhood of Lake Chad. Wild cats, bush-pigs, porcupines, and squirrels are common in the forest; rats and mice are particularly abundant, while rock dassies (*Procavia*) abound amongst the granite boulders.

With respect to birds Nigeria has been divided into three distinct geographical areas :

- (1) The dense forests of the south, inhabited by

forest thrushes, fly-catchers, orioles, woodpeckers, forest weavers, parrots, hawks, and hornbills.

(2) The open forests and river valleys to the south of the central belt of hills, inhabited by birds of a Senegambian type, including sun-birds, reed-warblers, bee-eaters, blue jays, francolins, guinea-fowl, doves and wood-pigeons, sand-plovers, wild ducks and geese, pelicans, ibises, crowned cranes, marabout storks, white egrets, fish-eagles, and vultures.

(3) The northern plains, with a Sudan fauna of larks, finches, rock-sparrows, sand-grouse, nightjars, bustards, woodpeckers, starlings, barbets, and shrikes, with hornbills in the baobab trees and sun-birds in the mimosas.

In native villages the yellow weaver is usually conspicuous, while vultures and kites act as scavengers. Waxbills are abundant on the waste and fallow land around. In the north long stretches of bush are found untenanted, the birds apparently congregating in groups and travelling together. Giant bats are the denizens of the high bush on the river banks, and flocks of thousands may be seen insect-hunting in the evenings as far north as the lower Kaduna. The principal game-birds are francolins or bush-fowl, guinea-fowl, rock-pheasants, sand-grouse, and bustards. Practically the only song-birds are the red thrush and the reed-warbler. The ostrich is reared in the north and is probably indigenous to the country.

Reptiles
and
insects.

Reptiles are numerous and include puff adders, vipers, tree cobras, burrowing snakes, and pythons. Many of them are poisonous, but deaths from snake-bite are comparatively rare as compared with the mortality from this cause in Asia, America, and Australia. The West African chameleon is common, and gaily coloured lizards are everywhere abundant. Scorpions are numerous and their sting is much dreaded by the natives. Insect pests are characteristic of the country. The mosquito is everywhere, except upon the Bauchi plateau and the northern plains in the dry season. Fireflies and flying ants abound on the rivers; tsetse and other cattle-flies are found



everywhere to the south of the eleventh parallel during the rains, but in the dry season to the north of the Benue they are confined to the river banks and to certain belts of forest. Sandflies are characteristic pests of the open country in the north, while the jigger, a recent introduction, is dreaded in the south. Termites are common in the less forested parts, and driver ants in the moister regions of the south.

The rivers teem with fish, and many different kinds are ^{Fish.} caught and used as food by the natives. The West African mudfish (*Ceratodus*), the sole survivor of a very ancient type, is one of the greatest delicacies. The fish fauna of the Senegal and Niger rivers has been known for some time to be similar to that of the Nile. It has only recently been proved, however, that the most characteristic fish of Lake Chad are also identical with those of the Nile. These facts are now taken to indicate the existence of internal communication between the various systems at a comparatively recent period. Some peculiar forms common to Lake Chad and the Nile are the great perch of the Nile (*Lates niloticus*), which attains a length of 5 or 6 feet, the bolti (*Tilapia nilotica*), the long-snouted oxyrhynchus, the puffer or globe-fish (*Tetradon fakaka*), and various species of cat-fishes and mormyrus, the latter possessing slight electric powers.

The pariah dog and the ostrich are probably the only ^{Domestic} indigenous animals which have been domesticated. ^{animals.} All the other domestic animals, horse, ox, goat, sheep, one variety of dog, and fowls were introduced at an early date, and are probably to be traced through Egypt to an Asiatic origin. The horse is common in Hausaland and Bornu, but is much subject to fly disease to the south of the central belt of hills. A breed of small hill ponies is found on the Bauchi plateau, and a dwarf variety of horse is said to be reared in Ondo in Southern Nigeria. The Bornu ox is straight-backed with enormous upright horns and is apparently a variety of *Bos aegyptiacus*, the indigenous wild bull of north-eastern Africa. The Fulani ox is humped and smaller horned, and closely related to

the zebu or humped cattle (*Bos indicus*) of India. A large horned type of humped cattle is also met with as the result of interbreeding of the two varieties. All these thrive best to the north of the central belt of hills, but dwarf cattle, immune from fly disease, are found in Ondo, Ilesha, Ifon, and Iboland in Southern Nigeria, and in Bassa in Northern Nigeria. The prevailing colour of this peculiar variety is black and white, more rarely black or fawn-coloured. The legs are short, the head and body heavy, the horns small, and the fore quarters generally lower than the hind. They are similar to the stunted cattle of the Congo and Senegambia, and probably represent a dwarfed variety of *Bos aegyptiacus*. In the north the horse and ox are both used for riding and as pack animals, but not for draught. The sheep are wire-haired, maned, and long-legged, with short horns and long tails. Woolly sheep are unknown in Nigeria, although they are to be found in the neighbourhood of Timbuktu and in the oases of the Sahara to the north. A breed of large sheep with long hair and spiral horns growing out at right angles horizontally from the forehead is also found. The dwarf 'Guinea' goat is common everywhere in the south, small, plump, short-legged, with close hair and short horns. A larger breed, similar to the Syrian goat, is found in the north, hornless or with short horns, long neck, arched nose, long legs, long hair, and drooping ears. A thin-haired greyhound breed of hunting dog, introduced from Egypt, is found in the north, while the domestic fowl has spread through the Sudan from Egypt since 300 B.C. The civet-cat is kept in captivity in the north for the sake of the valuable perfume which it secretes.

Economic Conditions

Agriculture, food-stuffs, fruits.

The inhabitants of the dense swampy jungle of the delta where the rainfall exceeds 100 inches per annum subsist mainly on a diet of yams. Small plantations of sugarcane and bananas are found round the villages, and maize is grown to some extent in the drier places. * The farming



is generally of poor quality, and the natives grow only sufficient roots and grain for their own consumption. The belt of intermediate rains, a stretch of low ground extending from the western lagoons to the Cross River, is covered with a deep alluvial soil, densely populated, and largely under cultivation. The chief crops are (in order) yams, maize, and cassava, with small quantities of sweet potatoes, ground-nuts, and Guinea corn. So fertile is the soil that a few weeks of labour is sufficient to provide food for the whole year. As a rule no rotation of crops is practised. The land is simply cleared and cropped, and then usually allowed to lie fallow for five or six years. The people of Benin often plant their grain in partially cleared ground, but in the east on the Cross River cultivation is more careful, the earth being thrown up into loose mounds often 5 to 6 feet in height for the purpose of growing yams, maize, pepper, Guinea corn, pumpkins, &c., all of which are found planted on each mound. Fruit trees are not grown plentifully, and after planting are usually left uncultivated, the chief kinds being pine and akee apples, avocado pears, bananas, plantains, pawpaws, oranges, mangoes, and guavas.

The higher and drier ground which stretches northward to the Benue valley and over the Lagos hinterland, beyond the belt of intermediate rains, is particularly adapted for farming, and the climatic conditions are suitable in most places for the cultivation of cotton and fibrous plants in addition to the various grains. The numerous tribes which lie to the east of the Niger and to the north of the Cross River are said to be careful cultivators, but little is known of them. The Lagos hinterland is inhabited by the Yoruba peoples, who are more industrious and more intelligent than most of the other tribes of Southern Nigeria. Their principal crops are maize and Guinea corn, sweet potatoes and ground-nuts, cassava and yams, sugar-cane, native beans, pepper, onions, and tobacco. Fruits are abundant, but generally left uncared for. Continuous cultivation is unknown, the usual practice being to farm a piece of land for a few years

and then to allow it to return to a wild state for a long period. The use of manure is also unknown for any crops except onions and tobacco, both of which receive an application of wood ashes. The cultivation, however, is fairly deep, and this to some extent compensates for the non-employment of manure. The Yorubas are ignorant of artificial irrigation.

In Northern Nigeria the pagan tribes in the lower Benue valley and in the region of the confluence are industrious farmers, using no manure, but resorting to deep cultivation and raising from the fertile soil heavy crops of Guinea corn, maize, and yams. The Nupes of the middle Niger are less careful cultivators, while the pagan tribes of the central belt of hills are in many cases compelled to resort to terrace cultivation of the rocky slopes. Of all the tribes of Nigeria whose methods have so far been investigated, the Hausas are the most advanced, and round the city of Kano, where the population is most dense, cultivation has been continuous for a long period, the fertility of the soil being retained by an annual manuring with animal refuse and wood ashes. The method of cultivation is mostly shallow, and in many places the crops subsist almost entirely upon the manure supplied, the natural consequence being that the crops are small and frequently fail in dry seasons. Tillage is done entirely by hand, and all the fields for growing ordinary food-crops, with the exception of cassava, rice, and sugar-cane, are hoed up in long ridges which rise about 8 inches above the original surface and 10 to 12 inches above the lateral furrows. This system gives the farms the appearance of deep cultivation, but the appearance is deceptive, the ground being usually hard, unbroken, and untilled beneath the heaped-up soil. Large quantities of manure are therefore required to compensate for the shallow cultivation. Artificial irrigation by means of the Egyptian *shaduf* or dipping-beam is extensively practised around Kano and Zaria.

The staple crops of Hausaland and Bornu may be roughly classified as rainfall, irrigation, and swamp



crops. The first include the principal sources of food, such as Guinea corn, millet, maize, ground-nuts, cassava, and sweet potatoes. These are sown or planted at the beginning of the rainy season and are greatly affected by the distribution of the rains, whose insufficiency or irregularity in any district often leads to failure of the crops and famine. The irrigated crops are yams, onions, tobacco, pepper, and sometimes wheat; also cassava and sugar-cane in the northern districts. Wheat is also grown in places as a rainfall crop, but is practically confined to the country north of the eleventh parallel. The swamp crops are rice, colocasia, yams, and sugar-cane, the ground being specially prepared for each during the dry season. Fruits are scarce, and, with the exception of the tomato, are practically uncultivated. The commonest are pawpaws, limes, bananas, dates, and figs. Grapes were formerly grown at Katsina.

Nigeria owes to Egypt and the East all its domestic animals and its most important food-stuffs, and to the Portuguese slavers the majority of its fruits. It is probable that early Hamitic migrants brought with them into the Central Sudan the agricultural knowledge, the food-stuffs, and the domestic animals of the eastern nations. The absence of any knowledge of the plough, and of the use of the ox and the horse for draught, probably indicates that the stream of migration from Egypt to the Central Sudan was for some reason interrupted before these practices themselves had arisen in the early civilization of the Nile valley. The use of the *shaduf* or dipping-beam in Nigeria probably dates from the Arab invasion of North Africa in the seventh century A.D.

In Hausaland cotton has been cultivated from the earliest times, and in the past cotton cloth formed one of the principal exports from Kano and Zaria to northern Africa by caravan. From Hausaland the knowledge of cotton spread southward to the Benue valley and to the Yoruba country in the Lagos hinterland, and thence to the Ibos of Asaba and to the Aros and Efiks of the Cross River. It appears to be unknown elsewhere in southern



Nigeria and in the central belt of hills. In course of time several distinct varieties of cotton have arisen in Nigeria, each particularly fitted to the soil where it is grown and able to resist the attacks of the local insect pests. In the south tall-stemmed varieties are commonly cultivated, which are usually prolific, yielding a lint whose fibre generally averages 1 inch in length. In the north a small-bolled variety with a short stem takes the place of the tall cottons of the south. The lint is of shorter staple and the plant is less prolific. Around Kano cotton is a manured crop, sown from July to September, harvested before the end of March, and often grown in small enclosures in alternation with cassava. Large cotton fields are not seen on account of most of the land being required for food-crops. In Yorubaland planting takes place in June, July, and August, and the harvest is gathered from January to April. For the most part the cotton is grown as a separate crop in succession to food-stuffs, although sometimes it is found associated with maize.

Cotton-planting experiments.

West African cotton compares unfavourably with American varieties in colour, lustre, and length of staple, and the price obtained for it in the home market is equal only to that of 'middling American' grade. With the object of improving the quality and market value of the cotton, the government has distributed considerable quantities of selected seed, and the British Cotton-Growing Association has established stations throughout the country where experiments are being made in the naturalization of exotic cottons and in the hybridization of American and African varieties. The exotic cottons, however, are found to degenerate after the first generation and to be much more susceptible to the attacks of insect pests than the indigenous varieties, while a permanent hybrid, combining the lint of the best American kind with the hardiness and blight-resisting powers of the indigenous cottons, has not yet been produced. The high cost of local labour and the low market price of the ginned lint make the establishment of extensive plantations of indigenous cotton under white



supervision apparently impossible. Indeed, the experience of the British Cotton-Growing Association has shown that any such attempt is likely to prove unremunerative unless the work of general trader, farmer, and ginner be combined with that of grower. The British Cotton-Growing Association has abandoned the attempt to establish self-supporting plantations, and is concentrating its efforts upon the improvement of the indigenous varieties of cotton, upon the production of permanent and satisfactory hybrid forms, and upon encouraging the native farmer to introduce cotton into his ordinary field rotation.

A marked increase in the amount of cotton cultivated by the natives took place in Yorubaland after the opening of the Lagos-Ibadan railway and the establishment of a permanent market and ginnery at Ibadan. Ginneries are now also working at Oshogbo, at Lafenwa near Abeokuta, and at Illushi and Ogudu on the Niger. Practically all the cotton at present exported comes from Yorubaland and the river provinces of the Niger and the Benue. All the cotton grown in the northern districts is at present utilized locally, but with the extension of the railway to Kano and the gradual development of those regions which lie beyond the limit of the oil palm and the rubber vine, it is hoped that the natives will take to cotton-growing for export. The land and the climate of the northern states are suitable; the population is dense and industrious, but congested in the neighbourhood of the towns. Large areas of fertile land are uncultivated; but with the reoccupation of the country districts under the security of British rule and the improvement of means of transport, it is anticipated that Kano will become known in the markets of Europe, as she has long been in those of the Sudan, as the centre of the cotton industry in West Africa.

Tobacco is cultivated near Ibadan in Southern Nigeria and almost everywhere in Northern Nigeria. The crop is usually grown on low-lying land near water and is carefully irrigated. Cow manure, ashes, and house sweep-

Tobacco,
dye
plants,
fibres.



ings are always applied as fertilizers. The leaves are cured only by sun-drying.

In the Lagos hinterland, Ilorin and Kabba indigo is extracted from *Lonchocarpus cyanescens*, which occurs wild and is preserved when the ground is cleared for farms. In the north indigo is prepared from a species of *Indigofera*, which is grown and cultivated in small patches by the natives. Camwood, which yields a red dye, is obtained from various species of *Pterocarpus*, which grow wild and are preserved on the farms. Henna is used as a red dye when the other is scarce. It is obtained from *Lawsonia inermis*, which is regularly planted as a separate crop in the northern provinces.

Owing to the demand for ropes amongst cattle-keepers and canoe-men several species of *Hibiscus* are extensively cultivated throughout the country under the name of 'ramie'. In the north the crop is treated as carefully as a food-crop and considered valuable enough to irrigate. The prepared fibre is similar in appearance to Bengal jute and makes excellent rope.

Forest
products:
palm oil.

Palm oil, a thick orange-yellow or reddish liquid extracted from the nuts of the oil-palm (*Elaeis guineensis*), has formed an important article of diet throughout Yorubaland and the lower Niger valley probably from the earliest times. Its importance as an article of export dates only from the beginning of last century, when a trade in palm oil began to take the place of the former trade in slaves. The oil-palm is found generally throughout Southern Nigeria with the exception of the dense wet forests region of the Oban Hills. It grows most luxuriantly where the soil is generally moist, although swampy and ill-drained land is unfavourable. In its natural state it occupies open valleys with low undergrowth, but soon becomes established upon land which has been cleared of virgin forest. It diminishes in numbers in those regions where the climate becomes drier or where the land rises into rocky and mountainous country with a scanty soil. In Northern Nigeria it is found in Ilorin and Kabba, on the lower Benue and in the region of the

confluence, but further north it is only found in the vicinity of streams and is rarely seen to the north of Zungeru. The seeds or nuts, which are large and heavy, are distributed mainly by the agency of monkeys and frugivorous birds, such as the grey parrot. Several varieties of the oil-palm are known, varying in the thickness and relative proportions of pericarp and of shell and in the size of the kernel. The oil is derived from the outer fibrous pericarp and is extracted by the natives by means of boiling and maceration. The thin-shelled varieties have a greater proportion of pericarp, and therefore yield more oil. The palm kernels also yield an oil of better quality known as 'kernel oil', but this is generally extracted in Europe, the kernels being exported. The oil-palm is so abundant and so widely distributed that only a comparatively small proportion of the nuts is annually gathered.

Many varieties of rubber are prepared for export by Rubber. the natives from the latices of various trees and vines indigenous to Nigeria. The most important of these and that which yields the best rubber is the African silk-rubber tree (*Funtumia elastica*), which is distributed throughout the forested zone of the country with the exception of the swampy parts. It is rarely found to the north of the confluence of the Niger and the Benue. The next in importance is the rubber vine, *Landolphia owariensis*, which has practically the same distribution as *Funtumia elastica*. The latices of a number of other plants are employed in the adulteration of good rubber. The natives have also discovered that a larger amount of latex than exudes naturally on tapping can be obtained at one time if the roots and stems are cut and pounded up, the resulting product being known as 'root rubber'. This wasteful method has led to the destruction of rubber vines and trees over wide areas, but the natives in many places are realizing their mistake and replanting rubber trees in many districts from which they had been practically exterminated. 'Paste rubber,' a sticky substance of the consistency of bird-lime, is derived from the vines



Carpodium hirsutum and *Landolphia florida* and other species which grow in the drier parts of Southern Nigeria and on the Niger banks. In the north various species of *Ficus* also yield inferior rubbers and guttas, the 'red Kano rubber' of commerce being derived from *Ficus platyphylla*.

Rubber-planting.

Government plantations of Para rubber (*Hevea brasiliensis*) have been made in some of the wet districts and present a satisfactory appearance. None of them has yet fully matured, and in view of the uncertainty attending the introduction of exotic varieties of useful plants, the successful introduction of Para rubber is still in some doubt.

Other forest products.

Shea-nuts are the seeds or kernels of the fruit of *Butryospermum parkii*, which grows wild in the northern forests and is preserved on land cleared for cultivation. The tree is characteristic of Northern Nigeria, although it is also found in the north of Yorubaland and eastward towards the Niger. The fleshy pericarp yields a white latex which coagulates into a product known as 'gutta-shea'. The kernel, upon suitable treatment, yields a thick oil or butter, which is used by the natives in cooking as a substitute for palm oil or ground-nut oil.

A kind of copal resin is collected in the southern regions from *Cyanothyrsus oblongus*, and is exported under the name 'Ogea gum'. In the drier northern regions of Kontagora, Hausaland, and Bornu, acacia trees of several species become numerous, and some of these produce gum, which is collected for export.

Hardwoods are abundant in the dense forest-belt surrounding the delta, the most valuable being mahogany and ebony. Ebony is found chiefly in the Cross River district, the sources being two species of trees of the genus *Diospyros*. Mahogany is abundant on the lower Niger, the sources being red woods of various genera of the natural order *Meliaceae*.

Silk-worms are found wild around Ibadan in the Lagos hinterland and in the Bauchi province of Northern Nigeria. The cocoons are collected and the silk carded



and spun into yarn by the natives and used in weaving and embroidery. The best silk is obtained from the cocoons of an *Anaphe* which feeds on the leaves of the tamarind tree in Bauchi province.

Cocoa plantations have been attempted in Southern Nigeria, especially to the north and north-east of Lagos. The climatic conditions are not particularly favourable to the cocoa-plant, which requires a sufficient supply of moisture all the year round and can survive only short periods of drought. The effect of the long dry season in the Lagos district is reflected in the frequent exhaustion, sterility, and repeated failure of the trees. More recently a number of small plantations have been made in the east, in Old Calabar and round Itu, and as the climatic conditions are there more favourable, more successful results are anticipated. As yet practically all the cocoa exported comes from the country behind Lagos.

Other
plantation
products.

Kola-nuts are especially valued in the Hausa states and throughout the Sudan, where their use is the same as that of betel-nuts in Asia. The chewing of the nuts is said to allay both hunger and thirst. The tree (*Cola acuminata*) is indigenous to the Gold Coast. In Southern Nigeria two species are cultivated in plantations by the Yorubas, Ibos, and Binis; but in the north the tree is seldom seen except on the west bank of the Kaduna river near its confluence with the Niger, where the plantations of the Emir of Bida are situated.

Coco-nut plantations are found on the Lagos coast and for some distance inland. At Badagry, the contents of the interior of the nuts are extracted, dried, and exported as copra.

Small quantities of gold, silver, copper, zinc, and lead are found in places throughout the country, but nowhere in sufficient quantity to repay European exploitation. Silver and lead (*galena*) occur together at Arofu on the middle Benue and in the Munchi country to the south, where the lodes have been worked by the natives, mainly for the sake of the *galena*, which is much used as a cosmetic throughout the northern countries. Gold and copper

Minerals.

ore occur in very small amount, and are nowhere worked by the natives. Various limonites and surface iron ores are extensively smelted by the natives in primitive fashion with wood charcoal. Tinstone occurs in and around the Bauchi plateau in Northern Nigeria and in the Oban Hills in Southern Nigeria, and in smaller quantities in various parts of the country. Only in Bauchi had a knowledge of tin-smelting arisen among the natives before the British occupation. The tinstone occurs there for the most part in river gravels, which are distributed over an area of about 9,000 square miles. Rapid exploitation of these Bauchi tinfields has taken place within recent years, and many prospecting syndicates are engaged in the location of payable deposits. The gravels vary much in their content of tinstone, and only a very few of the claims have reached the producing stage. The difficulty of transport has rendered the working of any but the richest deposits hitherto impracticable, but the completion of the railway now under construction into the heart of the tinfields will to a large extent remove this difficulty. There is also considerable prospect of lodes being found in future in the vicinity of the gravels.

The waters of a number of brine springs are evaporated for salt in the neighbourhood of Awe and Bomanda on the middle Benue and in various places in Southern Nigeria, to the north and west of the Cross River. Salt is also extracted in Bornu from the ash of a shrub, *Salvadora persica*, which grows in the vicinity of Lake Chad. The local supply of salt, however, is small and inadequate for the population.

In Southern Nigeria the most important mineral deposits are the lignites of Asaba and other districts and the sub-bituminous coal of the Udi highlands. The lignite deposits are believed to cover a large area east and west of the Niger, and the coal large portions of the Udi plateau. Great hopes are entertained of the value of these coals and lignites as a source of power not only to Nigeria itself but to the whole of British West Africa. Traces of bitumen and mineral oil have been found in



the Ijebu country near the Lekki lagoon, but although extensive boring operations have been carried out, no satisfactory results have been obtained.

Apart from such primitive occupations as agriculture Industries. and fishing, the inhabitants of the Niger delta and the southern forests practise few or no native industries. Earthen pots are made in several places, while a knowledge of iron is general. The people of Benin are noted for their skill in brass-work. Large numbers of the inhabitants are engaged in gathering and preparing the forest produce for European traders and transporting it to the factories. In the Lagos hinterland the Yorubas practise the arts of weaving, tanning, dyeing, and forging, and attempt a little cattle-rearing in the north. Large earthen jars are made in Abeokuta and elsewhere for the palm oil, indigo, and native liquor trade. The Kokandas and Nupes are skilful watermen, and each tribe has evolved a special type of canoe. The Nupes are also skilled in embroidery, in basket-work, in leather, and brass-work. The Hausas are skilful weavers, dyers, potters, leather-workers, blacksmiths, and general traders. Their great city, Kano, has been the centre of the cotton industry in the Sudan since the ninth century, the cloth being woven in narrow strips on small hand-loom and dyed indigo or magenta. The Kanuri of Bornu are mainly agriculturists, while the Fulani are in part cattle-keepers and horse-breeders and in part rulers and aristocrats. While there is considerable local demand for the various articles of native manufacture they are for the most part crude and badly finished and of no value for export.

From earliest times the Hausas have been the recog- Trade. nized traders of Nigeria and the Central Sudan, and well-defined trade-routes were early established from their northern cities into the countries of the surrounding tribes. Hausaland is particularly lacking in salt, and there is little doubt that it was the desire for salt which first stimulated the local industries of Hausaland and, added to their share of nomadic blood, first urged the Hausas to become the intrepid travellers and traders of the Sudan.

Great roads led from Kano, Zaria, and Sokoto south-westward to Nikki and Ilorin, where the cotton, cloth, leather-work, feathers, spices, and even cattle of the north were bartered for the salt and kola-nuts of the Lagos seaboard. Another main road led from Kano and Zaria southward to the Benue, where Kano cottons were again bartered for salt and *galena*. South-eastward through Bauchi lay the salt district of the upper Benue, eastward lay Bornu with its stores of salt around Lake Chad, and northward lay Asben and the country of the desert tribes with salt as abundant as cotton was rare. In all directions ran the great highways, established and frequented by the Hausa traders, and gradually, with the progress of civilization and of native arts, articles of other kinds were added to their stock in trade, until the men of Kano became the recognized carriers of the Sudan as the Arabs were of the desert to the north. Their method of transport was and still is by portorage or by pack animals, donkeys, horses, and oxen, the traders travelling together in companies or caravans wherever the roads were considered unsafe. A considerable caravan trade, carried on mainly by Arabs, existed also between Kano, Kukawa, and Tripoli, whereby certain European commodities, such as sugar, coffee, and silk, became known in the Sudan, and Kano or 'Morocco' leather and ostrich feathers were placed upon the markets of Europe. With the establishment of European trading-stores on the lower Niger and Benue much of this transcontinental trade disappeared. The Hausa merchant could now obtain his luxuries and European goods independently of the Arab trader, and a stimulus was given to the southern river tribes, who were encouraged by Hausa and European alike to barter the products of the forest for native or foreign goods. The establishment of British rule throughout the land has been accompanied by a marked increase in internal trade, and where transport by steamer or rail has been provided the Hausa merchant has not been slow to avail himself of modern methods.

A great variety of goods suited to the native taste—



cotton goods, spirits, salt, rice and other provisions, silks, tobacco, sugar, cutlery, and hardware—are now imported into the country. On account of the products of native industry being unsuitable for the European market, the exports from Nigeria, with the exception of tinstone, are almost entirely forest or agricultural products—palm oil and kernels, rubber, cotton lint, cocoa, shea-nuts and butter, timber, gums, fibre, ground-nuts, benni seed, and tin oxide. The export of palm oil and kernels has been the mainstay of the trade of Southern Nigeria since 1900. Tin oxide is now the most valuable article of export from Northern Nigeria, but apart from minerals, shea-nuts, rubber, and palm kernels form the principal exports. Taking good and bad years together, the average export for periods of three years since 1905 shows a steady increase. By far the greater part of the oil and kernels exported is obtained from Southern Nigeria. The chief commercial uses of palm and kernel oil are for the manufacture of soap, candles, and glycerine.

Several of the so-called rubbers exported from Nigeria are of inferior quality and only of use for cheap manufactures. All kinds, however, seem to be marketable at a price which is remunerative to the exporter.

The greater part of the cotton lint exported from Nigeria is grown in the Yoruba country behind Lagos. The amount exported has shown a remarkable fluctuation during the last few years, owing mainly to an alternation of good and bad seasons. The greater attention being paid in certain districts to the growing of food-stuffs has also had an adverse effect upon the industry.

The export of cocoa from Southern Nigeria, and mainly from the Lagos district, is steadily increasing. There is a growing demand for shea butter in Europe for soap and candle-making, as well as for the manufacture of vegetable butter, and the supply is at present inadequate. The trade in timber in Southern Nigeria has fluctuated much. Trees are only useful for felling in the vicinity of creeks and rivers whence the logs may be readily trans-

Communi-
cations.

ported to the sea ; and while new localities are constantly being opened up many of the earlier concessions are being rapidly worked out. Some trade in ostrich feathers and Kano leather is being encouraged in the north.

The rivers have been in the past the main arteries of communication throughout the country, but in consequence of the great fall in the water-level between October and May, navigation is then only possible for shallow-draught stern-wheel steamers, launches, barges, and canoes. In the delta region every place of importance is easily reached by river steamers, and there is a regular service between Forcados and Lagos by lagoon. The Cross River is navigable in the season for 240 miles up to the Kamerun frontier. The Niger is navigable as far as Jebba, a distance of 400 miles from Forcados, the Benue as far as Yola, a distance of 480 miles above its confluence with the Niger. The Kaduna is navigable for 50 miles up stream to Barijuko, and the Gongola for 130 miles northward from its junction with the Benue. A railway of 3 feet 6 inches gauge from Lagos to Ibadan (123 miles) was completed in 1900. This line has since been extended by way of Oshogbo, Ilorin, and Jebba to Minna, 40 miles east of Zungeru and about 450 miles from Lagos, where it joins the Baro-Kano railway. This latter railway, which runs from Baro on the Niger via Bida and Zaria to Kano, a distance of 400 miles, was begun in 1907 and completed in 1911. A branch line is being built from Zaria eastwards to the Bauchi tin fields. Wide roads permanently cleared connect all the large towns and government stations throughout the country. Animal transport is much used in the north beyond the fly region, and a motor service has been instituted in places in Southern Nigeria. Off the main roads and railways all transport is still accomplished by portage. A regular postal service is maintained throughout the country, and a network of telegraph lines has been set up over the Protectorate and extended as far as Maidugari in Bornu.

Nigeria is particularly fortunate in possessing a large number of ports, of which the principal are, in order from



west to east, Lagos, Sapele, Warri, Forcados, Akassa, Brass, Bonny, Opobo, and Calabar. Akassa at the Nun mouth of the Niger was formerly the most important, but the bar has shallowed of recent years, and Forcados is now the principal shipping centre. Lagos is the poorest of all the major ports, possessing only a roadstead ; but on account of its importance as the principal railway terminus an attempt is being made to construct a harbour within the bar and to keep the channel open for large vessels by means of dredging. Port Harcourt, a site on the Bonny river, presenting the unusual feature of deep water beneath high banks, was designed in 1913 as the terminus of a railway to run by way of the Udi coalfield, the Benue river and the Bauchi plateau, and to connect with the existing system. A regular weekly service of steamers is maintained between Liverpool and Forcados ; Lagos, Calabar, and the other ports being served by smaller branch steamers from Forcados able to navigate the creeks and bars. Other steamers ply between the major ports and London and Hamburg. The internal telegraphic system is linked with Europe by cable from Bonny and Lagos.

The legal currency in general use is British sterling with a nickel penny and a nickel tenth of a penny. Cowries are, however, still largely employed, and barter is still the only means of exchange among the more primitive tribes. Banking is in the hands of the Bank of British West Africa.

Currency
and
banking.

Social Conditions

The population of Nigeria, which is estimated to exceed 17,000,000, includes a vast number of races and tribes, speaking different languages or dialects and varying greatly in degree of civilization. Ethnologically the affinities of many of the tribes are obscure, owing principally to miscegenation of various stocks. The fundamental type is that of the Negro, which is found in its purest form in the Niger delta and in the southern forests. The more cultured Yorubas of the Lagos hinterland are

Ethnology
and
culture.

also usually included in this category, as well as the almost innumerable primitive tribes which inhabit the central belt of hills. Next to them come the Negroid races of the northern savanas, of which the Hausas are the typical representatives, and which have arisen by the intermingling of Negro and Libyan stocks in varying proportions, but with Negro blood predominating. Finally, there is the Fula race of the northern states, a Libyo-Negroid transitional type in which Libyan blood and characteristics are distinctly in the ascendant.

There is little doubt that the Central Sudan was once peopled by Negro tribes who have been displaced and in part absorbed by successive streams of immigrants of Hamitic or Libyan blood from the east and north. The negroes fled for refuge into the central belt of hills and into the southern forests, while the newcomers settled on the fertile northern plains with the women of the conquered races as slaves and concubines. Thus arose in time the Negroid tribes who combine certain of the physical and mental characteristics of the negroes with the industry, endurance, and force of character of the more virile races of the north. It is only natural that the more primitive peoples should be found in the southern forests and in the central belt of hills, and that a gradual rise in the degree of civilization should be able to be traced in a general way from south to north and from the hills outward upon the plains.

Coastal
and delta
negro
tribes.

The principal of these are the Ijebus in the west around the lagoons and on the coastal plain, the Jekris on the lower part of the Benin River, the Sobos and Ijaws in the delta proper, and the Kwas and Ibibios between Opobo and the Cross River. As these are the southernmost tribes in the country, so they are also among the lowest in type, the most degraded of all being the Ibibios and the fishing folk who live amongst the creeks of the delta. It was these degenerate tribes who first came in contact with the European slavers, and they did not profit by the intercourse. They early became the middlemen of the slave and gin traffic, and afterwards of the palm-



oil trade with the interior. With the opening up of the hinterland their carrying trade is gradually disappearing. Their taste for liquor remains, with the result that the prevalent diseases of the delta are greatly encouraged while the population has become stationary or is decreasing in numbers. In internal organization these tribes have not progressed further than the stage of simple Father rule.

The negroes of the southern forests include the Efiks and Ekois of the Cross River, the Ibos and Aros to the east of the Niger, the Munshis and Okpotos to the south of the Benue, the Bassas and Kokandas in the region of the confluence, and the Igaras and Binis to the west of the Niger. These tribes are all pagan or fetish worshippers, but of a superior type to the Ibibios and Niger delta tribes. They vary greatly in culture and internal organization. The Efiks of the Cross River have come much in contact with Europeans, and have adopted many European customs and acquired a certain amount of European learning. The secret societies 'Egbo' and 'Idiong' are Efik institutions, and combine a kind of freemasonry with trading and law-enforcing aims. The Ibos occupy a large tract of country between the Niger and the Cross River just above the delta, and extend also to the west of the Niger behind Asaba. They are an intelligent, cleanly, industrious and self-reliant race with a strongly imaginative and even artistic temperament. Little is known of the Munshis and Okpotos beyond the fact that they are independent and warlike tribes. The Bassas and Kokandas are famed as agriculturists and watermen respectively. The Binis of the Benin territory already possessed before the British occupation a culture rare among purely negro tribes. They had developed the arts of brass-working and ivory-carving, and by careful organization had become one of the most powerful states in West Africa as early as the fifteenth century.

The religions of all these peoples are based on spirit and ancestor worship, and here and there traces of an older purer form of worship are to be found upon which,

through the influence of environment, have been grafted the complicated superstitions of the modern juju and fetish worship. Their languages are many and varied, and two of them, Efik and Ibo, have been reduced to writing. A peculiarity common to them all is a tendency to monosyllabism, whereby the same word is used to express different meanings according to differences in the tone or inflection of the voice when it is spoken. With regard to internal organization, the commonest form of native government to the east of the Niger is the House-Rule system, according to which a tribe is divided up into a number of independent Houses consisting of the Father or Ruler of the House, his offspring, relations, pawns, slaves, and also strangers on terms. Out of this system has developed among some tribes the Clan form of government, under which related Houses have come together and chosen the Father of the most important family as Chief or Father of the Country, this Chief being assisted and advised by a Council of Elders chosen from the heads of various Houses. No people east of the Niger has developed further than the Clan system. The Aros, however, a branch of the Ibo people, were developing a kingdom when the British arrived, their power being based on the possession of a particularly powerful fetish known as the 'Long Juju'. To the west of the Niger the Igaras have developed a wonderfully organized feudal system, while the Binis had established an ascendancy over all the surrounding peoples and had reached the Kingdom stage of government as early as the fifteenth century. The principal towns of these forest tribes are Benin and Owo in the south-west; Warri and Sapele on the southern creeks; Asaba and Onitsha on the lower Niger; Calabar, Creek Town, and Itu on the Cross River; Idah on the Niger below the confluence; and Lokoja at the confluence of the Niger and the Benue.

Yoruba
tribes of
the Lagos
hinter-
land.

The Yoruba-speaking tribes are of true negro stock, with some Hamitic or Libyan blood and traditions of an Oriental origin. The people are intelligent, industrious, and law-abiding, and before the British occupation had



attained a higher degree of civilization than any of their kindred tribes to the east. Their former powerful empire, of which the king of Oyo was the nominal head, broke up latterly into a number of more or less independent states, the capitals of which, Abeokuta, Ibadan, Ilorin, Oyo, Ijebu Ode, and Ondo, are now the largest cities in the country. They possessed in the past a sound system of laws which has made them the most tractable of all the tribes of Southern Nigeria under British rule. They possess also a special aptitude for various handicrafts, and rapidly become skilled engineers, carpenters, masons, and bricklayers. Like the negro tribes to the east, they are to a large extent pagan, their religion being a mixture of fetish and ancestor worship. Christianity claims a number of adherents through missionary effort, while a veneer of Muhammadanism is fairly general in the northern portion of Yorubaland, which was overrun by the Fulas in the beginning of the nineteenth century. Their language ranks next in importance to Hausa and Mandingan in West Africa, and has been reduced to writing. Monosyllabism, produced by phonetic decay, is a pronounced characteristic, and, as in the case of the kindred languages to the east, has given rise to the general use of the principle of intonation.

The tribes who inhabit the central belt of hills are extra-ordinarily numerous. Some of them are well defined and occupy a considerable area, like the Gwaris of Zaria and Nassarawa, the Jarawa of Bauchi, and the Marghi of Bornu. Others, however, are much restricted both in numbers and in territory, and represent the relics of former more extensive tribes who have taken refuge in the hills. Their ethnological and linguistic characters have been little studied. Many of these tribes, hitherto classed as negro, are undoubtedly of a mixed type, while the speech of the Kibyen peoples of the Bauchi plateau is full of clicks and gutturals, a feature which may indicate some early admixture of Bushman blood. All these tribes are primitive pagans, but the influence of the varying character of the environment may be detected.

The
central
negro
tribes.

Those peoples who, like the Gwaris, inhabit the less rocky and more favoured regions are well clad, industrious, and peaceable; while those who, like the Angass and Tangale, live amongst barren rocks and boulders are naked, savage, intractable, and given to cannibalism and other inhuman practices.

Negroids. The principal negroid races of Nigeria are the Nupes, Hausas, and Kanuri, located respectively on the middle Niger, in Hausaland, and in Bornu. The Nupes have probably been displaced by the Hausas, for small Nupe settlements are still found scattered through the northern states. As a race they are of fine physique, and noted watermen and agriculturists. They practise many useful arts in their towns and villages, Bida the capital being noted for its embossed brass and copper work. They possessed an ancient and very interesting constitution, of which the leading features were adopted by the Fulani at the time of the conquest.

The Hausas are the most important nation of the Central Sudan, and owe their virility to a strong crossing of Hamitic blood. They are a powerful, strongly built, and athletic race, with a black skin, but with features much modified by their descent. As a race they are peaceful and industrious, with no great political ambitions, but with the trading instinct strongly developed. They live in farmsteads or in cities which they have made centres of trade, the principal of these being Kano, Zaria, Bauchi, Katsina, Katagum, and Hadeija. Kano is the great emporium of trade for the Central Sudan, and is connected with Tripoli by a caravan route across the desert. All the cities are walled, and many of the houses are built with flat mud roofs in Oriental style. Originally Hausaland was divided up into a number of semi-independent states, of which first one and then another obtained the ascendancy. Trading and slaving settlements were formed as far south as Nassarawa, Muri, and Yola on the Benue. In the beginning of the nineteenth century the government was seized by the Fulas, who, under Sheikh Othman dan Fodio, founded the Fulani



empire, with the capital at Sokoto in the north-east. Previously to this the Hausas possessed an excellent code of laws which was retained by the conquerors. The Hausa language, with its rich vocabulary and its simple construction, is the *lingua franca* of the Sudan, and the only language in tropical Africa which has been reduced to writing by the natives themselves, the script employed being a modified Arabic. Muhammadanism is the professed religion, but the observance of the rites and ceremonies is usually delegated to the mallams or priests. The great majority of the people are little removed from paganism, and have a profound belief in the efficacy of charms and jujus.

In Bornu the ruling race is the Kanuri, who in the Middle Ages possessed a well-developed civilization and an extensive empire round Lake Chad. They were noted horsemen, and in war both the persons and the horses of the chiefs were clad in mail. They successfully resisted the Fulani invasion, but their capital Kuka was sacked and their empire finally destroyed by the adventurer Rabeh in 1900. The principal towns in Bornu are now Maidugari, Gujba, and Mongonu. The rulers profess Muhammadanism, but the greater part of the people are still pagan.

The Fulas or Fulani, who are settled as rulers and aristocrats throughout Hausaland, Ilorin, Nupe, Muri, and Yola, are of a superior type to any of the other races of Nigeria. They are typically reddish brown or light chestnut in colour, with oval faces, delicate lips, straight or aquiline noses, and smooth hair. Originally a pastoral people, they entered Hausaland as wandering herdsmen and cattle-keepers, and a section of the race, the Bush Fulani, disdaining a settled life, preserves its nomadic character. As the result of a religious war in the beginning of the nineteenth century, the Fulani captured the government of the Hausa states and settled in the towns as the ruling caste. They intermarried with Hausa and slave women, and lost the purity of type which is still characteristic of the Bush Fulani. They developed also

Libyo-
Negroid
transi-
tional
type.

a love of luxury, pomp, and finery, foreign to their original pastoral existence. Being possessed of great intelligence and strength of character, they made at first excellent rulers, stern but patient and just. They were devout Muhammadans, and established mosques and schools in all the principal towns. Latterly, however, they degenerated into slave-raiders and extortioners, and their defeat by the British in 1903, with the accompanying establishment of a just and honourable government, was gladly welcomed by the peasantry and the trading communities. The Fula language, like the race itself, occupies an intermediate position between the Negro and the Hamito-Semitic groups.

Government.

The two Nigerias were united in 1912, when Sir F. D. Lugard was appointed the first Governor, with headquarters at Lagos. For purposes of administration Southern Nigeria is subdivided into three provinces—western, central, and eastern—each province being under the supervision of a District Commissioner and several assistants. Northern Nigeria is subdivided into 13 provinces—Ilorin, Niger, Kabba, Bassa, Nassarawa, Muri, Yola, Kontagora, Zaria, Bauchi, Sokoto, Kano, and Bornu—each province being administered by a Resident and one or more assistants. The mode of administration varies greatly in different parts of the country. In the Muhammadan states which possessed a judicial class, a code of laws, and a central government before the occupation, the ancient administration has been revised and purified but left largely in the hands of the natives. Under the supervision of the Resident, the Emir and his native councillors, judges, and police are responsible for the whole administration of the province. The total amount of the taxes collected in each province is divided into two parts, one of which forms the Government share and is credited to general revenue, while the other is paid into the local Beit-el-mal or native Treasury and is used to pay the fixed salaries of the Emir, judges, and other officials, to defray the cost of public works, and to establish a reserve fund which could be used when necessary, owing to failure of the crops, to



remit a portion of the annual taxation. Among pagan tribes such as the Yorubas and Binis, who formerly possessed a constitution and a central government, a similar policy is pursued as far as possible, such of the native laws and customs being retained as are not incompatible with British ideas of natural justice. Greater difficulties are met with in the administration of the more primitive tribes, such as those of the southern forests and the central belt of hills, whose internal organization has not progressed so far as the establishment of a central authority. In such cases the task of the political officers is to suppress tribal feuds and savage customs, to dispense justice, and to foster a national sentiment by encouraging friendly intercourse and co-operation between hitherto hostile villages and towns. Fortunately the prestige of the white man is nowhere greater than among these primitive tribes when once they have been subdued, and it is remarkable how quickly they respond, after ages of stagnation or retrogression, to the stimulus of new ideas and of an altered environment. The general policy which is everywhere kept in view by the British administration is that of ruling through and with the native rulers.

The military force of the country, which supplies patrols and escorts and takes the offensive in the case of hostile tribes, consists of two native regiments of the West African Frontier Force, under British officers specially detailed for service in Nigeria. A native police force is distributed throughout the provinces, and is engaged mainly in the investigation of crime, arrest of criminals, suppression of slavery and illicit liquor traffic, and in court and administrative duties.

Customs duties on spirits, cotton goods, and tobacco account for some three-quarters of the total revenue of Southern Nigeria, the remainder being made up of railway and postal charges, court fees, licences, rent of government properties, harbour dues, &c. The importation of liquor into Northern Nigeria for native consumption is prohibited, and consequently the customs duties yield only a small part of the revenue. The

Revenue
and ex-
penditure.



greater part is derived from a system of direct taxation, which takes the form in some provinces of an individual income tax and in others of a farm, hut, or poll tax according to the local conditions. The inhabitants of the Muhammadan states were accustomed to direct taxation before the British occupation, and the system has been retained in a revised and more equitable form by the new administration and extended even to pagan communities. The revenue and grants-in-aid of Northern Nigeria during 1910 were expended mainly upon railways and other public works, the military and police forces, and administrative, medical, and transport services.

Educa- tion.

In Southern Nigeria the various missions which are at work throughout the country have had schools established for a number of years, providing primary and secondary education and technical instruction. A system of government and assisted schools has more lately been organized. In connexion with a number of these schools, and in addition to the ordinary educational subjects, technical or manual instruction is given in agriculture and in such subjects as carpentry, bricklaying, coopering, sewing, cooking, and laundry work. The principal schools for the training of teachers are the Hope Waddell Institute in Calabar and King's College, Lagos. In Northern Nigeria various European missions have been at work for several years among the pagans on educational lines with considerable success. A government school for the sons of chiefs and 'mallamai' or Moslem scholars has recently been opened at Kano, and has had a favourable reception amongst the inhabitants of the northern states. The scheme of instruction is very similar to that in the Southern Nigerian schools, with variations to suit the local conditions. Native Muhammadan schools exist in almost every town, but the instruction consists merely in the repetition and memorizing of portions of the Koran.

Public health.

The native death-rate from all causes is known to be high, and with the object of reducing it increased attention is now being paid by government officials to the sanitation, drainage, and water-supply of native towns. Dysentery,



PLATE XXV (a). PART OF LOKOJA, FROM BASE OF MOUNT PATTI, OVERLOOKING THE NIGER



PLATE XXV (b). ENTRANCE TO A NIGERIAN VILLAGE, ILLORIN PROVINCE

(Photos. Major A. J. N. Tremearne)



PLATE XXVI. JAMESTOWN, ST. HELENA (Page 467)
(Phot. W. M. Spooner)



malaria, pneumonia, small-pox, leprosy, and venereal diseases are everywhere common. In Northern Nigeria leprosy and small-pox are especially abundant throughout the Muhammadan states, and isolation measures are adopted as far as possible. Several cases of sleeping sickness have been found in the Benue valley, but the disease shows no sign of becoming epidemic. Among Europeans resident in Nigeria malaria and blackwater fever are the prevalent diseases. The percentages of invalidings and of deaths from all causes have been much reduced of recent years, a fact which points to a better understanding of the climatic conditions and to more successful adaptation to the tropical environment. The conditions of life on the coast have been much ameliorated by the cold-storage system of supplying fresh meat and vegetables. In the interior the improved conditions are largely due to the increased facilities for communication, to precautions against the mosquito, to moderation in the use of stimulants, and to the encouragement of games and physical exercises among the more sedentary population of the cantonments.

[See Colonial Office *Reports* and other official publications, and for general Bibliographic. descriptive and narrative matter the extensive list of works dealing with individual journeys. Among recent works there may be mentioned in addition (the place of publication being London): A. F. Calvert, *Nigeria and its Tin Fields*, 1912; R. E. Dennett, *Nigerian Studies, or the Religious and Political System of the Yoruba*, 1910; C. Dudgeon, *The Agricultural and Forest Products of British West Africa*, 1911; J. D. Falconer, *The Geology and Geography of Northern Nigeria*, 1911, and *On Horseback through Nigeria*, 1911; A. G. Leonard, *The Lower Niger and its Tribes*, 1906; Lady Lugard, *A Tropical Dependency*, 1905; E. D. Morel, *Nigeria: its Peoples and its Problems*, 2nd ed., 1912; *Affairs of West Africa*, 1902; C. W. J. Orr, *The Making of Northern Nigeria*, 1911; P. A. Talbot, *In the Shadow of the Bush* [the Eko], 1912; N. W. Thomas, *The Ibo-speaking Peoples of Nigeria*, 1913; A. J. N. Tremearne, *The Niger and the West Sudan*, 1911, and *The Tailed Head-hunters of Nigeria*, 1912; also in the *Geographical Journal*, J. Parkinson, 'Geological Survey of Southern Nigeria,' January, 1907; G. T. Basden, 'Notes on the Ibo Country,' March, 1912; A. E. Kitson, 'Southern Nigeria', January, 1913.

A detailed topographical survey is in progress in Southern Nigeria, the results of which will be published on the scale of 1 : 125,000. For Northern Nigeria 62 sheets on the scale of 1 : 250,000 have been published from route sketches, &c., by officials, while boundary commissions have surveyed some 2,000 miles of frontier. See also War Office map on scale of 1 : 1,000,000.]

CHAPTER XX

WALFISH BAY

By H. O. BECKIT

Position
and
extent.

THE Walfish Bay territory, which now forms a small enclave in what has been German territory since 1884, owes all its importance to the fact that it is the only reasonably well-placed, good natural harbour in a very long reach of the generally sand-buried coast of south-west Africa. It lies just inside the tropic, and extends about 30 miles north and south (less at the coast), with a depth inland of 10 to 15 miles. All of it is, in fact, contained within the desolate littoral belt lying in front of the Damanama highland which divides the Kalahari basin from the South Atlantic ocean.

Physical
features.

At Walfish Bay this is a low desert region, its surface diversified only by greater and lesser sand-hills of shifting form determined by the winds. Along the shore these rise as coastal dunes 30 to 100 feet high ; within 3 miles of the sea they reach heights of 300 and 400 feet. The coast has undergone recent uplift, and it has been argued that some of the hills are the eroded remnants of sandbanks thus raised out of the sea. The flat, gently inclined plain of the arid Namib veld, with its saltpans and kopjes, begins beyond the sand-dunes, usually a little short of the British frontier. Underneath the sands are old crystalline rocks, visible mostly in patches at low water along the shore, and in the kopjes.

Across this sandy tract run wide, flat-bottomed, generally dry valleys leading to the sea from the less arid dissected highlands in rear, towards which they form the natural routes. One of these occasional water-courses, the Swakop or Tsoakhub, forms the northern boundary, and runs for a month or two each year: another, the Kuisip (Kuisib, or Khosib), still at times overflows into a lagoon at the head of Walfish Bay, but

its normal course is through the sandhills further south. These floods are said, without much exaggeration, to occur only once in 10 years. The rivers are highest about February or March. At other times, though brackish water may sometimes be had by digging in the deep sand choking the valleys, the whole area is virtually waterless save for a small patch in the extreme south-east, where there are perennial springs, and even a little cultivation. At the small settlement on Walfish Bay drinking water is obtained by condensation ; what was needed for Europeans used actually to be brought from the Cape.

The climate is ruled by the cool Benguela current and ^{Climate.} by south-westerly winds, usually freshening in the afternoon, which bring to the coastal lowland little or no rain (annual average, less than one-third of an inch), but very frequent mists and night dews ; cloudiness and atmospheric humidity are lowest in June. During clear still weather it may be very hot ; but the nights are uniformly cool or even cold. The mean annual temperature is low for the latitude (little over 60° F.); and its mean annual range, relatively slight, though actual extremes may drop below 40° or rise beyond 95°.

Away from the valleys, and often even in them, there is exceedingly little vegetation. The most important ^{Vegetation and fauna.} plant is the spiny but leafless *nara* gourd (*Acanthosicyos horrida*) of the sand-dunes, which it helps both to form and to fix : it is a creeper, sending down immensely long roots to ground-water and thus becoming independent of mere surface moistening by dew. On its fruit the small native population of Topnaar Hottentots lives for months at a time. The true land fauna is correspondingly scanty ; that part of it which once had some commercial importance (elephants and ostriches, for example) really belonged to the hinterland, and has been largely killed off.

The northward current of cold water from higher latitudes, already mentioned as prevailing along the coast, carries food for huge shoals of fish, as well as for whales. The southern right whale has grown rare ; the humpback



(*Megaptera longimana*) less so. The bay received its name originally from its old fame as a whaling station. Attracted by the shoals of fish, swarms of birds—gulls and the like, pelicans, and penguins—and also of seals frequent the coast and certain islets fringing it to the southward. Penguin Islands, strung out all the way to Angra Pequena (Lüderitz Bay), which were annexed in 1867 and remain British territory, provide guano, in decreasing quantity. Flamingo visit the Walfish Bay lagoon in summer.

The harbour and trade.

The harbour of Walfish Bay opens only to the northward, whence winds are rare: it is protected by a low sandy promontory five miles long, which is still being built out by the northerly trend of wind and currents. Curious occasional mud-bursts, giving off poisonous gases that kill enormous numbers of fish, occur here; they are usually attributed to volcanic eruptions, but may be due to submarine escapes of ground-water facilitated by the coastal uplift.

The ample anchorage within the bay affords shelter at need to steamers trading to the open roadstead of Swakopmund; but in spite of trade being free, and the building of a light railway to the frontier, only a trifling proportion of the growing trade to and from the German interior makes use of Walfish Bay. There is a small export of hides, and a not much larger importation of food-stuffs for the settlement and of trade goods for the interior.

Administration.

Walfish Bay was annexed by the British in 1878, and has been governed since 1884 as a part of Cape Colony by a resident magistrate; the settlement also contains one of the long-established Protestant missionary stations, which were amongst the earliest of European influences north of the Orange river.

Books

There is no good special literature on Walfish Bay, but a large one on German South-West Africa as a whole. The sources to date were well summarized by Schlichter in the *Scottish Geographical Magazine* for September and October, 1891; a recent standard work, with maps and very good illustrations, is *Das Deutsche Kolonialreich*, edited by Meyer (Leipzig and Vienna, 1910); South-West Africa is treated by Schultze in vol. ii.

Admiralty charts nos. 1806, 632 and 629; part II of the official *Africa Pilot*, and War Office 1:1,000,000 map of Africa (I.D.W.O., no. 1539), sheet 116.



Sanson-Flamsteed's Projection

Scale 1:12,000,000

English Miles

Longitude West of Greenwich

Longitude East of Greenwich



CHAPTER XXI

BRITISH ISLANDS IN THE SOUTH-EAST
ATLANTIC(TRISTAN DA CUNHA GROUP, ST. HELENA,
AND ASCENSION)

BY H. O. BECKIT

SOUTH of the Equator and east of 20° W. long. the surface of the Atlantic is broken in three places by tiny patches of British territory, the only true oceanic islands in this quarter of the ocean north of 50° S. lat. They have some features in common, and also afford some contrasts that can be conveniently treated together.

Originally discovered in the early years of the sixteenth century by the Portuguese, and then all uninhabited, they stand on or close to the great axial rise in mid-Atlantic that divides its greater depths in two. All are remnants of volcanic masses erupted on the ocean floor, and in part worn down to submarine platforms which sometimes lie at astonishing depths. What still remains above sea-level is rugged, as a result of dissection of original mountain forms, and cliffed by recent or contemporary wave action. No metamorphic or sedimentary rocks, suggesting old continental connexions, exist.

Oceanic climate, with its relatively moderate and even temperatures, is a common characteristic; but in spite of the small size of the islands, which together do not equal in area the county of Rutland, there are considerable local variations due to altitude. Temperature throughout is unduly low for the latitude, as all the islands are washed by comparatively cool water brought from higher latitudes.

Another remarkable feature common to all the islands is the rollers, which for days at a time beat heavily on shores not then facing the winds, and occur most frequently during the season, say from December to

April, when local winds are least high. These troublesome visitors, dangerous to boats and even to shipping, are now known to be due to the passing of distant storms, of which they are the swiftly travelling after-swell. In this way all sides of the islands—not merely that to windward—are attacked by a heavy surf.

Otherwise there is marked contrast between Ascension and St. Helena, which lie full in the track of the south-east trade-winds, and would be wholly arid were it not for their strong relief, and the southern isles, equally exposed to the rainy, blustering westerly winds of the Roaring Forties. There is a gradual increase from north to south in rainfall and in profusion of vegetation, but hardly in variety of flora; comparative poverty of the less easily transferable fauna is only natural in small islands thus isolated. Rainfall is moderately periodic in the northern, but more or less year-long in the southern islands, which lie just between the limits of regular and of occasional extension towards the Equator of drift-ice, and also of snowfall (at sea-level). They are thus essentially in the transitional, so-called 'temperate' zone, while St. Helena and Ascension are nearly as typically intertropical.

TRISTAN DA CUNHA

The Tristan da Cunha group comprises the island of that name, rising conically to a height of 7,000 or 8,000 feet and generally snow-capped, Nightingale and Inaccessible Islands about 20 miles away, and the outlying Gough (better Alvarez) Island. Landing is difficult, but possible at a few little coves in the lofty cliffs, and somewhat facilitated by a breakwater of kelp growing off-shore in depths down to 15 fathoms; but only Tristan itself, which is twice as large as the rest put together, is regularly inhabited. Its people are an almost unique race, descended from a handful of men of the British garrison maintained here during Napoleon's captivity at St. Helena, and since then forming an isolated patriarchal society governed by one of themselves. The settlement is on an under-



cliff on the north-west side, with small patches of cultivation, mostly of potatoes ; of these and their limited livestock they export some occasionally to Cape Colony, but trade most to passing ships' companies in exchange for flour, tea, sugar, and clothing. They have over and over again distinguished themselves by rescuing and caring for shipwrecked crews.

Before the days of steam, Tristan da Cunha lay not far off the outward passage between Europe or New York and the Cape, and in the middle of the eighteenth century there was more whaling and sealing in these waters. With the reduction in the number of vessels calling, the island is less than ever able to support any growth of its small population, and there has been a good deal of emigration ; it has been repeatedly proposed to remove the whole of the people.

The heavy rainfall, probably everywhere over 40 inches annually, supports a dense growth of tussock grass (*Spartina arundinacea*) in the lower parts, of wind-stunted woodland up to 2,000 feet, and of ferns (including a tree fern, *Lomaria boryana*) and mosses in the deep glens ; on the main island few trees larger than bushes remain. The summits are bare of vegetation and rocky, and several distinct craters are said to contain small lakes. Penguins are almost the sole indigenous animals, but rats, somehow imported, are a pest.

ST. HELENA

The British occupation of St. Helena was begun in the middle of the seventeenth century by the East India Company, in order to form a revictualling station for ships on the homeward voyage. Though it lies near what is now the direct Cape route both outward and homeward, so that some steamers call, and the island has come to be used as a convenient telegraphic cable station, the opening of the Suez Canal has dealt it an irremediable blow.

Its forbidding cliffs are scored with deep ravines, cut by short streams fed by the upland springs. Great part

of the land lies more than 1,500 feet above sea-level, rising 1,000 feet higher in a great crater-like amphitheatre which lies open to the south-east coast ; but there is little level ground, except some high plains in the north-east where first the great Napoleon, and more recently Boer prisoners of war, who doubled the population for a time, lived in captivity. Here on the upland the annual rainfall reaches 40 inches, and the mean monthly temperature ranges from 65° to 75° F., but below on the leeward side, where the partially sheltered anchorage off Jamestown lies, precipitation is only about one-eighth as heavy and the thermometer registers about 10° higher all the year round.

Of the three natural divisions of the surface—(1) a coastal zone of low valley-bottoms and slopes, with intervening narrow spurs, (2) upland, and (3) mountain—the first is now practically barren save for plants like prickly pear, and the native flora has either disappeared or else been driven into the third division by the imported plants, bushes, and trees. The ebony (*Dombeya melanoxylon*) and redwood (*D. erythroxylon*), for example, which used to form characteristic woodland, have vanished since all the young trees were destroyed by the imported goats, which, in the days of the Indiamen, were held by authority to be of greater value than trees ; but the washing away of the often clayey soil that followed, with its accompaniment, the drying up of springs, has done permanent injury. When discovered, the island is said to have been clad in green right down to the sea, but now at least two-thirds of the area are unfit for tillage. The present woods, of imported European or Australian species, show a tendency to gain ground down the valleys. There are many small cultures, none of great importance : maize, for example, is grown, but only for use as a green fodder, and the staple food of the people is fish and imported rice. Most of the land that is utilized is under grass, and European domestic animals have superseded the indigenous fauna ; cattle and sheep are exported to Ascension.



The population, of mixed European, African, and East Indian race, and partly descended from emancipated slaves, has developed no appreciable natural industry or export trade since the shipping that was its stand-by ceased to make frequent and long calls. Many attempts to encourage such industries have been made under the Crown Colony government, but they have either failed like the cinchona planting, or remained more or less experimental, like the fibre production from an aloe (*Furcraea gigantea*) or from New Zealand flax, and the fish-curing. Fish, notably albacore, and a small mackerel, continue to be caught with lines; and traps are set for small lobster-like crustaceans, locally called 'stumps'. Lace-making as a home industry for women has been moderately successful, but it is not self-supporting. There is a steady stream of emigrants, largely women, to South Africa, and the population on the whole slowly declines.

The island is administered under the Colonial Office by a governor who is advised by a small executive council: legislation is either by Order in Council from England or by ordinance on the governor's sole authority. The small military garrison was withdrawn in 1906, but a marine detachment replaced it in 1911.

ASCENSION

Ascension has a very irregular surface, but shows typical relief of an extinct volcanic region at least as clearly as any of these Atlantic islands. Its climate is similar to that of St. Helena, but hotter, and in particular drier; consequently the initial forms due to eruption are generally less weather-worn. A whole series of old cones stands above an uneven, ridged lava-field which forms, e. g., the rough channelled country sloping directly to the northern and southern coasts; and the frequently rich but always thirsty soil is made up of decomposed lava, volcanic ash, or dusty pumice; it is often ferruginous. The summits cluster about the greater mound called Green Mountain, rather south-east of the centre,

which rises to a height of nearly 3,000 feet. It seems as if this were the youngest, just as in St. Helena we have the oldest, of these dead oceanic volcanoes.

There are no streams and no trees ; indeed next to nothing grows on the lower ground at Ascension. Only on and around Green Mountain is there moisture enough to support grass, with plants and shrubs (e. g. the castor-oil plant), many of which have been introduced from Australia. On the moister upland some fruit and vegetables are grown, and some pasturage found, mainly for sheep and goats. The land fauna is very poor, and does not even include any indigenous birds other than sea-fowl, and notably the countless wideawake (*Sterna fuliginosa*) ; rats and land-crabs are numerous, but of less importance than the fish around the coast, and especially the female turtle, which are caught when they land to lay their eggs and kept in tanks until needed.

As at St. Helena, the main settlement, Georgetown, is at an anchorage on the lee side of the island, but there are no inhabitants except the people belonging to the establishment that has been maintained here by the Admiralty for nearly a century, to provide ships' stores and serve as a sanatorium. There is a pipe-line to Georgetown with gathering and storage tanks in the hills where alone Dampier was able to find fresh water, oozing from beneath a scarp, when he was wrecked here in 1701. Ascension is in telegraphic communication by submarine cable with South Africa by way of St. Helena, and with Europe by St. Vincent (Cape Verde Island), and also by Sierra Leone ; the mails are carried by certain of the South African steamers which call monthly, both here and at St. Helena.

In all the British empire the Government of Ascension is unique : the whole island is in charge of a naval officer, and is by him uniformly administered just like a ship of war.

Bibliography.

Note.—The letter in brackets prefixed to each entry shows which of the islands is there treated. (A) = Ascension ; (H) = St. Helena ; (T) = Tristan da Cunha Group.

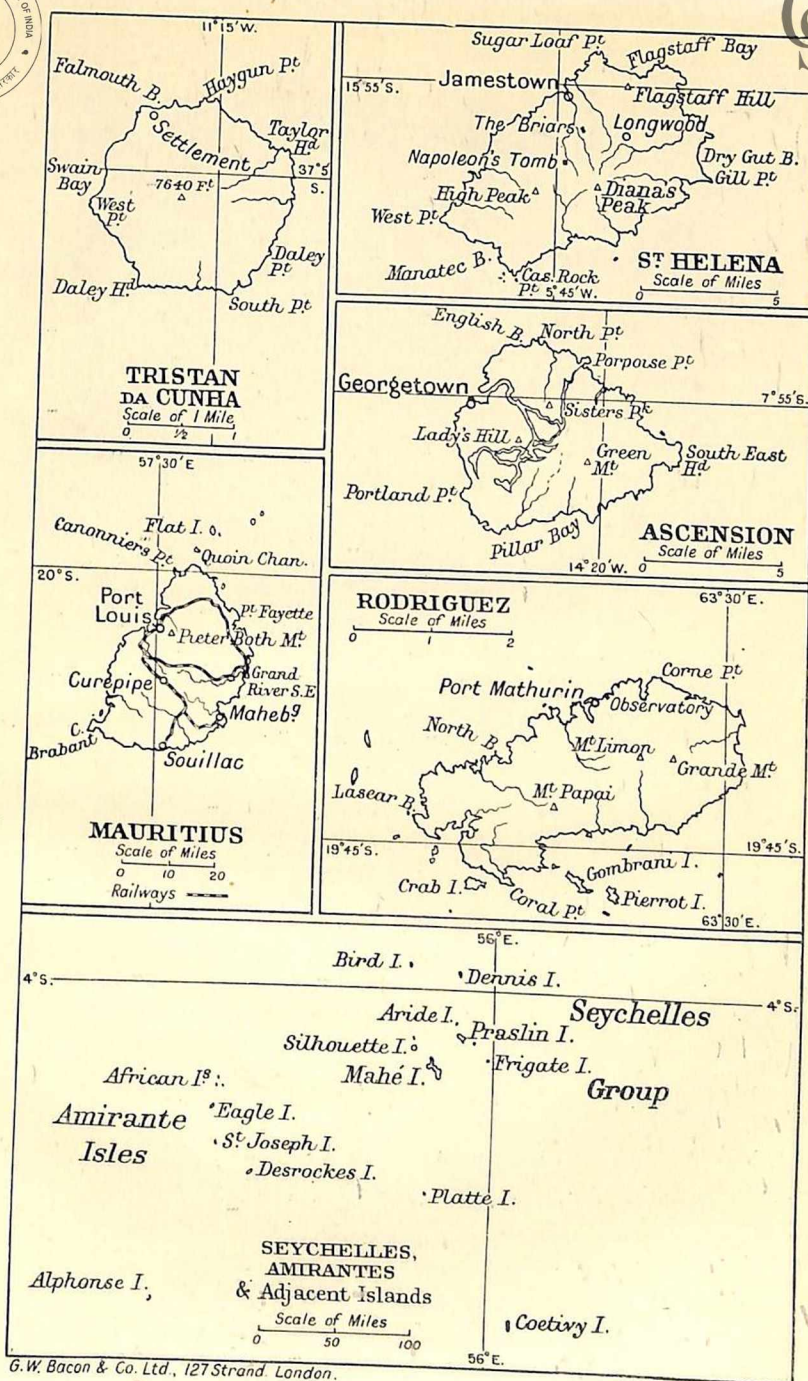


FIG. 20.



PLATE XXVII (a). SALOMON, CHAGOS; FROM LAGOON. WEST
 END OF FOQUET, SEPULTURE, JACOBIN, AND SEL



PLATE XXVII (b). DIEGO, CHAGOS. LAGOON CLIFF NEAR
 BARACHOIS SILVAIN

(Photos. Professor J. Stanley Gardiner)



(H) [Colonial Report], *St. Helena*, Annual. (H) [Colonial Report], by D. Morris, *On Agricultural Resources of St. Helena*, 1884 (reprinted 1906). (H) [Colonial Report], by J. T. Cunningham, *On Fisheries of St. Helena*, 1910. (A H T) [Hydrographic Office, Admiralty], *Africa Pilot*, Part II, 1901 (5th ed.). (T) *Report on the Scientific Results of the Voyage of H.M.S. Challenger. Narrative*, vol. i, 1st part (pp. 240-69), 1882. (A) H. R. Brandreth, *et al.*, 'A Communication on the Island of Ascension' (in *Journal R. Geogr. Soc.*, vol. v, 1835). (A H) C. Darwin, *A Naturalist's Voyage round the World* (chap. xxi), 1845 (many reprints). (H) J. C. Melliss, *St. Helena : a Physical, Historical, and Topographical Description*, 1875. (H) A. R. Wallace, *Island Life* (chap. xiv), 1880 (3rd. ed., 1902). (T) R. N. Rudmose Brown, 'Diego Alvarez, or Gough Island' (in *Scottish Geogr. Mag.*, vol. xxi, August—see also January—1905).

Admiralty Charts—(A) no. 1691, Island of Ascension, 2 miles to an inch, Maps. with 4 insets of anchorages, 6 inches to a mile, 1910; (H) no. 1771, Island of St. Helena, 3 miles to an inch. (Revision of survey of 1879); (T) no. 2228, Tristan da Cunha group, Tristan Settlement, and Gough Island; various scales. (Revision of survey of 1853). Also (H) [War Office], I.D.W.O., no. 1853, Topographic Map of St. Helena, 2½ inches to a mile, 1904. Printed in colour, shows contours at intervals of 100 feet.

CHAPTER XXII

ISLANDS IN THE INDIAN OCEAN

MAURITIUS, SEYCHELLES, AND DEPENDENCIES

BY PROFESSOR J. STANLEY GARDINER

I. *The Smaller Islands*

IN the western half of the Southern Indian Ocean ^{Distribu-} between 2° and 22° S. lat., that is, in the tropical region, ^{tion.} there are a large number of islands. Madagascar is a continental land, and depending on it are some islets in the Mozambique Channel, as well as the Comoro Islands. All the rest are oceanic, and all, with the exception of Réunion, belong to Britain. The western half of the ocean has a uniform depth of 2,300 fathoms, with its series of banks and islands rising steeply, while the eastern half is a region of deeps, to which the names Wharton, Maclear, and Enterprise are given, with two



solitary islets, Cocos-Keeling and Christmas. The site of the western series of islands is that of the former extension of a great land-connexion between Africa, Madagascar, and Southern India, which persisted until the Tertiary period. All the greater banks were probably connected with this former land, the extent of which is indicated north of latitude 2° S. by the line of the Maldives and Laccadives, but some of the islands, particularly those lying on small banks, must be deemed to be built upon foundations laid down by more recent volcanic disturbances, and not directly part of the old continent. Our knowledge of the existence of this ancient land-connexion is based on geological evidence and on that of the distribution of existing animals and plants. The general topography unfortunately gives little indication of its existence, for depths between the banks of 2,000 fathoms have been recorded in several places, only 500 or 600 fathoms less than the depths found on either side.

All the above islands belong officially to the colonies of Mauritius and Seychelles, and will be found recorded at the end of this notice. The two colonies were separated from one another in 1903, but the division of their dependencies was made on no geographical basis, and their treatment together is therefore necessitated. Most of the islands and small banks lie in a rather closed crescent, extending from the north of Madagascar to Mauritius, in size 900 miles across by 2,200 miles round. The great banks, on which the Amirante and Seychelles Archipelagoes rise, lie to the north. The even larger Saya de Malha and Nazareth Banks, estimated to cover over 14,000 and 12,000 square miles, lie to the east; they have no surface reefs or land except to the extreme south of Nazareth, where lies the Cargados Carajos group. Mauritius, the largest island, lies to the extreme south, and is noticeable in having no broad bank around it within the 100-fathom line. Agalega and Tromelin Islands lie in the middle of the crescent, while Cosmoledo, Astove, Assumption, and Aldabra lie on a horn projecting to the west, a little north of Madagascar. Glorioso lies



further south in the Mozambique Channel. Rodriguez is quite separate, about 300 miles almost due east of Mauritius. Lastly, there is a large archipelago of banks with small islands, the Chagos group, about 1,100 miles east of Seychelles and almost in the middle of the Indian Ocean.

Mauritius, Rodriguez, and seventeen out of the nine-
Physical
charac-
teristics.
teen islands which constitute the Seychelles Archipelago, are relatively high islands formed of granitic, more modern igneous, or elevated rocks. All the rest of the islands are coral islands, that is to say, are islands built up of the same material which forms coral reefs, and are themselves resting on coral reefs extending out at low-tide level from their shores as surface reefs. Such reefs, whatever their foundation may be, are generally built up in their uppermost 20 fathoms by the limestone skeletons of corals and various algal plants, their interstices partially filled in by the shells and spicules of marine animals. When their surfaces reach the low-tide level, they can no longer grow upwards, and they appear as flats on the surface of the sea. They often attain great size ; thus Cargados Carajos is of crescentic shape with its convexity to the east, 26 miles from horn to horn by about 9 miles in depth, with over 50 square miles of surface reef ; Providence is of about the same size but almost straight. Similar isolated banks of small size are Astove, Assumption, Coetivy, Platte, S. Pierre, Agalega, and Tromelin.

Frequently the surface reef forms a ring surrounding a lagoon of shallow water, the whole known as an atoll. Channels for the inset and outflow of the tide commonly exist into the lagoon, which never attains a greater depth than 50 fathoms. Aldabra, Cosmoledo, Farquhar, Alphonse, and François are all atolls with passages through their rims, mostly too shallow for ships, and lagoons of 1 to 10 fathoms in depth. In the Chagos Archipelago, Egmont, Salomon, Diego Garcia, and Peros Banhos are similar, but with passages into their lagoons, in the case of the last two deep enough for the largest ships. Desroches and Great Chagos are very imperfect atolls with parts of

their rims submerged, their banks having deeper water in their centres. The Amirante bank has surface reefs on a shallow bank, which extends through $1\frac{1}{2}^{\circ}$ of longitude. Lastly in this series Saya de Malha and some Chagos banks are areas within the 50-fathom line, with no surface reefs.

The land on these coral reefs is formed either of rock or of sand. Sand may be washed up anywhere above high-tide level by the waves to form land, and wind dunes may then be blown up as in most of our islands near the north of Madagascar, and in Coetivy. Such dunes in Assumption reach 90 feet high, and some to the south of Aldabra are little less. Rocky land may have been formed by masses of reef material rolled up by the waves, particularly in storms and hurricanes, later consolidated by sand, rain, &c. Such piled-up rocky masses in a loose condition are never found far from the seaward edge of any reef, the force of the waves gradually lessening over the reef's surface, so as soon to become incapable of transporting heavy material. Other rocky land has been formed by some change of level of reefs and sea in respect to one another; it may be formed of any admixture of coral rock and sand, but in all cases it is almost pure limestone. In Aldabra and S. Pierre it is difficult to see the composition of the rock, as most of it has been metamorphosed to a crystalline limestone which after rain erosion causes the surface of the land to be a mass of fine-pointed pinnacles. Elsewhere no such metamorphosis has occurred, and in every island some elevated rock is found. Nowhere except in Aldabra and S. Pierre is the 'elevation' more than 25 to 30 feet above the sea, and with the same exceptions in nearly every one of the larger islands are found all three classes of rock. It is needless to say that all these coral islands are necessarily oceanic, and the life upon them is of course restricted to such forms as are carried to them by ocean currents or other agencies, and of these only limestone-loving types will survive. Aldabra is the home of large herds of giant tortoises.

On the character of the surface material (soil) depends the prosperity of each island. Thus S. Pierre and Aldabra, having dense impenetrable rock, are being exploited for loose guano as well as for phosphate of lime. The islands of Cargados Carajos, Platte, and several islands of the Amirante group, are being, or have been, dug for loose guano. Piled-up coral rock is the best land for coco-nut planting, and two or three acres quite commonly yield a ton of the dried kernel, copra. Washed-up sand is not nearly as good, but is generally much better than 'elevated' land, which must be dug or blasted deeply for planting. As much land as possible is planted with coco-nut, the produce of which is exported as copra or as coco-nut oil. A common tree introduced for firewood is the Australian *Casuarina*; it forms great avenues in Desroches. In addition, most islands export a certain amount of true tortoiseshell from the hawksbill turtle, and some a little dried fish. Aldabra is peculiar in having large mangrove swamps, the tree bark from which is exported for tanning. From some reefs a little pearl shell comes, but not enough to be important. In accordance with the development of each island there exist gardens, which are manured with floating pumice, collected from the shore; in these are grown bananas, gourds, papaya, yams, and various vegetables, while the bread-fruit is planted near the settlements. In some islands maize is planted, and in all pigs and fowls are kept. Most of the islands belong to residents or companies established in Seychelles or Mauritius, and are worked by white or half-caste managers with negro labour, descendants of liberated slaves, paid partially in rice and partially in money. Women are scarce. The plantations and works are visited by their owners' sailing vessels two or three times a year, and generally once a year by a magistrate, who is also a doctor. All are thoroughly healthy, except Aldabra, having no swamps to breed the malarial mosquito, and no endemic diseases. None has indigenous inhabitants, and many have been worked only in the last quarter of a century.

Product
 popula-
 tion, &c.

Most of the islands of the two colonies are subject to the southern equatorial winds of the Indian Ocean, which blow from south-east to east, or even to north-east. They are most regular during the south-west monsoon of the northern hemisphere from April to October, but the north-east monsoon may affect them even down to 10° S. June to September is the season of strong winds, absence of hurricanes, and clear weather, and November to March of light winds, rains, and hurricanes. The latter generally rise between 8° and 16° S., and hence only the Seychelles, Amirante, and Chagos islands are immune from their destruction; they seldom, however, pass west of Madagascar. Such currents as there are are wind currents; the surface of the sea has a temperature from south to north of 72° to 82° F. The average rainfall on the islands is probably about 40 inches; much of this is collected in tanks, for otherwise the inhabitants are dependent on brackish wells.

The Chagos Archipelago is of importance as lying almost in the centre of the Indian Ocean and in possessing excellent harbours of large size in Diego Garcia and Peros Banhos. They were discovered about the same time as Rodriguez and settled in the end of the eighteenth century. They are entirely coco-nut islands belonging to Mauritian companies. For labour they are dependent on creoles and negroes. Their sole communication, too, is with Mauritius, through which their food is imported. Diego Garcia was made a coaling port by the Orient Line to Australia in 1881, but coaling was given up in 1883.

II. *Mauritius*

The island of Mauritius is 35 miles long by 24 miles broad, with an area of 720 square miles and a maximum elevation of 2,710 feet. It is a volcanic island with mountains rising rather precipitously, but it has been so weathered that little indication remains of the original scheme of the eruptions to which it owes its formation. There are three ranges of mountains, each with peaks over 2,000 feet, viz. Pouce behind Port Louis, Tamarin-Rempart

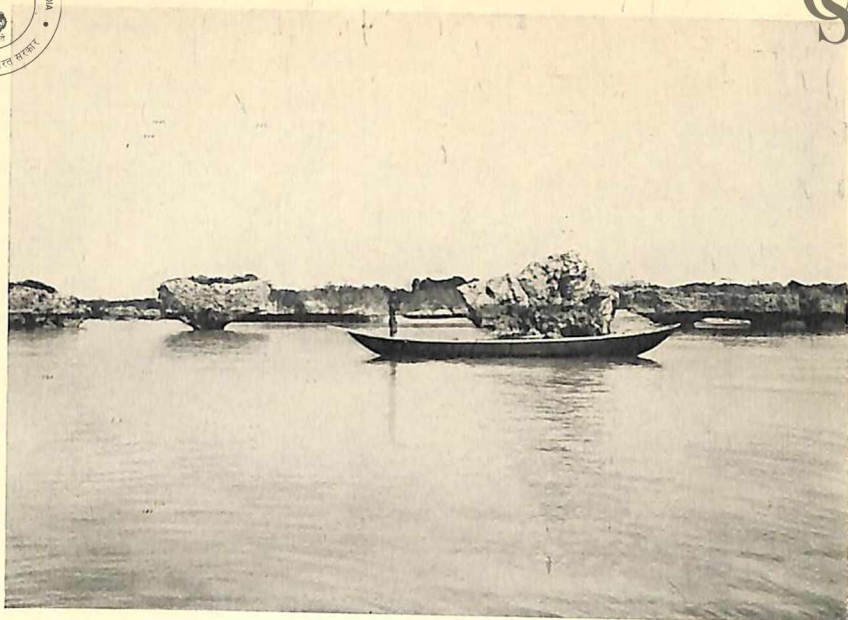


PLATE XXVIII (a). LAGOON OF ALDABRA, SHOWING EROSION
 OF ELEVATED CORAL ROCK

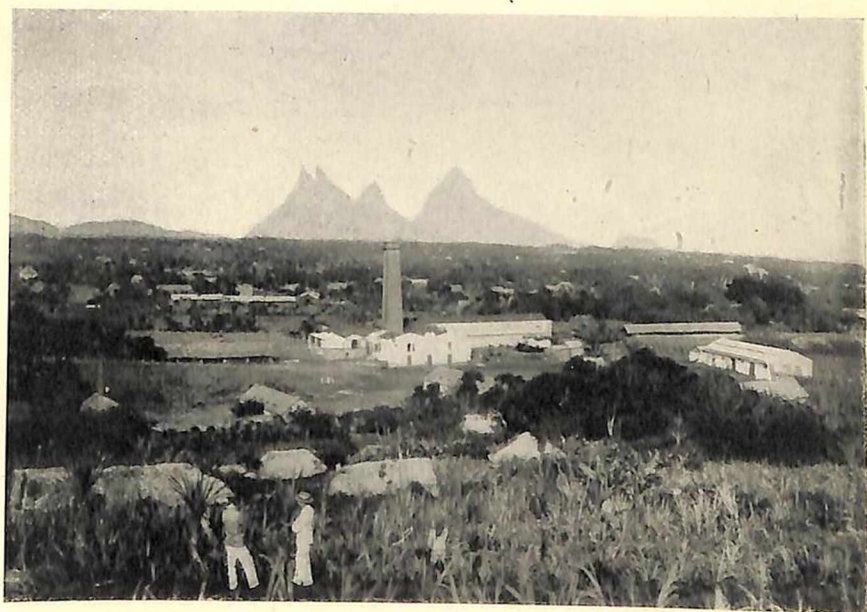


PLATE XXVIII (b). MAURITIUS. SUGAR FACTORY, VACOА,
 AND EASTERN MOUNTAINS

(Photos. Professor J. Stanley Gardiner)

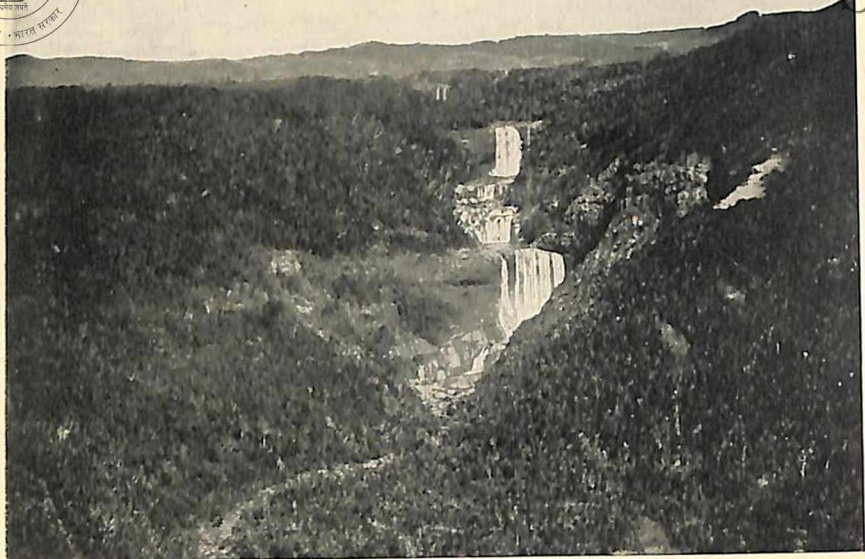


PLATE XXIX (a). CANYON AND FALLS NEAR VACOA, MAURITIUS



PLATE XXIX (b). ILE D'AMBRE, MAURITIUS. GROWTH OF MANGROVE SWAMP

(Photos. Professor J. Stanley Gardiner)



to the south-west, and Bamboo to the south-east. Between them they give to three-quarters of the island an elevation of over 1,000 feet, and form a plateau in the centre of the island of over 1,500 feet. The remaining land to the north-east slopes into a flat with isolated peaks, such as the Butte aux Papayers, on which the semaphore station is situated. While the 100-fathom line elsewhere closely follows the shore, it runs out for 15 miles in the same direction to include a shallow bank of 20 to 30 fathoms, on which are Serpent, Round, Flat, Gabriel, and Gunner's Quoin islands, of which Round is 1,055 feet high.

Of the mountains, Pouce, Bamboo, and Rempart probably belong to the same period, but the Tamarin ^{Physical features.} range, with its Savane and Rivière Noire sections, would seem to have been of more recent formation; in any case, this range confuses the otherwise fairly regular contour of the central mass of the island. The line of mountains is not clearly visible to the north-east, but there is a series of lower hills with steep slopes between Grand River South-East and Nouvelle Découvert. The Pouce and Bamboo mountains are both remarkable for the steep buttresses of their seaward sides, between two of which Port Louis is situated. The central plateau between the mountains is much broken up by supplementary cones and craters, masking its structure. The rainfall is heavy, so that the plateau is channelled by streams, of which Grand River (opening near Port Louis) and Grand River South-East are the most important, flowing through deep gorges and cañons, with many waterfalls. The hills of the plateau are generally weathered smooth by the rains, but Pouce and Bamboo present a series of jagged peaks of fantastic shapes. Pieter Both mountain (2,676 feet), behind Port Louis, has a head joined by a narrow neck to its body, and many others have columns and overhanging cliffs which could scarcely have continued to exist in a land much affected by seismic disturbances. The Tamarin mountains form a crowded series of peaks and valleys, while

the area between their eastern limit and the Bamboo range is a fertile plain about 400 feet above the sea, known as Grande Savane. The high land, where it meets the sea, ends in cliffs, but there is generally a low flat between ; this in places is masked by cliff débris. It is formed partly by an upwashing from the fringing reefs, which surround most of the island, and partly by some recent change of level of sea and land. This change is most clearly visible at Grand Port, where there is a considerable lagoon between the reef and the land ; it was an elevation probably of about 80 feet, and it is shown by the elevated coral limestones at Treize Cantons and those forming most of the islets of the vicinity, some of which lie on the barrier reef.

Settle-
ment.

Mauritius was first discovered by the Portuguese sailor, Pedro Mascarenhas, in 1505, and named Cerné, from a notion that the island was so called by Pliny ; it was uninhabited. It remained in the nominal possession of the Portuguese until 1595 as a port of call, but there was no settlement, though deer, goats, monkeys, and pigs were introduced. The Dutch rediscovered the island in 1598, and re-named it Mauritius after Count Maurice of Nassau. Their squadron refitted at Grand Port, where a garden of over 150 acres was enclosed and planted with vegetables. A settlement was established in 1638 at Grand Port, and some of the coastal lands were cleared, much ebony being exported. Plantations of cane, tobacco, vegetables, &c., were established by the help of convicts from Batavia and slaves from Madagascar. Many of the latter escaped to the mountains, where they formed a large body, the Marons, the depredations of whom caused the abandonment of the island in 1712. The French East Indian Company took possession in 1715, and a settlement was founded from Réunion in 1721. The Company's rule was not established over the Marons until the time of Mahé de la Bourdonnais, 1735-46, who armed blacks from Madagascar for their subjugation. Under this governor the seat of government was transferred to Port Louis on the leeward side ; large workshops



and shipbuilding yards were established, the town was fortified, roads built between all the chief points, the island divided up for administration, the forests cleared, and their sites planted with cotton, indigo, and especially sugar.

On the decay of the French East Indian Company the island fell into disorder, and was ceded to France in 1767, after which it made such further progress that at the end of the century it had a population of 65,000. It further advanced under Napoleon, and became a favourite station for privateers preying on English commerce, as well as a dockyard for the repair of French ships. The Indian Government consequently determined on its reduction, and in 1809 Rodriguez was annexed. Bourbon surrendered in July 1810, and Mauritius, then known as L'Isle de France, capitulated a few months later after a series of frigate actions highly creditable to the French. In 1813 the slave-trade was abolished, and in 1814 our possession was finally confirmed by the Treaty of Paris, Réunion reverting to the French crown. Relations were entered into with Radama, then monarch of most of Madagascar, but they were not followed up or that island would probably now be a Protectorate of Britain. In 1825 the colony made a great step in advance, when its products were allowed into Britain on the same terms as those of the West Indies. It suffices, further, to mention that on the emancipation of the slaves in 1835 Indian labour was introduced for the estates, and that the present population of the island is upwards of 360,000.

When first discovered the greater part of Mauritius was *Fauna*. covered by dense forests, but there are no parts which have not been destroyed by axe or fire. In addition, introduced animals and plants aided largely in the destruction of its indigenous life. It was the home of a large flightless pigeon, the dodo, which was probably finally killed out by the pigs about 1683. Rodriguez also had a large flightless bird, the solitaire, which became extinct about 1731, and Réunion a third bird even larger. Giant land tortoises would also seem to have existed at the same time, as one is represented in an early

woodcut. Most of the plants and animals found on the coral islands of the vicinity occur on the coast-lands of Mauritius, but in addition there is a relatively immense fauna and flora nearly all of peculiar species and many of peculiar genera and even families. The number of species is considerably larger than would be expected on a purely oceanic island, situated at so great a distance from continental land, and they are mainly related to Madagascar forms. This relationship is the more remarkable because the currents set west or north-west, so that only exceptionally could seeds, or animals, arrive from Madagascar. A land-connexion between is demanded by geographical distributionists up to the middle Secondary period ; it is not required to explain the existence of the flightless birds, which are known to have had ancestors of powerful flight, but for the land mollusca and plants. This hypothesis is discounted by the fact that Mauritius is purely volcanic, but it is possible that the immense Nazareth and Saya de Malha banks were land areas once. Wild boars, deers, partridges, guinea-fowl, and a few water-birds afford sport.

Climate,
 agricul-
 ture, com-
 munica-
 tions,
 trade, &c.

The mean temperature on the coast is only about 75° F., and the rainfall about 45 inches, more in the hills. There is much standing water, and malaria is rife and peculiarly deadly. At times there have been epidemics of cholera, small-pox, and bubonic plague. The forests that exist now are low and scrubby, and found principally in the region of the Tamarin mountains. Many of the mountain slopes are almost bare. All possible land for sugar planting has at some time or other been cleared, and the best land is still laid down in the same crop, the biggest estates lying to the north-east of the island. Much of the land, not now sufficiently good for sugar estates, is farmed by Indians in small plots, the cane being carried to the nearest mill ; they also raise a little vanilla, coffee, potatoes, tobacco, vegetables, and fruits for sale, manioc (a material like arrowroot) and bananas for food, a cow or goats, some pigs, &c. The people, however, are largely dependent on India and



Australia for rice and corn, on Madagascar for cattle, and on Britain and France for manufactured goods. If the sugar crop fails, or the price falls, the people starve. There are 131 miles of railways from Port Louis, through which all the trade passes. Regular communication is maintained with Marseilles by Messageries Maritimes steamers, with South Africa by the Union Castle Line, and with Ceylon and India by the British India Line. The Eastern Telegraph Company gives communication with the world. The currency is the rupee, which is divided into cents.

The population of Mauritius consists of the descendants of French and English, and of their slaves, there being every degree of blood admixture ; they are mostly Roman Catholics. The Indians number about 250,000, and of these four-fifths were born on the island. The island is divided into nine districts, which have representation on the Government Council. The language is a French patois, Creole, and the laws are based on the Code Napoleon. The revenue is mainly derived from a customs duty of 12 per cent. Port Louis has a population of over 60,000, but people live when possible in the more healthy hills of the province of Plaines Wilhelms, where the British troops are also garrisoned. Pamplemousses to the north has a noted meteorological station, but its famed botanical gardens are now of no account.

Mauritius grew into importance on its transit trade, which was entirely killed by the opening of the Suez Canal. It is now dependent on its sugar crop, the profits from which may be destroyed by hurricanes, bounties, or tariffs. Of these the first most seriously affect the crops, the colony lying in one of the worst regions in the world. It is also one of the most densely inhabited countries, a noteworthy fact, as it has no manufactures. The dangers of this condition of affairs cannot be over-estimated. If the Indian population further increases, an outlet for the surplus population must be found, and the natural geographical connexion of the island and also of Seychelles and their dependencies is with East Africa.

III. *Rodriguez*

The island of Rodriguez, 300 miles east of Mauritius, is 11 miles long by 5 miles broad, lying east and west ; it resembles its sister island in being a rugged, much-weathered mass of volcanic rock. The coral reef fringes it on all sides, in parts to the east 100 to 200 yards broad, but extending to 3 to 4 miles north and south, and west about 2 miles. An irregular passage within the reef, having sufficient depth for boats at any state of the tide, extends round most of the island close to the shore, and there is a narrow channel through the reef leading to a small lagoon of 3 to 10 fathoms, named from its position Port South-East. Mathurin Bay, in the reef to the north, is the usual anchorage, the prevailing winds being from east to south-east. The 100 fathom line forms round the whole a bank 32 miles long by 16 miles broad, with so steep a slope between 50 and 100 fathoms that the lines of the two depths almost coincide. Scattered over the reef are a number of islets, of which most of those near the shore are volcanic ; the rest are of limestone, some being elevations, other accumulations of débris.

The island is exceedingly hilly. A broad ridge with several peaks runs down the centre with its highest point in Mount Limon, 1,300 feet. Its sides are cut into deep ravines, often with inaccessible cliffs around their terminal ends but opening out near the sea into wide valleys between terraced ridges. These ridges are in some places marked by columnar basaltic cliffs, the most remarkable being Tonnerre cliff (200 feet) behind Mathurin Bay. The streams are mostly seasonal torrents, forming series of cascades and falls descending to the sea. To the east the volcanic mountain chain slopes steeply to the sea, but to the west it passes into a broad limestone plain, studded with elevations up to 530 feet high. Patches of limestone are also found in the volcanic region, particularly to the east, clearly indicating an upheaval of several hundred feet since the island was first formed. Raised beaches on the south shore, 20 feet in height, and



certain of the coral islets indicate a further subsequent change of level.

A Portuguese commander, Rodriguez, discovered the island about 1510, and in 1691 the Dutch unsuccessfully attempted to colonize it with fugitive French Huguenots, among whom was Leguat (see Bibliography). The French East Indian Company used it as a garden for Mauritius, growing maize and corn and exporting dried fish, turtles, and land tortoises. It was occupied by Britain in 1809.

Rodriguez, when first discovered, was a land adorned with great and lofty forests, through which wandered vast numbers of flightless birds, the solitaires, and giant land tortoises. Now it is a bare, parched pile, completely destroyed by the ignorance of man, almost half of it being naked rock denuded of soil by the rains. Frequent fires have swept it. In such forests as remained the larger trees were cut, causing indirectly the destruction of all around them. Goats and pigs prevented any natural re-afforestation. The spongy soil beneath the forests of the hills supplied perpetual waters to the fertile valleys, while now drought is a danger for half the year. Lastly, the weeds and grasses of civilization destroyed most of the still-surviving native plants. The destruction was particularly bad on the western limestone plain, but it has exposed many great caverns full of beautiful stalactites and stalagmites. Probably half the plants were destroyed, but from what is left (175 Phanerogams) it is clear that the endemic flora was large and of Mascarene affinities, a conclusion supported by the fauna, which at the present day is of little interest. The solitaire, probably a flightless pigeon like the dodo but remarkably distinct, died out early in the eighteenth century, and the land tortoises subsequently, 30,000 being exported in 1760-1 in the course of eighteen months.

Rodriguez is still a garden for Mauritius, though but a barren one ; its pasturage is now used for cattle. Beans, maize, salt fish, cattle, goats, and pigs are its main exports. The population numbers about 3,000, mostly settled near Port Mathurin. They are French creoles of



negro or mixed descent, Indians being few. The government is in the hands of a resident Mauritian magistrate. The physical conditions are similar to Mauritius, but the island is healthy. There is frequent communication with Mauritius, and an important transmitting station of the Eastern Telegraph Company has been erected at Port Mathurin.

IV. *Seychelles*

The Seychelles Archipelago consists of two coral islands and seventeen granite islands, of more than 110 square miles in size, situated on a bank about 300 miles long by 100 miles broad within the 50 fathom line, perhaps 12,000 square miles in area. Bird and Dennis lie towards the northern edge, where there is some trace of a shallower rim, and are of coral formation. The rest lie towards the centre, almost within sight of one another, and rise into elevations, which vary in height with the size of the islands. Mahé is the largest, covering an area of about 53 square miles and rising to 2,993 feet. Praslin is 27 square miles in area and 1,260 feet high, Silhouette 8 square miles and 2,473 feet, and La Digue 4 square miles and 1,175 feet. The other more important islands are Frigate, Curieuse, Félicité, East Sister, and North.

Physical
features.

Mahé and Praslin have a series of grey granite peaks down their centres with buttresses extending out on either side, between which the streams have cut their courses, falling in cascades and waterfalls of great beauty. In Silhouette the highest hills are arranged like the letter Z, and most of the smaller islands have simply one or two peaks. The granite is generally uniform in composition, but exhibits dykes of finer grain down which the water-courses have been cut ; it is a rock with affinities particularly to the granites of Africa and Southern India. Its natural tendency is to split up by vertical and horizontal fractures, and this character is carried so far as to form great precipices, at the foot of which accumulate rectangular blocks of the rock. Exposed mountain faces, and even quite isolated rocks, are deeply scored by the rain,

which averages in the hills over 120 inches annually. The hills are deeply furrowed and the ridges are sharp. This tremendous weathering bears striking testimony to the antiquity of the existing land. Mahé slopes up along its eastern (windward) face from the beach to a line of precipices, situated 150 to 250 feet above the sea, at a quarter to half a mile behind the shore, and cut only where mountain streams descend. Behind are two or even three similar slopes with precipices in places behind, culminating in a peaked ridge of 2,000 to 3,000 feet high extending along half the island. The western side is similar, but the exposed rock is less noticeable. Coral rock is found up to 30 feet above the sea, showing the recent change of level characteristic of the western Indian Ocean.

The Portuguese discovered the Seychelles, which appear on a chart of 1502, and more clearly on one of 1520, with most of the other islands north of Madagascar. Jourdain visited them in 1609, and writes of their giant land tortoises and crocodiles, both now extinct. Mahé de la Bourdonnais sent expeditions to explore them in 1742 and 1744, and they were formally annexed to Mauritius, being called 'Les Îles de la Bourdonnais' with chief island 'Mahé'. The reports received were unfavourable, principally because the navigation was naturally difficult to sailing ships, and because the vegetation was all of new type and therefore worthless. In 1756 the name was changed to Séchelles after the then French Contrôleur des Finances. In 1769 the Abbé Rochon discovered the immense double coco-nut or 'coco-de-mer', a well-known Indian curiosity, much used by Indian medicine men. Shortly afterwards a small establishment was formed for the cultivation of nutmegs, cloves, and other spices. Captain Newcombe, H.M.S. *Orpheus*, captured the islands in 1794, and their possession was confirmed to Britain by the Treaty of Paris, 1814. Subsequently captured slaves from dhows were for some years brought to the islands, which in 1903 were separated from Mauritius and made a distinct Crown colony, the lesser dependencies being

Settle-
ment.



Vegetation.

divided up in accordance with the residence of their owners, Mauritius or Seychelles.

The granite has over much of its surface deep soil, which supports a luxuriant vegetation. In the highest lands of Mahé and Silhouette the ancient jungle persists, though the larger trees have been cut. It is a regular tropical rain forest, formed of great trees often hung with moss, ferns, orchids, and lianes. Tree-ferns, peculiar palms, and great patches of screw pines occur, the ground being dank and dark beneath or having an undergrowth made brilliant in places by begonias and groundsels. Many of the trees have buttresses for their support, and some a mass of great aerial roots, hanging down over the precipices in search of crannies. Below are coco-nut-covered slopes or estates planted with patches of vanilla, a climbing orchid supported on stakes, or rows of the less profitable coffee, cloves, pepper, and cardamoms broken by masses and precipices of bare rain-scored rock. Still lower is the coco-nut-covered shore with swamps of mangroves near the mouths of streams, and outside all rests the reef of purest green with its white edge of surf, broken by channels here and there. It is a scene of marvellous beauty, and the archipelago well merits the name 'Garden of Eden' applied to it by its former governor, Gordon, who was to lose his life in a desert town of Sudan.

All or nearly all the endemic plants of the granite lands are peculiar species, and many belong to peculiar genera. The ancient hill jungle forms a sponge, which swells and shrinks with the humidity, feeding streams in the valleys. Praslin and many of the smaller islands as well as the south of Mahé have little of it left, but the Government in 1907-10 wisely bought the high lands behind Victoria, and the proprietor of Silhouette is fully aware of their importance, so that some parts of these islands should remain a perpetual garden. The Government also reserves a valley in Praslin densely planted with 'coco-de-mer', a tall palm each nut of which weighs over 40 lb. and which requires seventy-two years for a generation;¹

¹ The nuts are like an enormous double coco-nut, partly split in the

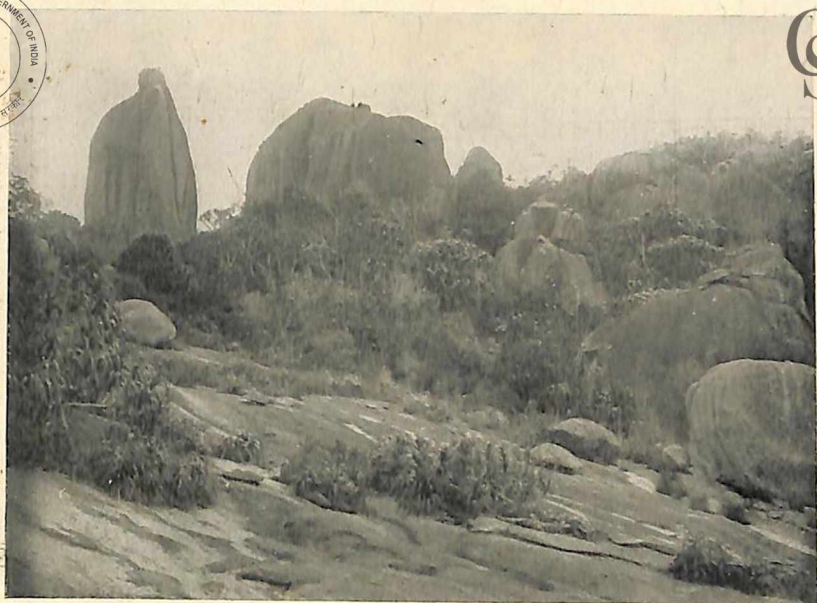


PLATE XXX (a). SUMMIT OF MOUNT SEBERT (1,600 feet), MAHÉ, SEYCHELLES. (*Pandanus multispicatus*)

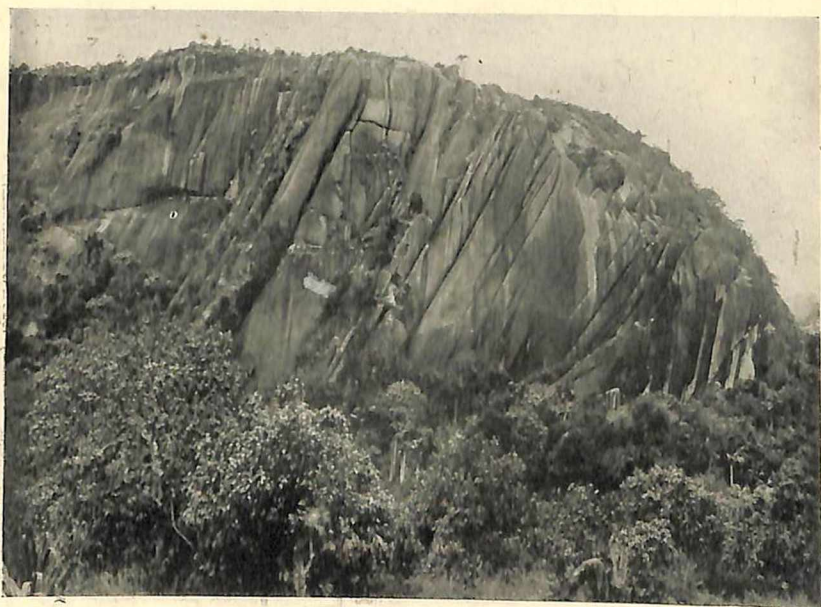


PLATE XXX (b). MOUNT SEBERT, MAHÉ, SEYCHELLES. (GLACIS)
 (Phots, Professor J. Stanley Gardiner)



Praslin, and La Digue much of the land is divided into small holdings, other islands mostly belonging each to a single proprietor. The language and customs are French, the aristocracy being creoles from Mauritius. The labour is negro, liberated slaves, or descendants of negroes with some admixture of Indian blood. Some of the store-keepers are Indian, but most are Chinese, a race highly reputed in the group for its honesty. The large majority of the people are Roman Catholics. The Governor is assisted by nominated members on his council, and there is a separate resident, who is also doctor, in Praslin. Mahé has good riding tracks over the hills, and Victoria an excellent water system. The islands have neither fever nor other contagious diseases, and, having an equable climate tempered by sea-breezes, are very healthy. Victoria has a small botanical station, and experiments in agriculture are carefully fostered. There is a transit station of the Eastern Telegraph Company. Mail communication is with Marseilles by Messageries Maritimes, and there are occasional ships of the British India line to Zanzibar.

All tropical vegetables and fruits grow with luxuriance in Seychelles, and most of such suitable produce has been tried at some time or other for export. The French grew spices, and later trade commenced in cotton, rice, dried fish, and timber. Vanilla succeeded, and in 1899 formed five-sevenths of the exports of the colony. Land was cropped with vanilla for ten to twenty years. It was then planted with coco-nuts, which had always been cultivated on the coastal plain; these yield the most stable and dependable crop in the tropics, and their oil has usually been the most valuable product of this colony. Rubber was introduced in 1904, and in 1910 a large English company was formed to exploit various estates in Mahé. In 1906 a small distilling industry for cinnamon, cloves, and other oils was started. Scale insects, followed by fungoid pests, as well as boring beetles, cause much destruction. There has always been some loose guano taken from the islands, but in 1907 an English company



started to export it systematically, paying a royalty of ₹ 3 per ton. An establishment was founded on the then uninhabited dependency of St. Pierre, which produces over 20,000 tons per annum ; the dependency of Aldabra has since been developed for the same purpose. Turtles come from the dependencies as well as dried turtle and tortoise-shell for export. Turtle flesh is eaten, but there are plenty of cattle, goats, and fowls. Fish is abundant, but it is not as yet systematically caught and cured for export. Many of the banks and reefs are suitable for pearl shell and sponge cultivation. The imports are the same as for Mauritius.

Year by year distance becomes less important, and the Seychelles Islands can no longer be regarded as isolated. Indeed, the colony must now be deemed as of more importance to Britain even than Mauritius. It stands between British possessions in India and those of other powers in Africa and Madagascar. It has also in Victoria a port capable of fortification and development, and in the mixed negro population a hardy people, accustomed to the sea. On the other hand the colony can never be of much economic value, while such small colonies are expensive to govern well and have obvious drawbacks. Seychelles might produce much which East Africa requires, and East Africa could send it the food-stuffs it wants. East Africa will require, when it develops, a healthy island sanatorium. Geographically, the affinity of Seychelles is with that colony.

Dependencies of Mauritius.

Rodriguez. (See separate account.)

Chagos Archipelago. Salomon, Peros Banhos, Great Chagos, Egmont, Diego Garcia. All coco-nut islands, exporting oil ; close cultivated.

Cargados Carajos. Guano, some dried fish, and the eggs of sea-birds.

Coetivy. Coco-nut island, exporting oil and some tortoise-shell.

Farquhar. At present little cultivated ; some coco-nut oil ; formerly some maize, a little pearl-shell, some turtles, and tortoise-shell.

Agalega. One of the richest coco-nut islands in the Indian Ocean, but has no safe anchorage.

Tromelin. Not inhabited ; no anchorage and seldom visited.

Glorioso. Not yet developed, but said to have some guano.

Dependencies of Seychelles.

Aldabra. About sixty square miles of land, much of it covered with mangrove swamp and thorny woods; development as yet small; cargoes of guano and mangrove bark for tanning to Europe, turtles and tortoise-shell to Seychelles.

Assumption, Astove, Cosmoledo. Tortoise-shell, turtles, dried turtle, and dried fish; guano not yet developed in Astove, being worked in Assumption, worked out in Cosmoledo.

Providence. North island densely planted with coco-nuts; south island, some dried fish and turtle.

Saint Pierre. Guano and phosphate rock.

Platte. Guano nearly worked out.

Desroches. Còco-nut island; Casuarina-wood for firing.

Alphonse-François. Coco-nut, densely planted.

Amirante Group. Marie-Louise, Poivre, Darros, St. Joseph, Eagle, African. Some guano, but most islands now planted with coco-nuts; a few pearl-shells and a little dried fish. St. Joseph is the breeding-place of a large number of pelicans.

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CHAPTER XXIII

THE DEFENCE OF BRITISH AFRICAN
TERRITORIES*South Africa*

THE position of the Union of South Africa differs from that of the other Dominions, in that not only is it liable to external attack from oversea and overland, but, owing to the presence of a native coloured population, outnumbering the population of European descent by four to one, there is danger of internal disturbances. It will be convenient to discuss these possible forms of attack separately.

An oversea attack must necessarily be carried out by a maritime Power, and will probably have as its object the weakening of our sea power or the destruction of our commerce. The only ports in South Africa which, by reason of their shipping and resources, are likely to invite a naval attack for such objects, are Simon's Bay, Table Bay, and Durban. Simon's Bay is the naval base of our warships in South African waters. Table Bay is a commercial port of the first importance, and being situated on the trade route to the East, would probably serve as a harbour of refuge in case of need. Durban is near the great trade routes to the East, and has a good local supply of steam coal. It may, therefore, become in time of war an important harbour of refuge for ships engaged in the Indian and China trade. The principal factor to be considered in estimating the liability of these ports to oversea attack is their great distance from the naval bases of foreign powers and from the main theatre of operations of probable naval wars.

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The distances from Cape Town to the following ports and naval bases are :

		<i>Miles.</i>
France . . .	{ Dakar . . .	3,500
	{ Brest . . .	5,700
Germany . . .	Wilhelmshaven . . .	6,335
Russia . . .	Vladivostok . . .	8,640
United States . . .	{ New York . . .	6,800
	{ Manila . . .	6,800
Japan . . .	Nagasaki . . .	7,900

In view of these distances coast attacks involving the risk of damage to the ships undertaking them and the expenditure of ammunition would obviously be very hazardous operations. But these are not the only risks to be encountered. Any vessels undertaking such attacks would be obliged in the first instance to evade our fleet, and would be liable to pursuit by a superior naval force, intent on bringing them to action at the first opportunity.

A circumstance in connexion with the South African ports which emphasizes their importance in time of war is the possibility that the Suez Canal route may be closed to our shipping. If this were to occur the whole of our Eastern trade and all military reinforcements, stores, and supplies for our Eastern possessions would necessarily proceed by the Cape route. These ports would therefore become, perhaps, the most important coaling stations in the Empire outside the British Isles.

The above considerations point to the desirability of Table Bay and Durban being adequately defended to afford protection to such shipping as may require to take refuge in these ports, and to Simon's Bay being adequately equipped and defended to form a naval base for such warships as it may be necessary to send to the Cape of Good Hope station in time of war.

Such objects are Imperial rather than local in their character, and it therefore behoves the Imperial Government to see that they are properly carried out.

The only territories from which serious attacks by land could be directed against the Union of South Africa are

Overland
 attack.



German East and South-West Africa. During the native wars in German South-West Africa, which lasted from 1903 to 1907, Germany was obliged to maintain considerable forces in that country, amounting at one time to nearly 15,000 men. Since the country has become more settled these numbers have been very much reduced, and the present garrisons of South-West and East Africa are not of sufficient strength to be in any way a menace to the Union. To reinforce them in time of war in the face of our superiority at sea would be a practical impossibility. The prospect of these territories supporting a sufficiently numerous white population in the future to change materially the present position is so remote as not to call for serious consideration.

The Union Government passed a Defence Bill in 1912 for the organization of the military forces of the country. The provisions of this bill and the nature of the forces that it called into being will be discussed later, and it suffices here to state the opinion that, having regard to the experiences of the South African war, the military forces of the Union, when organized in accordance with the provisions of the Defence Bill, will be fully capable of dealing with any military force that could conceivably attack South Africa.

Past experience tends to show that the contingency of a concerted general rising of the native population is extremely remote. The danger of local risings, however, cannot be disregarded, and some of the native communities, notably the Basutos, are sufficiently formidable.

Internal disturbances.

Since the South African war the policy has been to leave the local governments to deal with native risings, and the Natal Government dealt with risings of the Zulus in 1903 and 1904, unaided by Imperial troops. This policy is likely to be continued, and the citizen forces now being organized, combined with permanent local forces organized on the lines of the Cape Mounted Rifles, should suffice to afford security against internal disturbances.

Naval policy of the Union Government.

Till the formation of the Union of South Africa the Governments of Cape Colony and Natal made contribu-

tions to the Navy of £50,000 and £35,000 respectively, and all consideration of naval policy was for some years postponed till the Union Parliament came into existence. Since the formation of the Union Government the contributions of Cape Colony and Natal have been clubbed together, and a single contribution of £85,000 annually has been made towards the maintenance of the Imperial Navy.

In February, 1913, General Botha stated in the Union Parliament that his Government was considering its naval policy, and he admitted the responsibility of the Union for taking its fair share in the naval defence of the Empire. There seemed, however, to be a general feeling that while something no doubt should be done, yet it would not be fair to saddle South Africa with the task of protecting the trade routes round the Cape, the interests to be protected being to a very large extent Imperial rather than local.

The South African garrison.

At the conclusion of the South African war in 1902 a large garrison of British troops, amounting to 32,000 men, was left in the country. The political conditions were unsettled, and the maintenance of a considerable armed force in the country was no doubt a necessary precaution. This garrison was gradually reduced, and with the advent of representative government in December, 1906, the reasons for maintaining such a garrison were considerably modified. A large reduction was made, and in 1909 the strength of the garrison did not exceed 11,000 men. Not long after the Union Government was established in 1911 it was decided to make a still further reduction, and the garrison in June, 1913, consisted, according to the Army List, of

- 2 Cavalry Regiments,
- 1 Field Artillery Brigade,
- 2 Companies, R.G.A. ;
- 1 Fortress Company, R.E. ;
- 2 Field Companies, R.E. ;
- 4 Infantry Battalions,

with a suitable proportion of departmental troops ; in all

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about 7,000 men. The retention of these troops in South Africa is difficult to justify on strategical grounds, and, though no doubt the Union Government would be sorry to lose them, they will probably not remain in the country indefinitely.

The organization of the forces which the South African Defence Act¹ of 1912 was designed to bring into existence is best understood from the following diagram :

The South African Defence Bill.

FIRST LINE

<i>The Permanent Force.</i>	<i>The Coast Garrison Force.</i>	<i>The Active Citizen Force.</i>
South African Mounted Rifles.	A partially paid citizen force allotted to coast defences.	Composed of citizens between the ages of 17 and 25 who undergo peace training.

SECOND LINE

<i>S.A.M.R. Field Reserve.</i>	<i>C.G. Force Reserve.</i>	<i>A.C.F. Reserve.</i>
(i) Ex-members of the S.A.M.R. who volunteer.	Ex-members of the C.G.F. who elect to perform reserve service.	Class A. Citizens not over 45 who have done 4 years' training.
(ii) Specially selected Class A. A.C.F. reservists who volunteer.		Class B. Citizens not over 45 who are serving or have served in Rifle Associations.

THIRD LINE

The National Reserve.

Citizens between the ages of 17 and 60 who do not belong to the First or Second Line.

ORGANIZATIONS THAT DO NOT TAKE THE FIELD

<i>Cadets.</i>	<i>The Police Reserve, S.A.M.R.</i>
Boys between the ages of 13 and 17	Members of Class B. A.C.F. Reserve over the age of 30, who volunteer.

ROYAL NAVAL VOLUNTEER RESERVE.

A body of naval volunteers for general service in the Royal Navy.

The underlying principle of the Bill is that every citizen is liable to assist in the defence of his country. This principle has been recognized and accepted by the

¹ The legal obligations connected with military service are considered in detail in chapter viii, pp. 187 *seqq.*



people of South Africa from the earliest times, but while the principle is recognized it has been found that to train the whole population for military purposes would create a greater force than the country could reasonably require for defence, and would impose on the people too heavy a financial burden. It is intended, therefore, to train annually only such a number of citizens as are required for defence purposes, the Government fixing this number from time to time according to the requirements and financial resources of the Union.

The Permanent Force.

A permanent force is required for these purposes :

(i) To provide a small but highly efficient and easily mobilized body of troops, which, without dislocating public or private business, can be moved rapidly to any spot where violence or disorder is threatened.

(ii) To furnish a highly efficient professional body of South Africans who will form the permanent administrative and instructional staffs of the Citizen Forces.

(iii) To provide a small number of complete units of artillery.

To fulfil these purposes five regiments of South African Mounted Rifles, of a total strength of 2,500, are being formed out of the old Mounted Police forces, and, in addition, a corps of officers and non-commissioned officers to act as the administrative and instructional staffs.

The Reserves for the Permanent Force are divided into two categories : The Field Reserve to expand the units of the South African Mounted Rifles, and the Police Reserve to perform police duties when the units are mobilized for service. The Field Reserve consists of ex-members of the South African Mounted Rifles and specially selected citizens of the Active Citizen Force, who have received military training. The Police Reserve consists of specially selected citizens of Class B of the Citizen Force Reserve living in the districts in which the units of the South African Mounted Rifles are stationed.

The Coast Garrison Force.

South Africa is the only self-governing Dominion which does not make full provision for the defence of her own harbours. The reasons are two-fold. As already explained

the interests which the harbours are designed to protect are to a great extent Imperial, rather than local, and South Africa does not at present possess any troops sufficiently versed in the highly technical duties of coast defence to undertake these duties efficiently. The home Government, therefore, maintains the nucleus of the garrisons of the defended ports, and it is proposed to expand this nucleus by raising a corps of South African Garrison Artillery from the existing Cape Garrison Artillery, and establishing a South African Coast Defence Corps for the work of engineers, electric light, signalling, telegraphy, harbour control, &c. Provision is made in the Defence Bill for the members of these Corps to receive pay for such periods as may be prescribed.

This force, on which the Union must mainly rely for its defence, is to be organized in three categories :

The
 Citizen
 Force.

The Active Citizen Force.

The Citizen Force Reserve.

The National Reserve.

The Active Citizen Force will have a territorial organization, and each district will be called upon to provide its quota of mounted troops, artillery, infantry, engineers, and departmental services, according to the nature and circumstances of its population. It is anticipated that a strength of from 20,000 to 25,000 will ultimately be reached.

The Citizen Force Reserve is further subdivided into two classes, A and B. Class A will consist of those who have received military training ; Class B of those who have not received training, but have learnt to use a rifle through the medium of a rifle association.

The National Reserve provides for a very grave emergency, in which every citizen between the ages of 17 and 60 may be required to assist in some way to preserve the integrity of the Union.

It is proposed eventually to establish a Military College for the education of cadets for commissions in the Permanent Force, from amongst whom will be selected the officers required for staff and instructional duties.

The country will be divided into Military Districts, in charge of each of which will be placed a Staff Officer of the instructional and administrative staff. These officers will be charged with the important duties of the registration of all citizens liable for training, the entering of the citizens for training whether voluntarily or by ballot, the organization of units of the Active Citizen Force, the organization of rifle associations, rifle training and practice in these associations, and the organization and training of cadets. They will also give attention to the training in professional subjects of the officers and non-commissioned officers of the Active Citizen Force by arranging lectures and courses of instruction. To the larger districts Adjutants will be appointed to assist further in carrying out these duties.

Since the 1st January 1913, a citizen attaining the age of 17 has three alternatives before him :

1. To enter the Active Citizen Force voluntarily for four years' training.
2. To defer entering the Active Citizen Force voluntarily for 1, 2, 3, or 4 years.
3. To avoid military training if possible.

It is expected that sufficient for requirements will enter voluntarily, but should this not be the case a ballot will be held as follows. The names of all citizens will be registered and classified by the District officer :

Class 1 will consist of those who should find no difficulty, owing to their social position, in undergoing four years' training in the Active Citizen Force.

Class 2 will consist of those whose social position would make it difficult for them to undergo training.

Class 3 will consist of those whose difficulties in undergoing training would be exceptional.

The shortage of numbers in each District will be made good by ballot in June each year from the rolls, each class being exhausted in turn, taking Class 1 first, then Class 2, and finally Class 3.

The Citizen Force and its reserves can be called out for



the prevention or suppression of internal disorder within the Union and for active service anywhere in South Africa.

The Permanent Force is liable for service within or beyond the borders of the Union.

West Africa

The troops stationed in British West Africa consist of :

1 Battalion West India Regiment,
The West African Rifles,
Native Police (armed),

to which must be added some Fortress Engineers and Departmental detachments.

Exclusive of the Native Police, which are not of much military value, these troops amount to about 12,000 officers and men, and are distributed between Gambia, Sierra Leone, the Gold Coast, and Nigeria.

The garrisons are maintained for the protection of the coaling station of Sierra Leone and for the maintenance of internal order and the repression of native risings in British territory.

British possessions in West Africa border on French and German territory, and the situation that might arise should we be at war with either of these Powers requires explanation. Germany maintains but a small garrison in her West African possessions, which can be ignored, but the garrison of French West Africa is nearly double our own. It cannot, however, be reinforced from Algeria owing to the difficulties of the overland communications. So long, therefore, as British naval supremacy is maintained the power of reinforcing the garrisons will ultimately be assured to us and denied to the enemy in the event of war with France. Our military policy is based on the principle of concentration, and we do not lock up more troops in our African possessions than are required for the maintenance of order. Should war with our neighbours in these regions unfortunately occur we must face the possibility of being temporarily inferior to France. A reference to the views expressed on our foreign and

military policy, in the volume of this series dealing with general imperial topics, will show the degree of risk that we run in this respect.

East Africa

The troops stationed in British East Africa consist of :

The East African Rifles.

Native Police (armed).

The strength of the former, which alone can be considered reliable troops, amounts to some 3,000 officers and men. They are distributed between East Africa, Uganda, and Nyasaland.

The garrison is maintained for similar purposes as in the case of West Africa, and although in this case British and German territory adjoin one another, the strength of the troops in German East Africa does not constitute a serious menace to our interests.

GAZETTEER OF TOWNS IN BRITISH AFRICAN TERRITORIES

(Note.—The towns included in this list have been selected partly on a basis of population, but also, especially in the case of certain smaller towns, with reference to their importance in relation to the localities in which they are situated. The figures for population are in accordance with the latest available returns. The figures for latitude and longitude are approximate.)

Abeokuta, $7^{\circ} 8' N.$, $3^{\circ} 25' E.$, (Southern) Nigeria, Yoruba country, 64 m. by rail N. of Lagos, on the Ogun River, in the midst of fertile country; trade in palm-oil, timber, rubber, and yams. Pop. 60,000.

Accra, $5^{\circ} 34' N.$, $0^{\circ} 12' W.$, seaport on the Gulf of Guinea and capital of Gold Coast, the sea-terminus of a railway serving the north-eastern districts of the colony, where cacao plantations are situated; seat of an Anglican bishop. Pop. 19,585.

Aliwal North, $30^{\circ} 31' S.$, $26^{\circ} 53' E.$, Cape Province, on the south bank of the Orange River, 4,300 ft. above sea-level, with dry and bracing climate; 280 m. by rail NNW. of East London. Close to town, hot sulphur springs for rheumatism and skin diseases. Pop. 4,528, of whom 1,884 whites.

Barberton, $25^{\circ} 47' S.$, $31^{\circ} 16' E.$, Transvaal, 238 m. by rail E. of Pretoria, in the De Kaap Valley, which is rich in minerals. Town owes its existence to gold discovered in 1886. Pop. 2,235, of whom 1,062 whites.

Bathurst, $13^{\circ} 24' N.$, $16^{\circ} 36' W.$, seaport and capital of Gambia, on St. Mary's Island, which lies at the mouth of the Gambia River near its south bank, and is connected with the mainland by a bridge across Oyster Creek. Pop. 8,000.

Beaufort West, $32^{\circ} 22' S.$, $22^{\circ} 34' E.$, Cape Province, 339 m. by rail NE. of Cape Town, the largest town in the W. part of the Great Karroo, at the foot of the southern slopes of the Nieuwveld Mts.; favourite resort for invalids; 2,792 ft. above sea-level. Pop. 4,530, of whom 2,043 whites.

Benoni, $26^{\circ} 40' S.$, $27^{\circ} 50' E.$, Transvaal, 50 m. SW. of Johannesburg, municipality of recent establishment (1907), and rapid growth and progress, situated in the Witwatersrand district; several gold and coal mines within the municipal area. Pop. 41,199, of whom 8,639 whites.

Berbera, $10^{\circ} 26' N.$, $45^{\circ} 4' E.$, seaport and capital of British Somaliland Protectorate, on a deep bay of the Gulf of Aden, which forms a safe and capacious harbour. Chief exports are: gum and resin, skins, ostrich feathers, sheep, and goats. Imports: cotton goods, rice, flour, sugar, and tobacco. Pop. about 10,000 permanent, but during trade season (Oct.—April) about 30,000.

Bida, $9^{\circ} 5' N.$, $6^{\circ} E.$, (Northern) Nigeria, 40 m. by rail NNW. of Baro, on the Niger; terminus of the Northern Nigeria Railway, an important trade and manufacturing centre. Noted for its embossed brass and copper work, especially the beautiful Bida goblets; has glass factory, preparation of indigo, and dyeing establishments. Pop. 80,000.

Blantyre, $15^{\circ} 47' S.$, $35^{\circ} 3' E.$, chief town of Nyasaland Protectorate, situated

in the Shiré Highlands, about 300 m. from the Chinde mouth of the Zambezi; 3,300 ft. above sea-level. Exports: tobacco, coffee, cotton, rubber, and chillies. Founded in 1876, and named after the birthplace of David Livingstone. Pop. 6,000, of whom about 200 whites.

Bloemfontein, 29° 8' S., 26° 18' E., capital of Orange Free State, centrally situated in a valley formed by the Bloemspruit, running between a picturesque range of hills to the north and a stony ridge to the south; 4,518 ft. above sea-level; 750 m. by rail NE. by E. of Cape Town. It enjoys a dry healthy climate, and is a favourite resort for invalids, especially those with pulmonary diseases. Mean maximum temperature 76·7° F., mean minimum 45·8° F. Seat of the Supreme Court of the Union of South Africa, and of an Anglican bishop. Pop. 26,925, of whom 14,720 whites.

Boksburg, 26° 15' S., 28° 40' E., Transvaal, 15 m. by rail E. of Johannesburg, centre of the East Rand gold- and coal-mining, the collieries extending 11 m. from the town. Pop. 43,628, of whom 11,529 whites.

Bulawayo, 20° 10' S., 28° 50' E., chief town of Southern Rhodesia, in the centre of the table-land between the Zambezi and Limpopo Rivers, 4,469 ft. above sea-level, with a healthy climate; 676 m. by rail from Beira, the nearest seaport; gold-mining in the neighbourhood. About 30 m. SSE. are the famous Matoppos Hills, where Cecil Rhodes is buried. Pop. 10,000, of whom 5,000 whites.

Calabar, 4° 56' N., 8° 18' E., seaport, (Southern) Nigeria, on left bank of Calabar River, 5 m. from the Calabar estuary of the Gulf of Guinea; excellent harbour accommodation; exports palm-oil and palm-kernels, and imports cotton goods and gin. The native quarter is known as Duke Town. Pop. 15,000.

Cape Coast, 5° 5' N., 1° 13' W., seaport, on the Gulf of Guinea, Gold Coast, built on a low bank and surrounded E. and N. by high ground, and W. by a lagoon; trade in palm-oil. Pop. 11,364.

Cape Town, 33° 56' S., 18° 28' E., capital of Cape Province and the seat of the legislature of the Union of South Africa, on the S. shore of Table Bay and surrounded on three sides by mountains: N. by Table Mountain, E. by Devil's Peak, and W. by Lion's Head. The situation of the town and its suburbs, which spread round the bay and encircle the lower spurs of the mountains, is one of the finest in the world. Being situated on one of the principal trade-routes between Europe and the East, Cape Town is of great strategic importance. Its fine harbour can be entered by vessels of the deepest draught. Over half of the exports of Cape Province pass through it, the chief articles being wool and wine. It has a famous astronomical observatory, the most important in the southern hemisphere, and is the seat of Cape University, of an Anglican archbishop, and of a Roman Catholic bishop. Pop. 67,159, of whom 29,863 Europeans; with suburbs 161,579, of whom 85,442 Europeans.

Dongola, 19° 10' N., 30° 29' E., Anglo-Egyptian Sudan, on the west bank of the Nile, 45 m. above the Third Cataract, 672 m. by river N. of Khartoum; trading centre of an important agricultural district; on the bank of the Nile opposite the town coal is found. Pop. 10,000.

Durban, 29° 52' S., 31° 42' E., principal seaport and largest town in Natal, and one of the finest towns in South Africa, 800 m. by sea NE. of Cape Town, possesses a fine natural land-locked harbour, 8 sq. m. in area, known as Port Natal. The port is provided with the latest facilities for the largest

steamers. The town stretches inland to the north to a range of green hills, and this part is known as 'The Berea'. It has an astronomical observatory. Pop. 69,187, of whom 31,783 white; with suburbs 89,998, of whom 34,880 whites.

East London, 33° 3' S., 27° 55' E., seaport, Cape Province, situated at the mouth of the Buffalo River; the chief seaside resort of the province. East London owes its foundation to the necessities of the Kaffir War of 1846-7, when the British, requiring a port nearer the scene of the war than those then existing, selected this site. Pop. 24,606, of whom 14,899 whites.

El Obeid, 13° 11' N., 30° 14' E., chief town of province Kordofan, Anglo-Egyptian Sudan, situated on the northern foot of Jebel Kordofan, 230 m. SW. of Khartoum; important trade centre, chief articles being gum, ivory, ostrich feathers, and cattle. Pop. 10,000.

Entebbe, 0° 4' N., 32° 27' E., capital of Uganda Protectorate, situated on a peninsula projecting into the Victoria Nyanza; has a good harbour on the lake. Pop. 9,569.

Freetown, 8° 29' N., 13° 10' W., seaport and capital of Sierra Leone, situated on the south side of the Sierra Leone estuary, with a safe and commodious harbour; coaling station for the British Navy. Great trading centre, sea terminus of railway serving the rich palm-oil regions of Mendi-land, and a port of call for all steamers on the West African coast. Seat of an Anglican bishop. Pop. 34,090.

George, 33° 55' S., 22° 26' E., Cape Province, 33 m. by rail NE. of Mossel Bay, and 342 m. E. of Cape Town, situated on the southern slopes of the Outeniqua Mts.; seat of an Anglican bishop. Pop. 3,956, of whom 2,080 Europeans.

Germiston, 26° 12' S., 28° 18' E., Transvaal, 9 m. by rail E. of Johannesburg, situated in the centre of the Witwatersrand mining district; important railway junction. Although a separate municipality, is considered a suburb of Johannesburg. Pop. 54,325, of whom 15,579 whites.

Graaff Reinet, 32° 15' S., 24° 34' E., Cape Province, 185 m. by rail NNW. of Port Elizabeth, situated on the Sunday River, at the foot of the southern slopes of the Sneeuwberg Mts., 2,463 ft. above sea-level. Centre of a prosperous agricultural district, noted for its orchards, vineyards, mohair, wool, and ostrich feathers. Pop. 8,129, of whom 3,904 whites.

Grahamstown, 33° 17' S., 26° 27' E., Cape Province, 106 m. by rail NE. of Port Elizabeth, picturesquely situated at the head of Belmont Valley, sheltered by the surrounding Zuurberg Mts.; 1,760 ft. above sea-level; centre of ostrich farming. Has a university college, and splendid botanical garden; seat of an Anglican and of a Roman Catholic bishop. Pop. 13,830, of whom 7,323 Europeans.

Harrismith, 28° 23' S., 29° 2' E., Orange Free State, 250 m. by rail NW. of Durban, about 20 m. from the western slopes of the Drakensberg Mts., 5,250 ft. above sea-level, health resort, with dry bracing climate; trading centre of a fertile agricultural and pastoral region. Pop. 6,799, of whom 3,447 whites.

Heidelberg, 26° 29' S., 29° 4' E., Transvaal, 42 m. by rail SE. of Johannesburg, situated on the slopes of the Rand, 5,029 ft. above sea-level, and considered the best health resort in the Transvaal; centre of gold-mining and cattle-raising district. Pop. 2,639, of whom 1,522 whites.

Ibadan, $7^{\circ} 23' \text{ N.}, 3^{\circ} 49' \text{ E.}$, (Southern) Nigeria, capital of one of the Yoruba States, and seat of a British resident; 123 m. by rail NE. of Lagos. Pop. 175,000.

Ilorin, $8^{\circ} 40' \text{ N.}, 4^{\circ} 45' \text{ E.}$, (Southern) Nigeria, capital of province of same name, seat of British resident, 160 m. by rail NNE. of Lagos, and 50 m. by rail SSW. of Jebba, on the Niger. Great trading and distributing centre, and has important manufactures of leather goods, shoes, mats, pottery, and carved wooden vessels. Pop. 70,000.

Jagersfontein, $28^{\circ} 45' \text{ S.}, 26^{\circ} 10' \text{ E.}$, Orange Free State, owes its existence to the discovery of diamonds here in 1870, and is noted for its blue-white diamonds which command a high price. It is pleasantly situated on the open veld, 4,500 ft. above sea-level, 70 m. by rail SSW. of Bloemfontein. Pop. 9,019, of whom 1,967 Europeans.

Johannesburg, $26^{\circ} 10' \text{ S.}, 28^{\circ} 6' \text{ E.}$, Transvaal, centre of the Rand gold-mining industry, the most populous city and the commercial capital of South Africa, 957 m. by rail NE. of Cape Town. It lies on the southern slopes of the Witwatersrand and owes its existence to the discovery of gold in the Witwatersrand reefs. Nearly half of the total gold output of the Transvaal is produced here. Seat of the Transvaal University College. Pop. 237,104, of whom 119,953 whites.

Kano, $11^{\circ} 55' \text{ N.}, 8^{\circ} 32' \text{ E.}$, (Northern) Nigeria, capital of province of same name, 540 m. NE. of Lagos, and 400 m. NE. of Baro, at the head of the navigation on the Niger, connected by rail with both places; built on the open plain. Important manufacturing centre, chief articles being weaving of cloth from native-grown cotton, leather goods—most of our morocco leather goods come from Kano—the preparation of indigo, and dyeing. The greatest trading centre of the Central Sudan. Pop. 100,000.

Kassala, $15^{\circ} 28' \text{ N.}, 36^{\circ} 24' \text{ E.}$, Anglo-Egyptian Sudan, situated on the river Mareb, on a plain at the foot of the Abyssinian highlands, 15 m. from the frontier of Eritrea, and 260 m. ESE. of Khartoum. Pop. 20,000.

Khartoum, $15^{\circ} 36' \text{ N.}, 32^{\circ} 32' \text{ E.}$, capital Anglo-Egyptian Sudan, on the left bank of the Blue Nile above its junction with the White Nile, 1,252 ft. above sea-level, 1,356 m. by rail and river S. of Cairo. The new city dates from 1898, when it was taken by Lord Kitchener and became again the capital of the Sudan. Owing to its geographical situation it is the great entrepôt for the trade of the Sudan. It contains the Gordon Memorial College, the chief educational institution of the Sudan. On the right bank of the Nile is **Khartoum North**, connected by a bridge. Pop. 53,520.

Kimberley, $28^{\circ} 45' \text{ S.}, 24^{\circ} 59' \text{ E.}$, Cape Province, on the bare veld, midway between the Modder and Vaal Rivers; 647 m. by rail NE. of Cape Town. It is the centre of the diamond-mining industry of South Africa, and the mines, which are almost entirely under the control of the De Beers Consolidated Company, employ over 2,000 European and 17,000 native workmen. Seat of an Anglican bishop. Pop. (with suburbs) 44,433, of whom 17,507 Europeans.

King William's Town, $32^{\circ} 50' \text{ S.}, 27^{\circ} 20' \text{ E.}$, Cape Province, on the Buffalo River, 42 m. WNW. of East London, at the foot of the Amatola Mts., 1,275 ft. above sea-level; noted educational centre, and also the head-quarters of the colonial forces. Manufactures of sweets, jams, candles, soap, and leather, and trade in wool, hides, and grain. Pop. 9,028, of whom 5,570 Europeans.



Klerksdorp, $26^{\circ} 51' S.$, $27^{\circ} 2' E.$, Transvaal, 116 m. by rail SW. of Johannesburg, situated on the Schoonspruit River near its junction with the Vaal. Centre of gold mines and coalfields, which are beginning to be developed. Pop. 4,220, of whom 2,465 whites.

Kodok (formerly **Fashoda**), $9^{\circ} 53' N.$, $32^{\circ} 8' E.$, Anglo-Egyptian Sudan, a port on the west bank of the Upper Nile, 459 m. by river S. of Khartoum; several roads from Kordofan converge on the Nile at this point. Situated in a very unhealthy locality, and the surrounding country is mostly swampy.

Kroonstaad, $27^{\circ} 30' S.$, $27^{\circ} 19' E.$, Orange Free State, 130 m. by rail SW. of Johannesburg, on the Valsch River, 4,489 ft. above sea-level; favourite resort on account of its dry atmosphere and boating facilities on the river. Important railway junction, and the trading centre of a fertile agricultural and pastoral district, which has also diamond and coal mines. Pop. 5,700, of whom 2,602 whites.

Krugerdsorp, $26^{\circ} 9' S.$, $27^{\circ} 40' E.$, Transvaal, 18 m. by rail W. of Johannesburg, on the Witwatersrand, 5,709 ft. above sea-level. Mining centre of some importance, founded in 1887 when gold was discovered on the Rand; railway junction for Mafeking. Celebrated caves are in the neighbourhood. Pop. 55,144, of whom 13,132 whites.

Kuka, $12^{\circ} 55' N.$, $13^{\circ} 34' E.$, (Northern) Nigeria, head-quarters of the British administration in Bornu, $4\frac{1}{2}$ m. from the western shores of Lake Chad, situated in an extensive plain. Pop. 40,000.

Kumasi, $6^{\circ} 34' N.$, $2^{\circ} 12' W.$, capital of Ashanti, Gold Coast, 168 m. by rail N. of Sekondi, lies in a clearing of the dense forest which covers the greater part of the country; the principal distributing centre of Ashanti. Pop. 8,850.

Ladybrand, $29^{\circ} 12' S.$, $27^{\circ} 25' E.$, Orange Free State, 91 m. by rail E. of Bloemfontein, pleasantly situated 4 m. W. of the Caledon River, the boundary of Basutoland, is the trading centre of a rich grain district; coal and petroleum found in the neighbourhood. Pop. 3,323, of whom 1,924 whites.

Ladysmith, $28^{\circ} 35' S.$, $29^{\circ} 49' E.$, third largest town in Natal, 189 m. by rail NW. of Durban, is a railway junction and the chief trading centre of northern Natal; has extensive railway workshops. Pop. 5,595, of whom 2,287 whites.

Lagos, $6^{\circ} 26' N.$, $3^{\circ} 25' E.$, seaport, (Southern) Nigeria, situated on an island in a lagoon, also called Lagos; connected by an iron bridge with the mainland. Large steamers anchor 2 m. from land and goods and passengers are transhipped in smaller boats; works are progressing to transform it into an open port. Seat of an Anglican bishop. Pop. 73,000, of whom 500 Europeans.

Lokoja, $7^{\circ} 40' N.$, $6^{\circ} 45' E.$, (Northern) Nigeria, situated at the junction of the Benue River with the Niger, about 250 m. from the mouth of the Niger, is an important trading centre. Pop. 40,000.

Mafeking, $25^{\circ} 24' S.$, $25^{\circ} 38' E.$, Cape Province, built on the open veld, 4,194 ft. above sea-level, on the Upper Molopo River, 870 m. by rail NE. of Cape Town. Principal trade centre and the head-quarters of the administration of Bechuanaland; chief workshops of the railway between Kimberley and Bulawayo situated here. Pop. 2,297, of whom 1,176 whites.

Malmesbury, $33^{\circ} 29' S.$, $18^{\circ} 38' E.$, Cape Province, 49 m. by rail N. of

Cape Town, is the important trade centre of a large grain-growing and cattle-rearing district. Pop. 3,342, of whom 1,774 whites.

Mengo or Kampala, $0^{\circ} 19' N.$, $32^{\circ} 38' E.$, native capital of Uganda Protectorate, a straggling town built on several steep hills, connected by rail with Kampala Port on Victoria Nyanza, 7 m. to the SE. Pop. 32,441.

Mombasa, $4^{\circ} 4' S.$, $39^{\circ} 43' E.$, principal seaport of East Africa Protectorate, stands on an island situated in a deep arm of the Indian Ocean, and on the channel on either side of the island—named respectively Mombasa and Kilindini. It possesses perhaps the finest harbour on the east coast of Africa. It is a dépôt for the British Navy, and is the sea-terminus of the Uganda railway. Seat of an Anglican bishop. Pop. 30,000, of whom about 200 Europeans.

Mossel Bay, $34^{\circ} 3' S.$, $22^{\circ} 12' E.$, seaport, Cape Province, situated on the W. side of Mossel Bay, 242 m. by sea from Cape Town, and the only port of call for large steamers between the latter and Port Elizabeth; large forwarding trade, and the centre of a large oyster and sole fishery. Pop. 4,486, of whom 1,932 whites.

Nairobi, $1^{\circ} 10' S.$, $36^{\circ} 50' E.$, capital of East Africa Protectorate, situated on the Athi Plains at the foot of the Kikuyu Hills, 5,450 ft. above sea-level, with a delightful climate. Founded in 1899, during the building of the Uganda railway, it became the capital of the Protectorate in 1907. Pop. 14,000, of whom 800 Europeans.

Omdurman, $15^{\circ} 38' N.$, $32^{\circ} 29' E.$, Anglo-Egyptian Sudan, on the west bank of the Nile, immediately north of the junction of the Blue with the White Nile, 2 m. N. by W. of Khartoum. Head-quarters of the native traders of the Sudan, chief articles being ivory, ostrich feathers, and gum arabic; cattle and camel fairs; noted native metal-workers and leather-dressers. Pop. 42,779.

Oudtshoorn, $33^{\circ} 37' S.$, $22^{\circ} 14' E.$, Cape Province, 277 m. by rail WNW. of Port Elizabeth, on the southern slopes of the Great Zwarte Bergen, in an expansive valley crossed by the Olifants River, 1,014 ft. above sea-level; centre of a large horse, cattle, and ostrich-farming district. Pop. 10,930, of whom 5,471 Europeans.

Paarl, $33^{\circ} 49' S.$, $18^{\circ} 3' E.$, Cape Province, 35 m. by rail ENE. of Cape Town, beautifully situated on the Berg River at the foot of the Paarl Mts., has manufactures of wagon- and carriage-building, harness-making, and the production of wine and brandy. Pop. 11,018, of whom 4,921 Europeans.

Pietermaritzburg, $29^{\circ} 46' S.$, $30^{\circ} 13' E.$, usually called Maritzburg, capital of Natal, 71 m. by rail WNW. of Durban, lies in a beautiful situation surrounded by wooded hills. Principal industries are cart- and wagon-building, tanning, creameries, and biscuit factories. Seat of an Anglican bishop, and head-quarters of the Dutch Reformed Church. Pop. 30,555, of whom 14,737 Europeans.

Pietersburg, $23^{\circ} 50' S.$, $29^{\circ} 30' E.$, the most northerly town in Transvaal, 177 m. by rail NNE. of Pretoria, is the centre of a large pastoral and mining district. Pop. 4,547, of whom 1,498 whites.

Port Elizabeth, $33^{\circ} 58' S.$, $25^{\circ} 36' E.$, seaport, Cape Province, situated on W. shore of Algoa Bay; called the Liverpool of South Africa. Exports more colonial produce than all the other ports, principal articles being wool, ostrich feathers, and diamonds. Pop. (with suburbs) 37,063, of whom 20,007 Europeans.

Port Sudan, $19^{\circ} 37' N.$, $37^{\circ} 14' E.$, chief seaport, Anglo-Egyptian Sudan, on the Red Sea, 495 m. by rail NE. of Khartoum; harbour consists of a series of natural channels and basins. Port Sudan dates from 1905, when the Government selected its site as a more suitable port for the trade of the Nile Valley than Suakin; growing rapidly. Pop. 10,000.

Potchefstroom, $26^{\circ} 43' S.$, $27^{\circ} 30' E.$, Transvaal, 88 m. by rail SW. of Johannesburg, situated on the Mooi River, near its junction with the Vaal, is the oldest town in the Transvaal. Healthy climate, 4,436 ft. above sea-level, and centre of fine pastoral country; gold mines in the neighbourhood. Pop. 12,989, of whom 8,107 Europeans.

Pretoria, $25^{\circ} 47' S.$, $28^{\circ} 50' E.$, capital of Transvaal and the seat of the executive of the Union of South Africa, is situated in a plain sheltered by encircling mountains. It is 1,040 m. by rail from Cape Town and is the terminus of the railway from Delagoa Bay (Lorenço Marques). Seat of an Anglican bishop. Pop. (with suburbs) 57,674, of whom 35,942 whites.

Queenstown, $31^{\circ} 52' S.$, $26^{\circ} 52' E.$, Cape Province, 155 m. by rail NW. of East London, situated on the Upper Valley of the Great Kei River, 3,300 ft. above sea-level; centre of one of the finest farming and sheep-raising districts in South Africa; delightful climate. Pop. 9,028, of whom 3,759 Europeans.

Salisbury, $17^{\circ} 48' S.$, $31^{\circ} 51' E.$, capital and seat of government of Southern Rhodesia, situated 4,880 ft. above sea-level, with a healthy sub-tropical climate; 374 m. by rail from Beira, the nearest seaport, chief centre of the mining companies of the district; tobacco is grown and general farming flourishes in the neighbourhood. Seat of an Anglican bishop. Pop. 7,600, of whom 3,979 whites.

Sekondi, $4^{\circ} 57' N.$, $1^{\circ} 42' W.$, seaport on the Gulf of Guinea, Gold Coast, is the sea-terminus of the railway serving Ashanti and the gold-mining districts of the colony; principal exports: gold, rubber, and timber. Pop. 10,000.

Sokoto, $13^{\circ} 10' N.$, $5^{\circ} 20' E.$, (Northern) Nigeria, capital of province of same name, 220 m. WNW. of Kano, on the Sokoto River, a tributary of the Niger is the religious and political centre of the Fula. Pop. 50,000.

Stellenbosch, $34^{\circ} S.$, $18^{\circ} 45' E.$, Cape Province, 31 m. by rail E. of Cape Town, is one of the oldest settlements in the province, and an important educational centre; trade centre of a great fruit-growing and wine-making district. Pop. 6,152, of whom 2,704 whites.

Suakin, $19^{\circ} 7' N.$, $37^{\circ} 20' E.$, seaport, Anglo-Egyptian Sudan, 490 m. by rail NE. of Khartoum, stands on an island, and is connected with the mainland by a causeway and viaduct. Until 1906 the chief port of the Sudan, it has been superseded by Port Sudan, situated 36 m. to the north. Pop. 10,500.

Uitenhage, $33^{\circ} 47' S.$, $25^{\circ} 23' E.$, Cape Province, 21 m. by rail NW. of Port Elizabeth, situated in the valley of the Zwartkops River. Has large railway workshops, wool-washing establishments, and flower and fruit nurseries. Pop. 11,573, of whom 6,224 whites.

Umtali, $19^{\circ} 50' S.$, $32^{\circ} 45' E.$, Southern Rhodesia, situated on the frontier of Portuguese East Africa, 170 m. by rail from Beira, the nearest seaport, centre of an agricultural and rapidly developing mining district. Pop. about 1,000 whites.

Utrecht, $27^{\circ} 38' S.$, $30^{\circ} 11' E.$, Natal, 301 m. by rail NW. of Durban, is

built in a hollow among the foothills of the Drakensberg Mts.; extensive coalfields in the neighbourhood. Pop. 976, of whom 541 whites.

Vryheid, $27^{\circ} 40' \text{S.}$, $30^{\circ} 42' \text{E.}$, Natal, 291 m. by rail NW. of Durban, is the centre of a district rich in gold, copper, and coal; considerable wattle plantations in the neighbourhood. Seat of an Anglican bishop. Pop. 1,956, of whom 1,061 whites.

Wad Medani, $14^{\circ} 24' \text{N.}$, $33^{\circ} 31' \text{E.}$, Anglo-Egyptian Sudan, 110 m. by rail SE. of Khartoum, on the left bank of the Blue Nile, active trade centre, being on the main route from Abyssinia to Khartoum; soap factories. Pop. 20,000.

Worcester, $33^{\circ} 40' \text{S.}$, $19^{\circ} 22' \text{E.}$, Cape Province, 109 m. by rail NE. of Cape Town, beautifully situated in the Little Karroo, at the foot of the Hex Mountain; centre of district noted for wine, brandy, cereals, and ostrich feathers, and has leather and wagon-building manufactories. Pop. 7,961, of whom 3,370 whites.

Yola, $9^{\circ} 12' \text{N.}$, $12^{\circ} 40' \text{E.}$, (Northern) Nigeria, capital of province of same name, situated on the south bank of the Benue River, 480 m. by river E. from Lokoja. Pop. 25,000.

Zaila, $11^{\circ} 30' \text{N.}$, $43^{\circ} 40' \text{E.}$, seaport, British Somaliland Protectorate, 124 m. SW. of Aden, serves as the port for Harrar, the emporium of trade of Southern Abyssinia. Exports coffee, skins, ivory, mother-of-pearl, and cattle. Pop. 7,000.

Zaria, $11^{\circ} 10' \text{N.}$, $7^{\circ} 45' \text{E.}$, (Northern) Nigeria, native capital of province of same name, 87 m. by rail SW. of Kano, 2,150 ft. above sea-level, is one of the healthiest places in the territory. Great trading centre, connected by rail with Baro, situated at the head of the permanently navigable portion of the Niger. Pop. 65,000.

Zungeru, $9^{\circ} 48' \text{N.}$, $6^{\circ} 9' \text{E.}$, (Northern) Nigeria, on the Kaduna River, 450 ft. above sea-level, 180 m. by rail SW. of Kano and 120 m. by rail NNW. of Baro, on the Niger. Its site was selected in 1901, and the town soon developed and has much of the appearance of an English residential town. Pop. 8,000.

NOTE TO STATISTICS ON FOLLOWING PAGES

Trade with Principal Countries.

Theoretically the imports of one country from another should coincide with the exports of the country from which they purport to be consigned to the importing country, in reality freight, insurance and other charges, together with a lack of uniformity in the date on which the Customs year begins, the diversion of goods exported when *en route*, variations in methods of valuation and the consideration of ships' stores and bunker coal, &c., render comparison impracticable.

H. Y. = Highest Year, *i. e.* the year in which returns were highest during the period for which averages are quoted.



CSL

STATISTICS

BY HAROLD MACFARLANE

SOUTH AFRICA

	AREA	Relation to area of U.K., taking the U.K. as 1.	
		sq. m.	
Cape of Good Hope		276,995	2·282
Natal		35,371	0·291
Orange Free State		50,392	0·415
Transvaal		110,426	0·909
		473,184	3·8979

LAND CULTIVATED. Census 1911 (1,000 acres)

	Un. S. Afr.	Cape.	Natal.	Transv.	Orange F.S.
Under cultivation	6,930	2,056	1,016	2,016	1,842
Lying fallow	1,885	795	225	470	395
Grazing	189,884	122,568	9,064	30,184	28,068
Vineyards	36·4	34·8	—	1	0·6
Orchards	77	38·2	4·2	15·9	18·7
Vegetable gardens	22·2	12·56	1·2	4·34	4·1

LAND UNDER PRINCIPAL CROPS. Census 1911 (1,000 acres)

Mealies	2,283	244	233	897	909
Oats	810	504	17	103	186
Wheat	804	489	2·3	74	238·7
Kaffir corn	167	19·5	8·5	53	86
Lucerne	155·7	129·2	2·7	14·3	9·5
Barley	108	90·5	2·5	6·0	9
Rye	108	91	0·8	0·6	15·6
Sugar cane, for cattle food	7·6	—	5·9	1·5	0·2
Sugar cane, for sugar	64·8	—	64·6	0·2	—
Potatoes	61·6	20·7	8·6	19·0	13·3
Paspalum and other grasses	59	15	25	11	8

Other crops grown in Un. S. Afr. are as follows—1,000 ac. : pumpkins, 40 ; tobacco, 19·2 ; manna, 16·4 ; sweet potatoes, 13·5 ; peas and beans, 11·4 ; mangel and beet, 5 ; tea (all grown in Natal), 5 ; onions, 4·4 ; ground-nuts, 1·4.

AGRICULTURAL PRODUCTS. Census 1911. Thousands

Mealies (tons)	770	154·2	161·2	295·5	159·1
Oats (tons)	138	82·3	2·9	10·4	42·4
Oat hay (tons)	226	131·5	4·3	48·3	41·9
Wheat (tons)	161·6	116·5	0·6	23·6	20·9
Kaffir corn (tons)	138	26·7	53·0	41·3	17·0
Lucerne (tons)	123	100	5	10	8
Barley (tons)	20·12	26·68	0·2	0·88	1·36
Barley, cut-green (bundles)	8,828	5,050	419	2,236	1,123
Rye (tons)	18·1	15·12	0·07	0·11	2·8
Sugar cane, cattle food (tons)	38·3	0·4	36·4	1·3	0·2
Sugar cane, for sugar	1,095·2	—	1,095	0·2	—
Potatoes	82·2	27·7	13·6	27·5	13·4
Paspalum and other grasses (tons)	20·6	6·9	4·4	8	1·3

Other products are as follows—in thousands: pumpkins, 16,727 ; tobacco (lb.), 14,961 ; manna (tons), 17·2 ; sweet potatoes (tons), 42·6 ; peas and beans (tons), 24·9 ; mangel and beet (tons), 73 ; tea (lb.), 5,010 ; onions (tons), 7 ; ground-nuts (tons), 1·9.

	VINEYARDS				
	Un. S. Afr.	Cape.	Natal.	Transv.	Orange F.S.
Total grape crop, 1,000 bush. baskets	5,754	5,696	3	27	28
Brandy made (1,000 gal.)	621.5	617	—	4.5	—
Wine made (1,000 gal.)	5,468	5,463.3	0.3	4.4	—

ORCHARDS. Principal Crops. Census year 1911. Millions					
Peach	433	176	19.4	155.9	81.7
Apricot	134.5	84.8	4.4	28.1	17.2
Orange	119.9	70.5	15.9	32.5	1.0
Apple	98.4	74.3	6.1	9.9	8.1
Plum	77	58.4	6.5	8.3	3.8
Banana	61.4	4.0	56.9	0.5	—

OTHER PASTORAL PRODUCTS. Census year 1911. Thousands					
Wool (lb.)	104,654	55,800	4,811	9,754	34,289
Mohair, Angora (lb.)	13,984	12,224	186	439	1,135
Hides : cattle (no.)	352	156	138	19	39
Skins : sheep (no.)	3,350	1,958	76.7	189.5	1,125.8
Skins : goats (no.)	1,122.5	937.5	39.5	60	85.5
Horns (no.)	273.4	92.9	173.7	3.0	3.8
Ostrich feathers (lb.)	565	556.7	2.6	1.8	3.9
Milk sold (gals.)	5,233	2,490	955.5	1,111	676.5
Butter (lb.)	11,349.3	4,954.5	1,548.6	1,019.2	3,827
Cream (lb.)	10,085	2,190.3	1,068.4	720.3	6,106
Cheese (lb.)	545.3	414.3	15.7	14.3	101
Fat and tallow (lb.)	679.9	511	15.6	72.0	81.3
Soap (lb.)	1,290	628	25	205	432
Honey (lb.)	108.5	100.7	2.1	3.4	2.3

LIVE-STOCK. Census Year 1911						
	<i>Cattle.</i> 1,000.	<i>Horses.</i> 1,000.	<i>Ostriches.</i> 1,000.	<i>Sheep.</i> 1,000.	<i>Pigs.</i> 1,000.	<i>Poultry.</i> 1,000.
Un. S. Afr. . .	5,796.9	719.4	746.7	30,656.7	1,081.6	10,533.9
Cape	2,715.3	333.9	728	17,134.5	505.7	4,590
Natal	456	75.6	4.1	1,519.2	110.3	1,530
Transv.	1,339.3	89.1	5.4	3,415.2	302.9	2,719
Orange F.S. . .	1,286.2	220.7	9.1	8,587.6	162.6	1,694

Increase or decrease % in intercensal period 1904-11						
Un. S. Afr.	+ 65.61	+ 60.03	+ 106.9	+ 87.82	+ 59.27	+ 66.88
Cape	+ 38.94	+ 30.93	+ 103.4	+ 44.98	+ 31.04	+ 18.22
Natal	— 31.61	+ 13.51	+ 169.9	+ 127.31	+ 45.39	+ 24.08
Transv.	+ 159.58	+ 72.61	+ 38,764.29	+ 308.65	+ 94.35	+ 377.6
Orange F.S.	+ 254.14	+ 189.47	+ 587.6	+ 186.3	+ 164.87	+ 170.13

Number of animals to sq. m.						
Un. S. Afr. .	12.25	1.52	1.58	64.8	2.29	22

WOODS AND FORESTS

PRINCIPAL PRODUCTS. Wood cut, census return 1911, 1,000 c. ft.

	Un. S. Afr.	Cape.	Natal.	Transv.	Orange F.S.
Assegai	635	628.4	5.2	1.4	—
Iron wood	1,254	1,245	9	—	—
Pear (white)	423	422	0.5	0.5	—
Yellow wood	4,741	4,719.5	17	4.5	—
Other wood	6,936	1,718.5	1,079.6	4,042.4	95.5

PROGRESS OF MINING

CAPE

Av. of years.	Gold.				Copper.	
	£1,000.	H. Y.	£1,000.	£1,000.	H. Y.	£1,000.
1897-1901	0.41	1909	0.5	416 ¹	1901	571
1902-6	0.35	1906	1.1	372	1906	497
1907-11	1.06	1907	2.4	473	1907	602

¹ Domestic exports.

Coal.

Av. of years.	1,000 tons.	£1,000.	H. Y.	£1,000.	£1,000.	H. Y.	£1,000.
1897-1901	166	135	1901	180	3,975	1898	4,015
1902-6	155	149	1903	178	5,079	1906	6,993
1907-11	99	78	1907	119	5,004	1907	6,311

Diamonds.¹

¹ Product. in Kimberley dist., 1897-1905 inclu.; later years, product. of entire prov.

Tin.

Av. of years.	Ore, tons.	£1,000.	H. Y.	£1,000.
1907-11	51	4.7	1907	14.4

NATAL

Av. of years.	Gold.				Coal.	
	£1,000.	H. Y.	£1,000.	1,000 tons.	£1,000.	H. Y.
1897-1901	0.22	1901	0.60	354	245	1901
1902-6	0.22	1905	0.46	907	476	1906
1907-11	6.88	1910	17.77	1,934	695	1908

ORANGE FREE STATE

Av. of years.	Diamonds.				Coal.	
	£1,000.	H. Y.	£1,000.	1,000 tons.	£1,000.	H. Y.
1903-6	677	1905	938	146 ¹	65	1906
1907-11	1,296	1911	1,611	437	136	1908

¹ 1904-6.

TRANSVAAL

Av. of years.	Gold.				Coal.	
	£1,000.	H. Y.	£1,000.	1,000 tons.	£1,000.	H. Y.
1897-1901	9,185	1898	16,241	1,769	485	1898
1902-6	16,283	1906	24,606	2,098	815	1904
1907-11	31,073	1911	35,041	3,185	898	1911

Av. of years.	Silver.				Diamonds.	
	£1,000.	H. Y.	£1,000.	£1,000.	H. Y.	£1,000.
1902-6	49	1906	83	737	1906	1,563
1907-11	91	1911	98	1,588	1907	2,268

Av. of years.	Copper.				Tin ore, &c.	
	£1,000.	H. Y.	£1,000.	tons.	£1,000.	H. Y.
1906	—	—	—	97	9.1	—
1907-11	50	1910	76	2,195	223	1911

Mineral Output of S. Africa, 1870-1911 (in £1,000).—Gold, 330,500; diamonds, 149,600; coal, 23,500; tin, 1,152; copper, 8,580; all other minerals, 5,000. Total, 518,332.

Av. no. of persons at work (1911).—Gold mines: whites, 25,500; natives and others, 186,000. Diamond mines: whites, 4,500; natives, 34,800. Coal mines: whites, 1,220; natives and others, 20,000.

MINERAL PRODUCTION (av. 1906-10)

	<i>Cape.</i>	<i>Natal.</i>	<i>Trans.</i>	<i>Orange F.S.</i>
Asbestos (value £1,000)	17.2	—	—	—
Coal (1,000 tons)	109.1	1,704	2,926	439
Value £1,000	90.8	655	861	134
Copper ore (1,000 tons)	98.5	—	1.4	—
Value £1,000	471.6	—	46.1	—
Diamonds (1,000 carats)	2,405	—	1,824	575
Value £1,000	5,270	—	1,577	1,211
Gold (1,000 oz.)	0.238	1.4	6,825	—
Value £1,000	1.4	6.1	28,991	—
Salt (value £1,000)	38	—	0.6	22.2
Tin ore (1,000 tons)	0.05	—	1.5	—
Value £1,000	4.5	—	144.5	—
Silver (1,000 oz.)	—	—	761	—
Value £1,000	—	—	88.3	—
Av. val. of all minerals (£1,000)	5,895	661.4	32,075.3	1367.3

FISHERIES. Census 1911

Total value of catch, Un. S. Africa, £179,100 (Cape, £156,600; Natal, £22,500). No. of vessels employed, 633 (Cape, 576; Natal, 57). Fishermen, 3,884 (Cape, 3,238; Natal, 646).

INDUSTRIES. Census 1911

	<i>Cape.</i>	<i>Natal.</i>	<i>Transv.</i>	<i>Orange F.S.</i>
Total no. of establishments	1,266	350	693	164
Total no. of employes	21,553	27,096	15,533	1,734
Salaries and wages (£1,000)	1,520	1,134	1,453	101
Value of mach., land, and buildings (£1,000)	5,005	4,274	5,379	628
Value of materials used (£1,000)	4,535	2,311	2,085	458
Value of art. produced (£1,000)	7,432	4,434	4,633	749

CHIEF INDUSTRIES BY PROVINCES

	<i>No.</i>	<i>The Cape</i>		<i>Value of</i>	
		<i>Employes.</i>	<i>Salaries.</i>	<i>Mat. used.</i>	<i>Art. prod.</i>
			£,1000.	£1,000.	£1,000.
Grain and mealie mills	133	1,239	97	1,258	1,578
Bread, biscuits, &c., works	93	1,713	104	481	703
Distillers	32	606	43	387	542
Tobacco industry	27	1,109	67	347	492
Arms and explosives	3	938	108	403	632
<i>Natal</i>					
Grain and mealie mills	40	515	19.6	274	379
Sugar refineries	31	13,229	235.7	887	1,621
Mechan. and elec. eng. works, iron and brass foundries	18	3,552	382.9	248	764
<i>Transvaal</i>					
Bread, biscuit, and confect.	54	814	81.5	325	483
Breweries	8	863	124.1	121	573
Builders and contractors	30	987	123.4	230	394
Printing, bookbinding, &c.	46	1,046	225.5	116	427
Lighting	4	1,997	156	120	569
<i>Orange Free State</i>					
Curing fact. and dairy prod.	10	143	13	142	181
Grain and mealie mills	56	353	21	262	340

IMPORTS AND EXPORTS

IMPORTS

Av. of years.	Natal.		Cape.		Orange F. S.		Transv.	
	£1,000.	H. Y.	£1,000.	H. Y.	£1,000.	H. Y.	£1,000.	H. Y.
1897-1901	6,993	1901	10,188	19,511	1901	23,992	—	—
1902-6	12,461	1903	16,222	25,780	1903	34,685	3,143 ¹	1906
1907-9	7,666	1909	8,226	14,729	1907	15,600	3,427	1907
Union of S. Africa (av. 1910-12), £38,940,000. Highest Year, 1912, £39,845,000.								

Note.—Inclusive of value of goods in transit for the interior, but in years prior to 1910 imports via Natal or the Cape in transit to other places in S. Africa were included in the figures shown for those provinces *as well as* in those of final destination. For 1905 and prior years, overland trade is excluded from the figures for Natal, but partly included in those for the Cape, whilst those for 1906-9 represent imports by sea, exclusive of inter-state trade. From 1910 the Union figures include imports overland (other than gold in transit) from other places in S. Africa.

¹ Excluding bullion and specie, 1902-3-4-5.

EXPORTS

Av. of years.	Natal.		Cape.		Orange F. S.		Transv.	
	£1,000.	H. Y.	£1,000.	H. Y.	£1,000.	H. Y.	£1,000.	H. Y.
1897-1901	1,584	1901	2,068	17,933	1898	25,319	—	—
1902-6	3,055	1902	3,654	29,157	1906	40,498	1,648 ¹	1906
1907-9	3,468	1909	3,951	44,425	1909	46,599	4,027	1909
Union of S. Africa (av. 1910-12), £58,173,000. Highest year, 1912, £63,273,000.								

Note.—The value of exports via Natal and Cape for the inland provinces is included in the figures for those as well as in those for the maritime provinces. The value of gold in transit from places outside the Union for shipment is excluded from the Union figures from 1910 inclusive, but included in previous years. The figures given for Natal and the Cape for 1906-9 represent exports by sea, exclusive of inter-state trade, which was previously included. From 1910 inclusive the Union figures include exports overland to other places in S. Africa.

¹ Excluding bullion and specie, 1902-5 inclus.

PRINCIPAL ARTICLES IMPORTED (av. of years, 1909-10-11)

	Un. S. Afr. £1,000.	Brit. S. Afr. ¹ £1,000.	% of total.	Brit. S. Afr. H. Y. 1910. £1,000.
Machinery	3,119	3,276	8.97	4,061
includ. mining mach.	1,057	1,129	3.09	1,335
„ electrical mach.	545	552	1.51	834
Cotton goods	2,671	2,753	7.54	2,866
Apparel	2,337	2,388	6.54	2,486
Haberdashery	1,763	1,773	4.86	1,915
Specie, gold	1,450	1,474	4.04	1,994
Iron and steel manuf.	1,230	1,290	3.53	1,537
Railway material	1,151	1,366	3.74	1,845
Boots and shoes	1,095	1,108	3.03	1,211
Grain	1,002	1,017	2.79	1,044
including wheat	685	685	1.88	747
Wood and timber	852	884	2.42	1,071
Woollen goods	781	785	2.15	853
Paper and stationery	727	743	2.03	761
Meal and flour	656	674	1.85	723
Coffee	552	556	1.52	519
Electrical materials	548	556	1.52	690
Drugs and chemicals	504	534	1.46	532
Fencing	490	500	1.37	552

¹ These particulars represent the imp. into Brit. S. Afr., exclud. interstate trade (i.e. trade between the various colonies and territories which formerly belonged to the Customs Union, viz. the Un. of S. Afr. (comprising the Cape, Natal, Orange F.S., and Transv.), S. and NW. Rhodesia, Basuto land, Bechuanaland Protectorate, and Swaziland).

PRINCIPAL ARTICLES EXPORTED (av. of years, 1909-11), H.Y. 1911

Bullion, gold, raw	32,536	35,108	63.62	37,626.5
Diamonds	7,711	7,711	13.98	8,282.9
Wool	3,820	3,820	6.92	3,900
Ostrich feathers	2,206	2,206	3.99	2,253
Hides and skins	1,204	1,206	2.18	1,201.3
Coal	968	968	1.75	1,088
Angora hair	894	894	1.62	917.8
Grain	623	634	1.15	432
including maize	586	597	1.08	419.5
Copper	528	554	1.00	643

RAILWAYS (see also p. 135)

Av. of four years, 1908-11. Union of S. Africa Gov. Railways, length in 1911 : Cape, 3,397 m.; Natal, 1,053 m.; Transvaal, 2,020 m.; Orange Free State, 1,077 m. Total, 7,547. Capital expend. to end of 1911, 77½ mill. sterl. Av. no. of train miles run, 21.8 mill. Av. no. of passengers carried, 31.7 mill. Av. tonnage (avoir.) of goods carried, 9.89 mill. Av. no. of live stock carried, 2.5 mill. Av. receipts : (a) coaching, £3,050,000; (b) goods and coal, £7,155,000; (c) live stock, £358,000; (d) miscellaneous, £281,000. Total, £10,844,000. Av. working expend. : (a) maintenance of way, works, and equipment, £2,230,000; (b) running expenses, £1,632,000; (c) traffic expenses, £1,370,000; (d) general charges, £397,000; (e) contributions to renewal fund, £668,000. Total, £6,297,000. Av. earnings per train m., 9s. 11.4d.; per m. of line open, £1,560 5s. Av. expend. per train m., 5s. 9.6d.; per m. of line open, £907.25.

The private lines comprise 485 m. in the Cape of Good Hope Province, 50 m. in Natal (leased by the Gov.), 6 m. in the Transvaal, and 4 m. in Orange Free State.

TRADE WITH PRINCIPAL COUNTRIES * (Average, 1909-10-11)

IMPORTS

	<i>Un. of S. Afr. £1,000.</i>	<i>% of total.</i>	<i>H. Y. 1910. £1,000.</i>	<i>Brit. S. Afr. (exclud. inter-state trade). £1,000.</i>	<i>% of total.</i>	<i>H. Y. 1910. £1,000.</i>
United Kingdom	20,842	59.07	24,002.5	21,609.5	59.21	24,725
Australia	2,028.1	5.76	1,898.4	2,042	5.59	1,907
British India	851.6	2.42	840.7	878	2.40	868
Canada	579.0	1.64	632.0	595	1.63	648
British Empire	24,849	70.43	27,939.5	25,682.5	70.36	28,726
Foreign countries :						
Germany	3,118	8.85	3,523	3,212	8.8	3,630
United States	2,607	7.41	2,731	2,686	7.36	2,809
Sweden	593	1.67	682	624	1.71	714
France	525	1.48	548	541	1.48	565
Holland	523	1.48	531	532	1.45	538
Belgium	514	1.45	581	677	1.85	735
Brazil	501	1.42	478	501	1.37	478
Port. E. Africa	487	1.37	335	540	1.48	400
All foreign countries	10,338	29.3	10,888.5	10,822	29.64	11,379
Imp. from S. and NW. Rhodesia	92	0.27	112	—	—	—
Total av. imports	35,279	100	38,940	36,504.5	100	40,105

EXPORTS (Highest Year, 1911)

United Kingdom	47,443	88.55	50,786.3	50,145	90.88	53,479
British Possessions	245	0.46	239.2	252	0.46	250
British Empire	47,688	89.01	51,025.5	50,397	91.34	53,729
Foreign countries :						
Germany	1,714	3.2	1,581	1,719	3.12	1,586
Belgium	589	1.1	558	603	1.09	597
United States	423	0.79	467	465	0.86	509
Other for. countries	704	1.31	844.5	1,004	1.82	1,335
Total for. countries.	3,430	6.4	3,450.5	3,791	6.89	4,027
Ships' stores and Parcel Post	975	1.82	1,154	977	1.77	1,161
Removals to S. and NW. Rhodesia	1,476	2.77	1,678	—	—	—
Total exports	53,569	100	57,308	55,165	100	58,917

* 'Countries of origin' and 'countries of destination'.

CHIEF IMPORTS FROM PRINCIPAL COUNTRIES (av. 1910-12)
 £1,000.

United Kingdom.—Apparel, 2,426; cotton piece goods, 1,321; haberdashery, various, 1,178; boots and shoes (men's, 612; women's, 313), 925; mining machinery, 654; hosiery, 461; woollen goods, blankets and rugs, 365; galvanized and corrugated iron, 358; condensed milk, 288; woollen goods, cloth and piece, 288; iron and steel pipes and piping, 256; cotton rugs and blankets, 254; whisky, 252; motors, 240; iron and steel bars, bolts, and rods, 237; books, 228; glycerine for manufactures, 219; cycles, 215.

British Possessions.—*Australia*: wheat, 507; flour, 351; butter, 119. *Canada*: flour, 226. *Ceylon*: tea, 159. *India*: bags (coal, flour, and grain), 275; rice, 254. *Mauritius*: sugar, 211.

Foreign Countries.—*Belgium*: fencing standards, 78. *Brazil*: coffee, 590. *Chili*: nitrates, 213. *France*: articles of food and drink, 200 (brandy, 64); haberdashery, various, 86. *Germany*: electrical mach., 345; haberdashery, various, 245; cyanide of sodium, 233; cotton piece goods, 189; musical instruments, 104; zinc, unmanufactured, 101. *Holland*: glycerine, 220; cheese, 115. *Norway*: preserved fish, 40. *Port. E. Africa*: sugar, 69. *Sweden*: pinewood, 265; flooring and ceiling, 132. *Switzerland*: haberdashery, various, 82. *United States*: paraffin oil, 264; agricultural implements, various, 193; lubricating oils, 104; pinewood, 99; paraffin wax, 102; agricultural machinery, 70.

CHIEF EXPORTS TO PRINCIPAL COUNTRIES (av. 1910-12)
 £1,000.

United Kingdom: gold, 35,065; diamonds, 8,549; wool in grease, 2,159; ostrich feathers, 1,960; Angora hair, 921; sheepskins, 539; hides, ox and cow, 429; copper, regulus and smelted, 370; goatskins, 238; maize, 192; tin ore, 167; wool scoured, 128; bark, 127.

Straits Settlements: tin ore, 55.

Foreign Countries.—*Belgium*: wool, in grease, 353; maize, 148; diamonds, 67; wool, scoured, 23. *France*: wool, in grease, 97. *Germany*: wool, in grease, 1,249; wool, scoured, 119; bark, 100; maize, 88. *United States*: ostrich feathers, 342; sheepskins, 69.

SHIPPING ¹

Av. of years.	NATAL.		CAPE OF GOOD HOPE. ²			
	1,000 tons.	H. Y.	1,000 tons.	1,000 tons.	H. Y.	1,000 tons.
1897-1901	2,843	1901	3,594	7,398	1901	9,979
1902-6	4,303	1905	5,026	10,356	1902	12,512
1907-9	5,436	1909	6,238	5,639	1907	5,813

¹ Inclu. inter-prov. shipping (i.e. between Cape and Natal) to close of 1909.

² From 1897 to 1906 inclus. the Cape statistics represent gross tonnage so far as steam vessels were concerned. The av. tonnage of steam vessels, 1897-1901, was 6,494,000; 1902-6, 9,569,000.

UNION OF SOUTH AFRICA (exclus. of inter-prov. shipping)

Av. of years	Net tonnage.		H. Y.	1,000 tons.	British vessels (av.).	
	1,000 tons.				1,000 tons.	% of total.
1910-12	10,376	1911	10,856	8,440	81.3	

Of the remaining nationalities German vessels account for 14 % of the net tonnage and Norwegian for 2 %.

Principal Ports.—Durban (av. tons entered and cleared 1910-12), 8,036,000; Cape Town, 6,927,000; Port Elizabeth, 3,746,000; East London, 3,403,000; Mossel Bay, 1,661,000.

Vessels on Register (av. 1907-11).—Natal, 27 vessels, net tonnage 2,076; Cape Town, 54 vessels, net tonnage 6,406.

POPULATION

	Cape. 1,000.	Natal. ³ 1,000.	Transv. 1,000.	Orange F. S. 1,000.
1881	721 ¹	403	—	—
1891	1,527 ²	544	—	—
1904	2,410	1,109	1,270	387
1911	2,565	1,194	1,686	528

¹ Pop. of colony proper accord. to Cen. of 1875, exclud. pop. of Transkei and Griqualand.

² Exclus. of pop. of Pondoland and British Bechuanaland, annexed to the Cape in 1894 and 1895.

³ Including Zululand after 1891.

Immigration and Emigration.—Natal (av. 1907–11), immigrants, 19,640; emigrants, 28,800. Cape of Good Hope (av. 1907–11), immigrants, 31,300; emigrants, 32,400.

Particulars in respect to Orange Free State and Transvaal are not available.

CENSUS OF S. AFRICA, 1911

UNION OF S. AFRICA.			CAPE OF GOOD HOPE.			NATAL.		
<i>Total population.</i>								
Persons.	Males.	Females.	Persons.	Males. 1,000.	Females. 1,000.	Persons.	Males. 1,000.	Females. 1,000.
5,973,394	3,069,392	3,904,002	2,564,965	1,255.6	1,309.3	1,194,043	564.6	629.4
% of increase or decrease in intercensal period 1904–11.								
+15.41	+14.43	+16.46	+6.44	+3.01	+9.94	+7.69	+2.55	+12.77
<i>European or white.</i>								
1,276,242	685,164	591,078	582,377	301.2	281.1	98,114	52.5	45.6
% of increase or decrease in intercensal period 1904–11.								
+14.28	+7.88	+22.71	+0.45	–5.42	+7.62	+1.03	–7.51	+13.06
<i>Others.</i>								
4,697,152	2,384,228	2,312,924	1,982,588	954.4	1,028.1	1,095,929	512.1	583.8
% of increase or decrease in intercensal period 1904–11.								
+15.72	+16.47	+14.96	+8.33	+6	+10.6	+8.33	+3.7	+12.75
TRANSSVAAL.			ORANGE FREE STATE.					
Persons.	Males. 1,000.	Females. 1,000.	Persons.	Males. 1,000.	Females. 1,000.			
1,686,212	971.5	714.6	528,174	277.5	250.6			
% of increase or decrease in intercensal period 1904–11.								
+32.78	+38.29	+25.96	+36.37	+32.09	+41.44			
<i>European or white.</i>								
420,562	236.9	183.6	175,189	94.48	80.70			
% of increase or decrease in intercensal period 1904–11.								
+41.47	+32.91	+54.28	+22.79	+15.84	+32.06			
<i>Others.</i>								
1,265,650	734.6	531	352,985	183.03	169.95			
% of increase or decrease in intercensal period 1904–11.								
+30.12	+40.11	+18.44	+44.29	+42.45	+46.37			

PROPORTION OF RACES

	Un. S. Afr. %	Cape. %	Natal. %	Transv. %	Orange F. S. %
European or white	21·37	22·71	8·22	24·94	33·17
Others	78·63	77·29	91·78	75·06	66·83

Sexes. No. of Females to every 100 Males

All races	95	104	111	74	90
European or white	86	93	87	78	85
Others	97	108	114	72	93

Density of Population, &c.

Area in sq. m.	473,100	276,995	35,290	110,426	50,389
Pop. per sq. m.	12·63	9·26	33·83	15·27	10·48
Inhab. dwellings per sq. m.	2·76	1·91	9·3	3·16	2·0

Density of Races. No. of Persons of each Race to the sq. m.

European or white	2·7	2·10	2·78	3·81	3·48
Others	9·93	7·16	31·05	11·46	7

Urban and Rural Population

Urban (1,000)	1,477·8	619·5	153	599·5	105·8
Rural (1,000)	4,490·2	1,943	1,040	1,085·5	421·4

RELIGIONS

<i>Christian.</i>	Un. S. Afr. 1,000.	% of total.	Cape. 1,000.	Natal. 1,000.	Transv. 1,000.	Orange F. S. 1,000.
All Christians	2,730·7	45·70	1,437·7	246·1	696·8	350·0
Including :—						
Dutch Churches	898·6	15·04	479·8	14·7	228·7	175·3
Methodists	599·6	10·04	304·4	77·5	120·9	96·5
Anglican Communion	532·5	8·91	282·6	66·3	141·1	42·4
Lutherans	219·1	3·67	77·8	24·5	107·8	8·7
Independ. or Congreg.	187·4	3·14	147·3	12·4	19·2	8·5
Presbyterian	130·7	2·19	74·0	17·8	31·4	7·5
Catholics	93·0	1·55	35·9	22·6	28·7	5·7
<i>Non-Christian.</i>						
Non-Christians	212·8	3·58	43·8	126·5	39·6	2·9
Including :—						
Jews	46·9	0·79	16·7	1·5	25·9	2·8
Hindus	115·7	1·94	2·3	108·9	4·4	
Muhammadans	45·9	0·77	24·2	13·5	8·2	0·1
Others	3,029·7	50·72	1,083·4	821·4	949·67	175·2

Note.—Cape of Good Hope : Dutch Churches claim 18·71 %, Methodists 11·8 %, and Anglican Communion 11·02 % of the pop. Natal : Hindus 9·12 %, Anglican 5·5 %, Methodists 6·5 % of pop. Transvaal : Dutch Churches 13·56 %, Anglican 8·37 %, Methodists 7·08 %, Lutherans 6·4 %. Orange Free State : Dutch Churches 33·19 %, Anglican 8·03 %, Methodists 18·3 %.

For figures relating to the religions and occupations of the European population only, see p. 162.



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OCCUPATIONS. <i>In thousands</i>						
	<i>Un. of S. Afr.</i>	<i>Cape.</i>	<i>Natal.</i>	<i>Transv.</i>	<i>Orange F. S.</i>	<i>Prin. sub-div., Un. of S. Afr.</i>
Professional :						
(a) Official	32·679 0·54%	10·1 0·4%	5·2 0·45%	12 0·72%	5·3 1·01%	(a) Engaged in Union and Prov. Gov., 16,886.
(b) Liberal arts.	41·096 0·7%	20·4 0·79%	6 0·5%	11·1 0·64%	3·6 0·69%	(b) Education, 17,918.
Domestic :						
(a) Engaged in domestic offices and household duties	451·856 7·57%	254·9 9·94%	42·6 3·5%	101·8 6·04%	52·4 9·92%	(a) Wives, widows, daughters and other relatives, 451,856.
(b) Engaged in the supply of board and lodging, &c.	285·101 4·77%	120·9 4·71%	37 3·1%	77·1 4·58%	50 9·48%	(b) Engaged in attendance, 280,116.
Commercial :						
(a) Mercantile persons	68·947 1·15%	28·2 1·10%	10·6 0·89%	25·2 1·5%	4·8 0·92%	Transport by tramways and roads, 22,336.
(b) Transport	55·145 0·92%	27·2 1·06%	9·8 0·82%	15·4 0·91%	2·7 0·52%	
Agricultural	2,186·257 36·6%	975·7 38·04%	550 46·07%	498·9 29·59%	161·5 30·57%	
Industrial :						
(a) Mechanics and metal workers	19·634 0·32%	9·3 0·35%	2·7 0·23%	6·7 0·4%	0·7 0·15%	Working on or dealing in carriages, saddlery, 6,172.
(b) Construction and repair of buildings, railways, docks, &c.	79·247 1·34%	31·2 1·22%	11·3 0·94%	30·5 1·81%	6·2 1·16%	Construction or repair of roads, harbours, 48,235.
(c) Textile and dress trades	23·395 0·39%	13·2 0·51%	2·1 0·18%	6·7 0·46%	1·3 0·25%	Dress, 17,716.
(d) Food and drink, &c.	24·968 0·41%	12·7 0·49%	3·5 0·3%	7·7 0·46%	1 0·20%	Vegetable food, 11,376.
(e) Working or dealing in animal and vegetable substances	6·528 0·11%	4·6 0·18%	0·7 0·05%	1·2 0·07%	0·05 0·01%	Vegetable substances, 4,301.
(f) Minerals	342·458 5·73%	39·3 1·55%	12·5 1·05%	275·2 16·31%	15·4 2·90%	Mining, 317,451.
(g) Undefined	80·498 1·35%	32·8 1·28%	16·8 1·41%	22·7 1·35%	8·2 1·55%	
Persons of independent means	19·039 0·32%	7·4 0·29%	3 0·26%	4·2 0·25%	4·4 0·83%	
Dependents upon natural guardians	2,222·139 37·2%	96·3 37·55%	475·2 39·8%	578 34·28%	205·9 38·99%	Students, scholars, and children.
upon the community	21·440 0·36%	9·7 0·38%	2·4 0·2%	8·1 0·48%	1·2 0·2%	Criminal class, 13,595.
Unspecified	12·967 0·22%	4 0·16%	2·2 0·18%	3·5 0·21%	3·3 0·62%	

BIRTHPLACES. Census 1911

	Un. of S. Afr.	Cape.	Natal.	Transv.	Orange F. S.	Un. S. Afr., born in Brit. Poss.
Africa (1,000) . . .	5,629·1	2,479·7	1,083·2	1,555·4	510·8	5,507·6
% . . .	94·24	96·67	90·71	92·23	96·74	92·21
Europe (1,000) . . .	237·9	74·98	34·0	112·78	16·04	182·7
% . . .	3·98	2·93	2·84	6·7	3·04	3·05
Asia (1,000) . . .	90·3	6·6	74·0	9·24	0·34	89·1
% . . .	1·51	0·26	6·21	0·55	0·06	1·46
America (1,000) . . .	4·6	1·6	0·6	2·08	0·24	1·4
% . . .	0·08	0·06	0·06	0·12	0·04	0·03
Australasia, &c. (1,000)	10·2	1·78	1·75	6·3	0·35	10·15
% . . .	0·17	0·07	0·15	0·38	0·06	0·17

REVENUE AND EXPENDITURE

REVENUE

Av. of years.	Natal. ¹ £1,000.	Cape. ¹ £1,000.	Orange F. S. £1,000.	Transv. £1,000.
1897-1901	2,034	6,808	—	—
1902-6	3,799	9,475	729	4,670 ²
1907-10 ³	3,809	7,611	870 ⁴	5,457 ²

¹ Includes receipts from loans.

² Includes receipts from appropriations-in-aid, 1905-6-7-8, and in 1907 £492,000 collected in previous years but not brought into account.

³ This period was one of three years eleven months, but allowance is made for the odd month in the results given above.

⁴ Includes receipts from railways from 1909.

UNION OF SOUTH AFRICA

Period June 1, 1910—March 31, 1912

Prin. sources of revenue.	Av. receipts per ann. £1,000.	% of total.	Actual receipts in 12 months, 1911-12, £1,000. ^a
Customs	4,525	26·07	4,508·6
Interest	3,261	18·79	3,361
Mining revenue	2,170	12·50	2,306·6
Post, telegraphs, &c.	1,475	8·5	1,471·8
Contrib. from railway and harbour fund	1,461	8·42	1,159
Native taxes	590	3·4	781·8
Transfers of property and succession	601	3·46	626·9
Departmental receipts	609	3·51	594·9
Licences	538	3·10	551·7
Other receipts	2,124	12·25	2,006·7
Total	17,354	100	17,369

EXPENDITURE

Av. of years.	Natal. £1,000.	Cape. £1,000.	Orange F. S. £1,000.	Transv. £1,000.
1897-1901	2,278	6,984	—	—
1902-6	3,943	9,612	684	4,319 ¹
1907-10 ²	3,688	8,077	875 ³	5,604 ¹

¹ Inclusive of expenditure from appropriations-in-aid in 1905-6-7.

² Three years eleven months. In the figures given allowance has been made for the odd month.

³ Includes £132,666 public debt charges in 1909.



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CSL

UNION OF SOUTH AFRICA

Period June 1, 1910—March 31, 1912

Prin. items of expenditure.	Average expenditure	% of total.	Actual expenditure
	per annum. £1,000.		12 months, 1911-12. £1,000.
Public debt	4,460	27.07	4,645.6
Provincial administrations	3,251	19.73	3,315
Post, telegraphs, telephones	1,447	8.78	1,485
Police	1,229	7.46	1,276.5
Agriculture dept.	675	4.10	625.4
Pensions	478	2.9	415.3
Public works dept.	478	2.9	464.1
Prisons	468	2.84	460
Building, furniture, &c.	439	2.66	305
Magistrates	422	2.56	424
Defence	414	2.51	418.7
Other expenses	2,713	16.49	2,769.1
Total	16,474	100	16,603.7

Public Debt.—On May 30, 1910, the debt totalled £110,086,800, made up as follows: Natal, £20,595,900; Cape, £48,240,900; Orange Free State, £1,250,000; and Transvaal, £40,000,000. On Oct. 31, 1912, it stood at £106,028,200.

Banking (av. 1907-11).—*Natal*: Capital paid up, £4,259,000; liabilities, £4,131,000; assets, £5,915,000. *Cape of Good Hope*: Capital paid up, £4,393,000. Liabilities: notes in circulation, £1,067,000; bills in circulation, £22,000; deposits, £10,747,000. Assets: coin, £2,459,000; landed property, £560,000; notes and bills discounted, and other assets, £9,891,700.

Savings Bank.—The Union of South Africa Government Savings Bank for the nine months ending March 31, 1911, showed that the number of depositors was 225,238; amount deposited, £3,015,950; withdrawn, £2,328,500; standing to credit of depositors, £6,128,500.

AVERAGE OF FIVE YEARS 1906-10

No. of Depositors.	Deposited.	Withdrawn.	Standing to credit of Depositors, including interest.
	£1,000.	£1,000.	£1,000.
<i>Cape of Good Hope.</i>			
	<i>Post Office.</i>		
101,957	1,477	1,763	2,152
	<i>Private.</i>		
9,148	107.3	105.6	342
<i>Orange Free State.</i>			
	<i>Post Office.</i>		
6,771	145	143	163
<i>Transvaal.</i>			
	<i>Post Office.</i>		
57,195	1,435	1,290	1,497
	<i>Government.</i>		
<i>Natal.</i> 22,761	345	335	516

OTHER AFRICAN AND INSULAR POSSESSIONS

AREA AND POPULATION

	Area. 1,000 sq. m.	% of area of U. K.	Population.		Incr. or dec. % in last intercensal period.	Pop. per sq. m.	Males per 1,000 females.
			1901. 1,000.	1911. 1,000.			
Swaziland . . .	6.5	5.38	85.5 ²	99.96	+ 16.9	15.3	812
Basutoland . . .	11.7	9.65	348.8 ²	404.5	+ 16.5	34.6	835
Bechuanaland . . .	275	226.6	120.7 ²	125.3	+ 3.8	0.4	1,001
S. Rhodesia . . .	148.57	360	503	771	+ 53.3	3.6	1,113
N. Rhodesia . . .	291		746.8	822.5	+ 10.2		—
Nyasaland . . .	39.8	32.78	706	970.4	+ 37.5	24.4	784
Uganda . . .	223.5	184.1	3,500 (est.) ³	2,843.3	— 18.8	12.7	826
E. Africa Protect.	246.8	203.2	4,000 (est.) ³	2,402.8 ⁴	—	9.7	—
Somaliland . . .	68	56	153 (est.)	346.8 (est.)	+ 125	5.1	—
St. Helena . . .	0.047	—	3.3	3.47	+ 4	74	867
Ascension Island . . .	0.034	—	0.4	0.4 (est.)	—	11.8	—
N. Nigeria . . .	255.7	210.6	9,161.7 ²	9,269	+ 1.2	36.2	886.6
S. Nigeria . . .	79.88	65.8	4,444.4	7,855	+ 76.8	98.4	852
Gold Coast . . .	80.23	66.1	1,486.4	1,501.8	+ 1.1	18.7	1,013
Sierra Leone ¹ . . .	24.9	20.5	1,024.2	1,403.1	+ 37	56.2	—
Gambia . . .	3.6	2.98	90.35	146.1	+ 61.7	40.4	1,021
Zanzibar Island . . .	0.63	0.52	—	114	—	178	—
Pemba Island . . .	0.38	0.31	—	83.1	—	218	—
Mauritius . . .	0.72	0.59	371	368.8	— 0.6	512	1,111
(Dependencies) . . .	0.089	—	4.8	6.69	+ 39.3	75	1,180
Seychelles . . .	0.156	—	19.2	22.69	+ 17	145	1,039

¹ Colony and protect.

² 1904.

³ 1903.

⁴ Administered prov. only.

AGRICULTURE

NYASALAND PROTECTORATE. *Coffee.*—Av. area under coffee (1907-11), 5,175 ac. (1911, 3,735). Av. product. 800,000 lb. (1911, 786,304).

Chillies.—Av. area planted (1907-11), 543 ac. Av. product. 60 tons.

Tea.—Av. area under tea plants (1907-11), 1,083 ac. (1911, 2,593). Av. product., 1907-11, 35,000 lb. (1911, 44,000; 1912, 174,720).

Cotton.—Av. area under cotton (1907-11), 19,992 ac. (1911, 33,000). Av. domestic exp. 1,023,000 lb. (1911, 1,360,000 lb.), valued at £34,300 (1911, £44,000); 1912, 3.2 mill. lb., value £81,000.

Rubber.—Av. domes. exp. 1908-12, 42,200 lb. (1912, 61,000 lb.). Value £7,400 (1912, £11,000).

Tobacco.—Av. area under (1907-11), 3,800 ac. (1911, 7,400). Av. product. 1909-11, 1,645,000 lb. (1911, 1,949,000).

UGANDA. *Coffee.*—Area under, 697 ac. in 1910, 3,000 ac. in 1911. Av. product. 1910-11, 191,500 lb.; av. domestic exp. 1905-9, 23,000 lb. (1912, 7,430 ac., domes. exp. 373,600 lb.).

Cotton.—Area under, 740 ac. in 1904, 41,449 in 1910, and 60,920 ac. in 1911 (the only figures avail.). Product., 13 mill. lb. in 1910 and 22 mill. lb. in 1911. Av. domestic exp. 1907-11, 6.076 mill. lb., valued at £109,700 (1912, £254,000).

Rubber.—Av. ann. product. 1907-11, 67,000 lb., valued at £8,800.

E. AFRICA PROTECT. *Coffee.*—Area under, in 1911, 1,000 ac. Av. ann. domes. exp. 1908-11, 115,500 lb. (1912, 2,000 ac., 283,000 lb.).

Cotton.—Area under in 1911, 2,000 ac. Av. domes. exp. 1907-11, 160,600 lb., valued at £5,200 (1912, 295,000 lb., £11,800).

Rubber.—Domestic exp. (av. 1907-11), 141,000 lb. per ann., value £18,400.

Wool.—Av. dom. exp. 1909-12, 157,500 lb.; 1912, 202,000 lb.

In 1905-6 (later particulars cannot be stated) the acreage under maize



was estimated at 781,000; beans, 394,500 ac.; coco-nuts, 550,000 ac.; ellensine and millet, 1,980,000 ac.; ground-nuts, sesame, tobacco, and bananas, 2,865,600 ac.; potatoes, 500 ac.

NORTHERN NIGERIA. *Cotton*.—No estimate of the enormous acreage under cotton, or the production thereof, can be given, but the domestic exp. during the period 1904-11 (omitting 1908-9, for which statistics are not available) averaged 205,500 lb. per ann. (1911, 92,338 lb.; 1912, 1,028,000).

Rubber.—The av. quantity exp. during the period 1906-10, inclus., amounted to 790,000 lb. (1910, 520,000).

SOUTHERN NIGERIA. *Cocoa*.—Av. quantity of domestic exp. 1907-11, 5,319,000 lb. (1911, 9,859,000), value £87,000 (1911, £164,700).

Coffee.—Av. domestic exp. (1907-11), 41,000 lb.

Cotton.—Av. exp. of raw cotton (1907-11), inclus. of cotton produced in N. Nigeria (q.v.) and shipped from the ports of S. Nigeria, 3,266,000 lb., value £79,600 (1911, 2,238,000 lb., value £66,900).

Rubber.—Av. exp., inclusive of that produced in the Hinterland of the colony, 1907-11, 2,050,000 lb. (1911, 2,164,000 lb.), value £189,000 (1911, £179,000).

Forestry.—The av. no. and value of the logs ann. exp. during the period 1906-10 was 17,000 and £61,000.

GOLD COAST. *Cotton*.—Av. domestic exp. 1907-11, 32,000 lb., valued at £685.

Cocoa.—Av. domestic exp. (1907-11), 46,892,000 lb. per ann. valued at £858,000 (1911, 89 mill. lb., value £1,613,000).

Coffee.—Domestic exp., which in 1899 amounted to 143,000 lb., averaged 315 lb. for the period 1907-11.

Rubber.—Av. domestic exp. (1907-11) 2,796,000 lb. per ann., valued at £268,600.

SIERRA LEONE. *Coffee*.—Av. domestic exp. (1907-11), 18,200 lb. (1911, 23,600 lb., value £502).

Rubber.—Av. domestic exp. (1907-11), 80,000 lb. (1911, 41,000), valued at £10,600.

GAMBIA. *Rubber*.—Av. domestic exp. 1907-11, 23,000 lb. (1911, 10,700), valued at £2,000.

MAURITIUS. Av. area under crop (1908-11), as far as can be ascertained, 152,400 ac. (1911, 192,600).

Aloes, 7,000 ac.; *embrevades*, beans, peas, and lentils, 4,300 ac.; *manioc*, 2,140 ac.; *rubber*, 141 ac.; *cocoa* (av. 1907-11), acreage 58, domestic exp. 1,000 lb.; *coffee* (av. 1907-11), acreage 17, domestic exp. 1,029 lb. (1911, 2,645 lb.); *tea* (av. 1909-11), acreage 260, domestic exp. 84,000 lb. (1911, 88,200 lb.); *sugar* (av. 1907-11), acreage 125,750, product. 3,791,000 cwt. (1911, 3,336,500 cwt.); *tobacco* (av. 1907-10), acreage 18, product. 27,000 lb. (1911, 27,225 lb.).

SEYCHELLES ISLANDS. Av. exp. of cocoa (1907-11), 10,000 lb. Av. exp. of coffee (1907-11), 3,600 lb.

PRINCIPAL ARTICLES IMPORTED AND EXPORTED (IN £1,000)

NYASALAND (av. 1907-11).—*Imp.*: Piece goods, calico, cloth, &c. 101 (50.5% of total imp.), 1911, 145. Provisions (inclu. wine and beer), 21 (10.5%), 1911, 29. Hardware (inclu. paint and oils) 15 (7.5%), 1911, 25.6. *Exp.*: Raw cotton 35 (22.29%), 1911, 48.2. Tobacco 29 (18.47%), 1911, 54. Specie 27 (17.2%), 1911, 47. Coffee 15 (9.55%), 1911, 16.4. Rubber 8.6 (5.47%), 1911, 20.3.

UGANDA (av. 1907-11).—*Imp.*: Textiles, piece goods, &c. 144 (30.32%), 1911, 207.2. Bullion and specie 72 (15.16%), 1911, 96. Ivory 34

(7.16%), 1911, 20. Provisions 21 (4.42%), 1911, 27.2. *Exp.*: Raw cotton 110 (35.72%), 1911, 231. Ivory 61 (19.8%), 1911, 50. Hides and skins 44 (14.29%), 1911, 50. Rubber 15 (4.87%), 1911, 6. Chillies 9.2 (3.08%), 1911, 16.6.

E. AFRICA PROTECT. (av. 1907-11).—*Imp.*: Cotton goods 245 (26.07%), 1911, 350. Grain and flour 89 (9.47%), 1911, 101. Provisions 71 (7.55%), 1911, 77. *Exp.* Hides and skins 182 (26.18 %), 1911, 244. E. A. Prod. 46 (6.62%), 1911, 74.6. The remainder from Uganda, &c. Cotton, raw, 125 (17.99%), 1911, 253. E. A. Prod. 5 (0.72%), 1911, 6. Ivory 88 (12.66%), 1911, 77. E. A. Prod. 20 (2.88%), 1911, 15.6. Grain 68 (9.78%), 1911, 147. Rubber 54 (7.76%), 1911, 41. E. A. Prod. 18 (2.58%), 1911, 16.

SOMALILAND (av. 1907-11).—*Imp.*: Rice 81.6 (29.61%), H. Y. 1909, 84. Textiles 70.6 (25.63%), 1909, 80.6. Dates 23.2 (8.42%), 1909, 27.3. Specie 19.6 (7.11%), 1909, 33.1. Grain, jowaree, 16.2 (5.88%), 1909, 12. *Exp.* Skins 139 (60.4%), 1910, 144. Sheep and goats 27 (11.7%), 1910, 24.9. Specie 13.6 (5.9%), 1910, 16.1. Ghi 12.6 (5.4%), 1910, 17. Gums and resins, 7.2 (3.1%), 1910, 7.5.

N. NIGERIA. *Principal imp. and exp. via Idah (Niger River)*.—*Imp.* (av. 1908-9-1910-11): Railway mat. 280 (24.85%). Stores and building mat. imported by Gov. (av. 1909-10-1910-11) 290 (22.3%). Specie imp. by Gov. 225 (19.97%). Cotton goods 85 (7.54%). Kola-nuts 21 (1.864%). Salt 14 (1.24%). Provisions 13 (1.15%). *Exp.*: Shea-nuts 67 (18.72%). Tin oxide 56 (15.64%). Palm kernels 52 (14.52%). Rubber 37 (10.34%). Ground-nuts 12.7 (3.55%). Gums 8.5 (2.37%).

S. NIGERIA (av. 1907-11).—*Imp.*: Cotton manuf. 1,148 (22.76%), 1910, 1,323. Specie 490 (9.71%), 1910, 735. Iron, steel, hardware, and cutlery 325 (6.44%), 1910, 440. Spirits: gin and Geneva 321 (6.36%), 1910, 396. Railway and bridge mat. 225 (4.46%), 1910, 163. Tobacco 187 (3.7%), 1910, 215.6. Cooper's stores, 154 (3.05%), 1910, 195. Cement and building mat. 140 (2.77%), 1910, 21.8. Provisions 118 (2.34%), 1910, 123. *Exp.*: Palm kernels 1,985 (44.17%), 1911, 2,574. Palm oil 1,471 (32.73%), 1911, 1,697. Rubber 189 (4.2%), 1911, 179. Specie 110 (2.44%), 1911, 37. Cotton, all sorts, 97 (2.16%), 1911, 79.1. Cocoa 87 (1.93%), 1911, 164.6. Tin, ore and block, 81 (1.8%), 1911, 181.8. Mahogany 61 (1.35%), 1911, 55.5. Shea prod. 49 (1.09%), 1911, 40.5.

GOLD COAST (av. 1907-11).—*Imp.*: Cotton manuf. 555 (19.8%), 1911, 678. Specie 505 (18.01%), 1911, 881. Machinery 185 (6.6%), 1911, 218. Provisions 125 (4.46%), 1911, 164. *Exp.*: Bullion: gold, dust and concentrates 1,037 (36.21%), 1911, 1,072. Cocoa 858 (29.96%), 1911, 1,613. Rubber 268.6 (9.38%), 1911, 219. Specie 184 (6.42%), 1911, 321. Lumber, 139 (4.85%), 1911, 139. Palm oil 132 (4.61%), 1911, 129. Palm kernels 130.6 (4.56%), 1911, 176. Kola-nuts 85.6 (2.99%), 1911, 93.

SIERRA LEONE (av. 1907-11).—*Imp.*: Cotton manuf. 271 (26.07%), 1911, 306. Specie 162 (15.45%), 1911, 218. Tobacco 58 (5.56%), 1911, 60. *Exp.* Palm kernels 513 (50.29%), 1911, 657. Kola-nuts 153 (15%), 1911, 194. Specie: silver 141 (13.82%), 1911, 161.7. Coal and coke 58.6 (5.74%), 1911, 82.6. Palm oil 57 (5.59%), 1911, 70. Ginger 23 (2.25%), 1911, 44.7.

GAMBIA (av. 1907-10).—*Imp.*: Specie 162.4 (35.4%), 1910, 208.5. Cotton manuf. 90.1 (19.8%), 1910, 130.6. Kola-nuts 47.6 (10.4%), 1910, 65.5. Rice 47 (10.3%), 1910, 46. *Exp.*: Ground-nuts 304 (86%), 1910, 388. Hides 9 (2.5%), 1910, 11.3. Palm kernels 4 (1.1%), 1910, 5.6.

ZANZIBAR (av. 1907-11).—*Imp.*: Piece goods 215.4 (20%), H. Y. 1907, 272.5. Grain 181.4 (16.9%), 1907, 197.7. Bullion and specie 111 (10.3%), 1907, 151.5. Ivory 61 (5.7%), 1907, 49.5. *Exp.* Cloves 336 (31.8%), 1911, 437. Copra and chikichi 158.4 (15%), 1911, 204. Piece goods 142.2 (13.4%), 1911, 112.9. Bullion and specie 72.8 (6.8%), 1911, 70. Ivory 68.8 (6.5%), 1911, 82.7.

MAURITIUS (av. 1907-11).—*Imp.*: Rice 531 (23·83 %), 1911, 614. Coal 141 (6·33 %), 1911, 158·5. Bullion and specie 120 (5·39 %), 1911, 21·6. Hardware and cutlery 88 (3·95 %), 1911, 204. Grain, other than rice 85 (3·81 %), 1911, 118·6. *Exp.* Sugar, raw 2,299 (91·22 %), H. Y. 1907, 2,592. Bullion and specie 72 (2·85 %), 1907, 170. Aloe fibre 44 (1·75 %), 1907, 63·2. Molasses 26 (1·03 %), 1907, 24.

SEYCHELLES (av. 1908-10).—*Imp.*: Rice 16·6 (20·5 %), 1910, 16·1. Cotton manuf. 11·4 (14 %), 1910, 13·7. Bullion and specie 3·6 (4·4 %), 1910, 8·8. *Exp.*: Copra, 39·8 (25·4 %), 1910, 57·5. Manure 34·4 (20·8 %), 1910, 41·9. Vanilla 20 (17·1 %), 1910, 30.

ST. HELENA (av. 1907-10).—*Imp.*: Oilmen's stores 6·1 (17·63 %), 1910, 5·7. Drapery 3·9 (11·2 %), 1910, 3·9. Coal 3·3 (9·53 %), 1910, 4·4. Flour 2·9 (8·38 %), 1910, 3·6. Rice 2·1 (6·06 %), 1910, 2·1. *Exp.*: Specie 3·25 (45·8 %), 1910, 5·3. Fibre 2·0 (28 %), 1910, 1·4.

SWAZILAND, BASUTOLAND, BECHUANALAND, and RHODESIA. Since 1910 all particulars concerning imp. and exp. have been included in the return for Brit. S. Africa.

MINERALS

GOLD COAST. GOLD. Output. Domestic exports *

Av. of years.	1,000 oz.	H. Y.	1,000 oz.	£1,000.	Value.	
					H. Y.	£1,000.
1897-1901	14·6 *	1897	23·5	52	1897	84·8
1902-6	113·6 *	1906	217·3	423	1906	822
1907-11	244·6	1908	281·3	1,039	1908	1,194·7

SOUTHERN RHODESIA. GOLD

1898-1901	82·5	1901	172	296	1901	610
1902-6	330	1906	552	1,184	1906	1,985
1907-11	616	1911	628·5	2,509	1911	2,648

SOUTHERN RHODESIA. SILVER. Value estimated

1899-1901	1·4	1901	3·1	0·1	1901	0·3
1902-6	58·8	1906	110·6	6·8	1906	14·3
1907-11	219·6	1908	283·4	23·6	1908	29·4

SOUTHERN RHODESIA. COAL. Value of coal sold

	(tons)		(tons)			
1903-6	69	1906	92·7	—	1906	56
1907-11	151	1911	189·8	75	1911	92

Copper.—Av. product. in S. Rhodesia (1906-10); ingots, &c., 65 tons (1909, 87 tons), av. value £4,600 (1907, £6,760).

Chrome, iron ore (S. Rhodesia).—Av. product. (1906-11) 22,000 tons (1911, 46,750 tons). Value £55,000 (1911, £117,000).

Lead (Rhodesia).—Av. product. (1908-11) 760 tons (1908, 954 tons). Value £10,000 (1908, £13,035).

Diamonds (S. Rhodesia).—Av. value of diamonds produced, 1905-8, £8,750 (1907, £20,000).

Bechuanaland: *Gold.*—Av. product. (1907-11) 7,340 oz. (H. Y. 1909, 17,000 oz.). Av. value £27,000 (H. Y. 1909, £55,600).

Swaziland: *Gold product.*—Av. quantity produced (1907-11) 9,900 oz. (1911, 14,780). Value, £41,800 (1911, £62,800).

Tin product.—Av. quantity of ore produced (1907-11) 410 tons (1911, 280). Value £39,000 (1911, 32,400).

N. Nigeria: *Tin.*—Average production of metal (1907-10) 27 tons, valued at £3,445 (1910, 31 tons, value £4,650). Av. product. of ore (1907-11) 628 tons, valued at £79,000 (1911, 1,530 tons, value £181,760).

Nyasaland.—The av. amount of mica produced is 22½ tons, and the domestic exports are valued at £2,600 (1911, 66 tons, value £6,857 exported).

IMPORTS AND EXPORTS

Av. of years.	IMPORTS				Av. Imp. from U.K.		EXPORTS				Av. Exp to U.K.	
	Total Imp. £1,000.	H.Y.	£1,000.	£1,000.	% of total.	Total Exp. £1,000.	H.Y.	£1,000.	£1,000.	% of total.		
<i>Nyasaland Protect.</i>												
1897-1901	138	1899	183	131 ¹	94·93	41	1899	79	40 ¹	97·5		
1902-6	227 ²	1906	283	176 ²	77·54	62 ²	1905	87	36 ²	58·0		
1907-11	199 ²	1911	291	143 ²	71·85	157 ²	1911	231	113 ²	71·97		

¹ Estimated from 1897-1901 inclusive.

² Including transit trade from 1904-5 onward.

Basutoland (included in B. S. A. from 1910)

1897-9	93·2 ¹	1897	100	Not available	115	1898	138·5	Not available
1901-3	189·1 ¹	1902	230·7		263	1901	361·6	
1904-6	230	1904	298		162	1906	194	
1907-9	247	1909	260		277	1909	353	

¹ Dutiable goods only.

S. Rhodesia (exclu. transit trade from 1906)

1900-1	1,322	1901	1,443	—	—			
1902-6	1,388	1902	1,858	—	—			
1907-11	2,210	1911	2,975	1,160	52·4	2,893	1909	3,159 2,570 88·86

NW. Rhodesia (exclu. transit trade from 1906)

1907-11	188·6	1909	377	99·2	52·98	109	1911	128·5 Not available
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Uganda Protectorate (imp. inclu. but exp. exclude transit trade)

1902-6	170	1906	296	69	40·6	75	1906	116 — —
1907-11	475	1911	624	176	37·05	262·2	1911	392 91·6 34·94

East Africa Protectorate

1897-1901	415	1898	472 (est.)	130	31·3	86	1899	122 — —
1902-6	564	1906	753	188	33·33	244	1906	419 42 17·2
1907-11	940	1911	1,330	362	38·51	695	1911	1,017 232 33·38

Somaliland Protectorate (exclu. trade of Hais and Karam in years prior to 1902-3)

1897-1901	385	1899	452·5	—	—	316	1898	415 — —
1902-6	326	1903	431·3	—	—	370	1903	352 — —
1907-11	275·6	1909	317·1	1·9	0·69	230	1910	247·3 0·6 0·26

St. Helena (exclu. Gov. stores)

1897-1901	64	1901	105·6	57·6	90	4·6	1897	5·0 4·14 90
1902-6	66	1902	100	61·2	92·7	6·3	1903	12·2 1·16 18·4
1907-11	36	1911	42	33·2	92·2	7·7	1911	9·9 6·66 86·5

N. Nigeria (approx. only and represent for the most part imp. via River Niger)

1901-4	272	1904	358	—	—	109	1904	153
1907-11	967	1910	1,374	546 ¹	51·1	429	1911	836 314 ² 60·5

¹ Average of years 1908-11, during which period the average total imports amounted to £1,067,000 per annum.

² Average of years 1908-9-11, during which period the average total exports amounted to £519,000 per annum.



IMPORTS AND EXPORTS

Av. of years.	IMPORTS				Av. Imp. from U.K.		EXPORTS				Av. Exp. to U. K.	
	Total Imp. £1,000.	H. Y.	£1,000.	£1,000.	% of total.	Total Exp. £1,000.	H. Y.	£1,000.	£1,000.	% of total.		
<i>Southern Nigeria</i>												
1897-1901	1,745	1901	2,034	1,404	80.4	1,841	1901	2,162	946	51.3		
1902-6	2,674	1906	3,148	2,019	75.5	2,820	1906	3,151	1,390	49.5		
1907-11	5,045	1910	5,857	3,694	73.23	4,495	1911	5,391	2,198	48.92		

¹ The value of the transit trade to and from Northern Nigeria is included, but foreign transit trade, i.e. goods to or from Dahomey, Cameroons, or French territory beyond the Niger, the average value of which (1907-11) amounted to (1) imp., £115,000, (2) exp., £307,000, is included in the imports but excluded from the exports from 1906.

Gold Coast

1897-1901	1,280	1901	1,795	927	72.43	881	1899	1,111	565	64.12		
1902-6	1,950	1902	2,120	1,412	72.41	1,347	1906	1,996	900	66.8		
1907-11	2,803	1911	3,784	2,072	73.91	2,863	1911	3,792	1,999	69.82		

Sierra Leone

1897-1901	572	1899	690	454	79.38	339	1897	400.7	131	38.65		
1902-6	723	1906	886	529	73.18	517	1906	716.6	171	33.08		
1907-11	1,042	1911	1,267.3	762	73.14	1,019	1911	1,300	230	22.58		

Gambia

1897-1901	239	1900	277.7	116	48.54	234	1900	282	35.2	15.04		
1902-6	341	1906	447.7	140	41.05	320	1906	428	18.6	5.8		
1907-11	525	1911	807.1	203	38.67	475	1911	682	44.0	9.26		

Port of Zanzibar (includ. to 1900, trade with other portions of the Sultan's dominions)

1897-1901	1,172.7	1899	1,596.6	128	10.91	1,307.5	1899	1,513.4	117	8.93		
1902-6	1,075.5	1904	1,239.7	148	13.68	1,088.2	1904	1,211.1	111	10.43		
1907-11	1,074.0	1907	1,233	149	13.85	1,057.1	1911	1,193.1	100.4	9.49		

Pemba.—The av. value of imports, 1908-10, was £124,900, and exports, £170,800.

Mauritius

1897-1901	1,959	1901	2,107	484	24.71	1,895	1900	2,128	126	6.65		
1902-6	2,174	1907	2,637	598	27.51	2,522	1904	2,822	276	10.94		
1907-11	2,228.6	1911	2,543	608	27.29	2,520.1	1907	2,938	481.1	19.08		

¹ Inclusive of shipping charges on the produce and manufacture of Mauritius from 1910 inclusive, previously excluded.

Seychelles

1897-1901	71	1901	80.7	22.4	31.54	97	1899	126.5	39.6	40.83		
1902-6	61	1903	68.3	17	27.87	63	1902	82.5	16.2	25.71		
1907-11	85	1910	98.5	27	31.77	129	1907	150.8	25.2	19.54		

Swaziland.—The returns since 1910 have been included in those for British S. Africa as a whole and have not been compiled separately.

The av. imp., 1906-9, amounted to £43,250 (1909, £50,200). The av. exp. during the two and a half years, July 1907 to December 1909, amounted to £79,000 per ann. (1909, £91,000). Imp. from U. K., 1909-11, av. £1,300; exp. to U. K. av. 51,500 (1911, £123,600).

Bechuanaland (included in British S. Africa since 1910).—Av. imp. 1906-9, £102,250 (H. Y. 1906, £118,000); av. exp., 1906-9, £79,000 (H. Y. 1909, £123,600). Imp. from U. K., 1909-11, av. £12,100.

TRADE WITH PRINCIPAL COUNTRIES.* *Average of five years, 1907-11*

NYASALAND. H. Y. Imp. and Exp. 1911

<i>Imports.</i>	<i>£1,000.</i>	<i>% of total.</i>	<i>H. Y. £1,000</i>	<i>Exports.</i>	<i>£1,000.</i>	<i>% of total.</i>	<i>H. Y. £1,000.</i>
U. K.	143	71.85	210.7	U. K.	113	71.97	195.5
Total Brit. E. . .	160	80.45	234.5	Total Brit. E. . .	130.1	82.87	205.8
Germany	17	8.5	19	Germany	11.7	7.45	17.1
Total For. co. . .	39	19.55	56.9	Total For. co. . .	26.9	17.13	25.9
Total imports . . .	199	100	291.4	Total exports . . .	157	100	231.6

UGANDA. H. Y. Imp. (countries of origin) and Exp. (countries of ultimate destination) 1911

U. K.	176	37.95	229	U. K.	91.6	34.94	180
E. Afr. Prot. . . .	75	15.79	118	E. Afr. Prot. . . .	161	61.41	207
Total Brit. E. . . .	284	59.79	399	Total Brit. E. . . .	252.8	96.42	387.7
United States. . . .	53	11.16	77				
Total For. co. . . .	191	40.20	226	Total For. co. . . .	9.4	3.58	4.8
Total imports ¹ . . .	475	100	625	Total exports ² . . .	262.2	100	392.5

¹ Including goods in transit.

² Excluding goods in transit.

E. AFRICA PROTECT. H. Y. Imp. (co. of origin) and Exp. 1911

U. K.	362	38.51	549	U. K.	232	33.38	410
British India . . .	202	21.49	241	Zanzibar Protect. .	51	7.34	69
Total Brit. E. . . .	592	62.98	822	Total Brit. E. . . .	309	44.46	515
Germany	88	9.36	129	Germany	108	15.53	148
United States . . .	73	7.76	133	United States . . .	100	14.39	91
Holland	58	6.17	85	France	94	13.52	146
Total For. co. . . .	348	37.02	508	Total For. co. . . .	386	55.54	502
Total av. imp. ¹ . . .	940	100	1,330	Total av. exp. . . .	695	100	1,017

¹ Exclu. merchandise and specie as follows: Importations on behalf of the E. Africa Admin. (av. 1907-11, £67,000); Uganda Admin. (av., 1907-11, £35,000); for construction, &c., of Uganda Railway (av., 1907-11, £71,000); of bull. and specie (av., 1907-11, £124,000); and of goods in transit (av., 1907-11, £215,000); averaging in the aggregate £512,000 (£740,000 in 1911).

SOMALILAND. H. Y. Imp. 1909, Exp. 1910

<i>Imports.</i>	<i>£1,000.</i>	<i>% of total.</i>	<i>H. Y. £1,000.</i>	<i>Exports.</i>	<i>£1,000.</i>	<i>% of total.</i>	<i>H. Y. £1,000.</i>
U. K.	1.9	0.69	1.4	U. K.	0.6	0.26	3
Aden	223	80.93	252.8	Aden	218.6	95.06	227.4
Total Brit. E. . . .	257.9	93.59	293.3	Total Brit. E. . . .	222.4	96.70	234.1
Total For. co. . . .	17.7	6.41	23.7	Total For. co. . . .	7.6	3.30	13.2
Total imp.	275.6	100	317.0	Total exp.	230	100	247.3

S. NIGERIA.¹ H. Y. Imp. 1910, Exp. 1911

U. K.	3,694	73.23	4,194	U. K.	2,198	48.92	2,583.6
Gold Coast	186	3.69	154	Gold Coast	49.6	1.1	36
Total Brit. E. . . .	3,932	77.95	4,409.9	Total Brit. E. . . .	2,269	50.50	2,626.4
Germany	560	11.1	648	Germany	1,987	44.22	2,613
Holland	397	7.87	508	Holland	107	2.38	97
Total For. co. . . .	1,113	22.05	1,447.4	Total For. co. . . .	2,226	49.50	2,765
Total av. imp. . . .	5,045	100	5,857.3	Total av. exp. . . .	4,495	100	5,391.4

¹ The value of the transit trade to and from N. Nigeria is inclu. but not foreign transit trade, i.e. goods to or from Dahomey, Cameroons, or French territory beyond the Niger, the av. val. of which (1907-11) amounted to (i) imports, £115,000; (ii) exports, £307,000. Similar statistics for N. Nigeria are not available.

* Unless otherwise stated *Imports* are credited to the countries from which they were received directly by the importing countries, and *Exports* to the countries to which they were consigned.



GOLD COAST. H. Y. Imp. and Exp. 1911

GOLD COAST. H. Y. Imp. and Exp. 1911							
Imports.			Exports.				
	£1,000.	% of H. Y. total. £1,000.		£1,000.	% of H. Y. total. £1,000.		
U. K. . .	2,072	73·91	2,843	U. K. . .	1,999	69·82	2,454
S. Nigeria . .	64	2·28	24	S. Nigeria . .	183·6	6·41	293·7
Total Brit. E. .	2,154·6	76·85	2,898·7	Total Brit. E. .	2,192	76·56	2,748·2
Germany . .	270	9·63	305	Germany . .	414	14·45	552
Holland . .	156·4	5·56	182	France . .	182	6·36	397
Total For. co. .	633·4	22·59	885·6	Total For. co. .	671	23·44	1,044·3
Total av. imp. ¹	2,803	100	3,784·3	Total av. exp.	2,863	100	3,792·5

¹ Inclu. parcels post.

SIERRA LEONE. H. Y. Imp. (co. of consignment) and Exp. (co. of ult. dest.) 1911

U. K. . .	762	73·14	951	U. K. . .	230	22·58	313·6
Gambia . .	17	1·61	24·7	Gambia . .	83·4	8·18	89·6
Total Brit. E. .	795	76·28	987	Total Brit. E. .	378	37·11	493·6
Germany . .	115	11·04	142	Germany . .	438	43	525
Total For. co. .	247	23·72	280·3	Total For. co. .	610	59·86	719
Total imp. .	1,042	100	1,267·3	Total av. exp. ¹	1,019	100	1,300·1

¹ Inclu. unclassified exp.

GAMBIA. Av. 1907-10. H. Y. Imp. and Exp. 1910

U. K. . .	185·4	40·7	233·7	U. K. . .	38·8	8·64	38·6
Sierra Leone . .	63·6	13·9	66·6	Sierra Leone . .	—	—	—
Total Brit. E. .	254·3	55·89	300·4	Total Brit. E. .	71·5	15·92	89·5
France . .	141·1	31·01	196·1	France . .	326·8	72·78	404·7
Germany . .	24·7	5·42	30·2	Germany . .	—	—	—
Total For. co. .	200·7	44·11	278·5	Total For. co. .	377·5	84·08	445·9
Total imp. .	455	100	578·9	Total exp. .	449	100	535·4

PORT OF ZANZIBAR. H. Y. Imp. 1907, Exp. 1911

U. K. . .	148·72	13·85	193·2	U. K. . .	100·4	9·49	116
Brit. India . .	420·4	39·13	490·9	Brit. India . .	220·4	20·84	271
Total Brit. E. .	674·26	62·76	806·7	Total Brit. E. .	433·6	41	501·5
German E. Afr. .	131	12·20	128·1	German E. Afr. .	193·2	18·28	182
Holland . .	53·3	4·94	62·8	France . .	167	15·80	209
United States . .	46·6	4·43	48	Germany . .	102·2	9·66	112
Total For. co. .	399·74	37·24	426·2	Total For. co. .	623·5	59	691·5
Total imp. .	1,074	100	1,232·9	Total exp. .	1,057·1	100	1,193

MAURITIUS. H. Y. Imp. (co. of origin) 1911, Exp. (co. of ult. destination) 1907

U. K. . .	608	27·29	809·5	U. K. . .	481	19·08	444·6
India . .	965	43·3	1,048	India . .	1,489	59·1	1,840
Total Brit. E. .	1,755	78·75	2,046·7	Total Brit. E. .	2,399	95·18	2,808·9
France . .	185	8·30	230	France . .	56	2·23	18
Total For. co. .	472	21·17	496·5	Total For. co. .	121	4·82	128·8
Total imp. ¹	2,228·6	100	2,543·2	Total exp. .	2,520	100	2,937·7

¹ Inclu. parcels post unclassified.

SEYCHELLES. Av. 1907-10. H. Y. Imp. 1910 (co. of origin), Exp. 1907

U. K. . .	25·6	30·66	26·9	U. K. . .	24·6	19·02	43·2
India . .	27·5	32·94	32·3	India . .	—	—	—
Total Brit. E. .	67	80·24	79·2	Total Brit. E. .	44	34·03	67·6
Germany . .	—	—	—	Germany . .	16·7	12·91	1·2
France . .	13·2	15·81	16	France . .	46	35·58	62·4
Total For. co. .	16·5	19·76	19·2	Total For. co. .	85·3	65·97	83·2
Total imp. .	83·5	100	98·4	Total exp. .	129·3	100	150·8

ST. HELENA. Av. 1907-10. H. Y. Imp. and Exp. 1910

U. K. . .	31·9	92·2	33·8	U. K. . .	6·2	87	8·16
Brit. Possess. .	2·7	7·8	3·7	Brit. Possess. .	0·9	13	1·07
Brit. Emp. and total imp. .	34·6	100	37·5	Brit. Emp. and total exp. .	7·1	100	9·23

FINANCE

REVENUE.

EXPENDITURE.

<i>Av. of years.</i>	<i>£1,000.</i>	<i>H.Y.</i>	<i>£1,000.</i>	<i>Average Customs Revenue £1,000.</i>	<i>% of total.</i>	<i>£1,000.</i>	<i>H.Y.</i>	<i>£1,000.</i>
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SWAZILAND. Pub. Debt av. 1907-11, £81,000 (1912, £100,000)								
1905-6	43.3	1906	46	4.4	10.15	35.4	1906	46.3
1907-11	49.4	1910	58.7	12.5	9.47	65.4	1908	91.1

BASUTOLAND. Pub. Debt, nil								
1897-1901	57	1901	74.9	17.1	30	50	1900	59.5
1902-6	101.6	1904	106.8	28	27.57	77	1906	93.3
1907-11	120.6	1911	145.5	36	29.85	117	1908	126.6

BECHUANALAND. Pub. Debt, nil								
1897-1901	25.6	1897	33	8	31.25	80	1900	103.6
1902-6	30.4	1903	32	11	36.18	78.4	1903	83
1907-11	47	1911	59	11.4	24.25	69.6	1907	75.85

SOUTHERN RHODESIA (exclu. of Head Off. Rev. and Expend. of the B. S. Africa Co.)

1897-1901	341	1901	439	— ¹	—	734	1898	826
1902-6	493	1906	545	129.4	26.25	665.6	1902	841.7
1907-10	632	1910	785	209.5	33.15	551	1910	648.7

¹ First imposed in Southern Rhodesia on August 1, 1899.

NORTH-EASTERN RHODESIA (amalgamated with N. W. Rhodesia 1911)

1897-1901	4.1	1901	11.5	—	—	34	1900	57.6
1902-6	22.2	1904	28	1.8 ¹	8.1	67.4	1904	90.5
1907-10	23.7	1909	25.5	1.6	6.71	47.5	1908	49.2

¹ Inclu. receipts from the exp. and sales of rubber and ivory.

NORTH-WESTERN RHODESIA

1897-1901	—	—	—	—	—	14.4	1901	30
1902-6	24.8	1906	62.4	6.54 ¹	21.27 ¹	61.4	1906	89
1907-10	68	1910	73	14.9	21.9	94	1910	103

¹ 1903-6.

NYASALAND. Pub. Debt, 1912, £50,000

1897-1901	43	1901	54	7.5	17.4	86	1901	107
1902-6	74	1906	82	16.8	22.7	111	1904	122
1907-11	85	1911	97	16.3	19.1	109	1911	118

UGANDA PROTECT. Pub. Debt, 1912, £295,000

1897-1901	45.4	1900	81.8	9.2	20.26	274	1898	492
1902-6	65.7	1906	96.8	9.4	14.31	189	1902	204
1907-11	155	1911	203.5	27	17.42	270	1911	382

EAST AFRICA PROTECTORATE. Pub. Debt, 1912, £250,000

1897-1901	64	1899	69.8	28	43.7	200	1901	278
1902-6	218 ¹	1906	461.4	56	25.6	413 ¹	1906	616
1907-11	560	1911	729	81	14.4	703	1911	772

¹ Only the profit on the Uganda Rly. (£69,000) was brought to account in 1905-6. In later years receipts and payments were included in the Finance Returns. Av. rly. receipts, 1907-11, £274,000. Av. expenditure, 1907-11, £189,000.

SOMALILAND PROTECT. Pub. Debt, nil

1897-1901	24	1901	28.9	20.6	85.8	30	1901	59
1902-6	35	1903	39.8	26.4	75.4	82	1905	127
1907-11	31	1911	32.6	25	80.6	121	1909	193

REVENUE.

EXPENDITURE.

Av. of years.	REVENUE.		Average Customs Revenue % of			EXPENDITURE.		
	£1,000.	H. Y.	£1,000.	£1,000.	total.	£1,000.	H. Y.	£1,000.
ST. HELENA. Pub. Debt, nil								
1897-1901	13.9	1901	24.6	8.46 ²	60.8	12.62	1901	14.9
1902-6	14.16	1902	23	8.3 ²	58.62	15.96	1903	20.4
1907-11 ¹	7.26	1911	8.6	3.34	46.01	8.76	1910	9.6

¹ Excluding Imperial Grants from 1909-10.

² The population being more than doubled by the presence of a large number of prisoners of war and an augmented garrison during the early portion of the century accounts for the considerable difference in the average Customs Receipts during the period 1897-1901, 1902-6, and those obtaining in the last half decade.

N. NIGERIA. Pub. Debt, nil								
1900-1	42.65	1900	46.9	39.5	92.62	270	1901	298.5
1902-6	145.6	1906	217	66.4	45.6	481	1904	520.5
1907-11	340	1911	615	91	26.7	599	1911	828

SOUTHERN NIGERIA. Pub. Debt, av. 1907-11, 5.4 mill.; 1912, 8.27 mill.								
1897-1901	455 ¹	1901	637	420 ³	98.46	422 ²	1901	567
1902-6	883 ²	1906	1,064	754 ⁴	85.30	860 ⁶	1906	1,055
1907-11	1,620	1911	1,956	1,212	74.8	1,506	1911	1,717

¹ Colony £209,000.

² Colony £347,000.

³ Colony £188,000.

⁴ Colony £257,000.

⁵ Colony £206,000.

⁶ Colony £333,000.

GOLD COAST. Pub. Debt, av. 1907-11, £2,416,000 (1911, £2,489,000)								
1897-1901	325	1901	471	267	82.15	416	1900	515
1902-6	588	1906	673	371	63.1	587	1904	622
1907-11	870	1911	1,111	527	60.57	728	1911	889.5

SIERRA LEONE. ¹ Pub. Debt, av. 1907-11, £1,269,000								
1897-1901	150.6	1901	192	99.6	66.16	141.4	1901	173
1902-6	254	1906	305	138	54.33	242	1905	295
1907-11	384.6	1911	458	204	53.04	363.6	1911	432

¹ Includ. Rly. and Tramway Receipts and expenses, for which see Rlys.

GAMBIA. Pub. Debt, nil								
1897-1901	45.2	1900	49	34.4	76.12	33	1901	48.5
1902-6	55.6	1906	65	41.4	74.46	60.2	1905	72.3
1907-11	73.2	1911	86	59	80.61	61.8	1911	71.4

ZANZIBAR. Pub. Debt, 1911, £72,000								
1897-1901	117.8	1898	127.5	62.38	52.95	125	1899	133.3
1902-6	169.86	1906	191.5	94.34	55.51	145.6	1905	159.8
1907-11	207.52	1907	247.5	119.16	57.41	199.6	1908	219.7

MAURITIUS. Pub. Debt, av. 1907-11, £1,305,000								
1897-1901 ¹	564	1900 ²	612	208	36.88	560 ¹	1900 ²	571
1902-6	647	1905	693	225	34.77	663	1904	711
1907-11	664	1911	742	236	35.54	649	1907	678

¹ 4½ years.

² Highest complete year.

SEYCHELLES. Pub. Debt, av. 1907-11, £15,600								
1897-1901	24.2	1901	30.5	14	57.85	20.2	1901	25.5
1902-6	27.2	1903	31.2	13	47.78	29	1903	34.4
1907-11	34.2	1911	36.4	17	49.71	31	1909	34.6

SHIPPING. Total net tonnage of vessels entered and cleared.
 (exclu. of coasting trade)

Av. of five years. 1,000 tons. H. Y. 1,000 tons. Av. tonnage of Brit. vessels. 1,000 tons. % of total.

E. AFRICA PROTECTORATE (Gross Tonnage)

1897-1901	—	1901	718	396	55·1
1902-6	1,665	1906	1,909	557	33·4
1907-11	2,193	1911	2,886	754	34·3

SOMALILAND PROTECT. (Total tonnage entered and cleared at the Ports of Zeyla, Berbera, and Bulhar only, except for 1906-7 and later years, in which years statistics for Hais were also available.)

1897-1901	84	1899	97·5	56·4	67·1
1902-6	114	1903	140·4	83	72·8
1907-11	128	1909	161·3	103·6	80·9

ST. HELENA (Gross Tonnage)

1897-1901	283	1901	507	281	99·28
1902-6	397·6	1902	469	397	99·84
1907-11	333·6	1911	369	331	99·22

GOLD COAST

1897-1901	1,272	1901	1,417	833	65·48
1902-6	2,012	1905	2,159	1,221	60·68
1907-11	2,464	1911	2,676	1,559	63·27

SIERRA LEONE

1897-1901	1,183	1900	1,291	928	78·43
1902-6	1,610	1903	1,688	1,270	78·89
1907-11	2,123	1911	2,493	1,585	74·67

GAMBIA

1897-1901	283	1898	328	204	72·07
1902-6	354	1906	404·5	226	63·84
1907-11	471	1910	507	311	66·25

ZANZIBAR. Av. tonnage of ocean-going vessels entered and cleared at the Port of Zanzibar

1897-1901	601	1900	697	188	31
1902-6	867	1904	950	267	30·7
1907-11	1,101	1911	1,421	337·5	30

MAURITIUS

1897-1901	692	1901	799	470	67·92
1902-6	782	1906	815	545	69·69
1907-11	824	1910	986	600	72·83

SEYCHELLES ISLANDS

1897-1901	224	1901	338	163	72·78
1902-6	249	1903	274	108	43·35
1907-11	322	1911	413	98	30·43

S. NIGERIA. The total av. net tonnage entered and cleared, 1907-11, exclu. of coasting trade, amounted to 1,520,000 (1911, 1,610,700), of which 62·1 % or 945,000 tons was British.

AFRICA

533

CSL

RAILWAYS

<i>Miles open for traffic, end of 1912.</i>	<i>Av. receipts. 1907-11</i>	<i>Receipts. 1911</i>	<i>Av. expend. 1907-11</i>	<i>Expend. 1911</i>	<i>Ratio av. expend. to av. recpts. %.</i>
	£1,000.	£1,000.	£1,000.	£1,000.	
Rhodesia Gov. . . 1,397 ¹	691	998.6	337	380	48.76
Rhodesia Priv. . . 959 ²	432	744	192	252	44.44
Nyasaland Priv. . . 113	—	26	—	10.5	39.72
Uganda Gov. . . 55	—	(12) 8.1	—	(12) 6.9	61.7
E. Africa Protect. Gov. . . 586	274	360	189	228.8	68.98
N. Nigeria Gov. . . 445	(10-11) 29.5	44	(10-11) 39.9	61	135.2
S. Nigeria Gov. . . 467 ³	210	307	129	177	61.44
Gold Coast Gov. . . 222	208	286	82	102	39.42
Sierra Leone Gov. . . 271 ⁴	86.6	108	78.4	79.8	90.53
Zanzibar Private . . 6½	(8-11) 4.15	4.04	4.19	3.54	100.9
Mauritius Gov. . . 130	153	160	112	107.5	70.2

¹ Inclu. 394 m. in Bechuanaland and 112 in the Cape of Good Hope.

² Inclu. 204 m. in Portuguese E. Africa.

³ Inclu. 267 m. in N. Nigeria.

⁴ Inclu. tramline connected with railway.

LIVE STOCK

	<i>Horses.</i>	<i>Horned Cattle.</i>	<i>Sheep.</i>	<i>Pigs.</i>
Swaziland (Census 1911) . . .	541	57,600	163,600 ¹	9,000
Basutoland (Census 1911) . . .	88,000	437,400	1,369,000	—
Bechuanaland (Census 1911) . . .	1,632	323,900	358,300 ¹	—
Rhodesia (Census 1911) . . .	20,445 ²	500,600	300,000	1,800
Nyasaland (1911) . . .	266 ²	60,000	22,000	18,600
Uganda (av. 1907-11) . . .	11	483,600	587,000	600
E. Africa Protect. (1911) . . .	950	775,000	6,500,000	3,000
St. Helena (Census 1911) . . .	152	1,271	4,446	280
Sierra Leone (av. 1906-10) . . .	38	1,280	630	90
Gambia (1907) . . .	3,851	82,780	—	—
Mauritius ³ (av. 1907-11) . . .	630	14,120	1,280	4,400
Seychelles (approx.) . . .	150	1,000	200	5,800

¹ And goats.

² And mules.

³ On sugar estates.

EGYPT

Area (administrative divisions).—12,020 sq. m., i.e. 10 % of that of the U.K.

Agriculture.—Av. 1909-10—1911-12. Area under various crops (in 1,000 acres): maize, 1,884 (23.75 % of total); cotton, 1,756 (22.13 %); forage, 1,704 (21.49 %); corn, 1,305 (16.44 %); beans, 560.2 (7.07 %); barley, 388.2 (4.89 %); rice, 256.0 (3.22 %); sugar cane, 50.0 (0.63 %); orchards and kitchen gardens, 30.6 (0.38 %). Total, 7,934,000 acres.

Av. product. of cotton (1907-8—1911-12) 673.2 million lb. (1911-12, 735.4 millions). Av. product. of sugar (1907-8—1911-12) 53,000 tons (1911-12, 57,880).

Minerals.—Gold production, av. 1906-10, £16,700. Salt production, 100,000 tons per annum, average exports, 1907-10, £11,000.

Railways.—Total length of State Railway, 1,480 miles. Average receipts 1907-11, passengers, £1,724,000; goods, £1,797,000; miscellaneous, £39,000. Total, £3,560,000 (1911, £3,787,300). Average expenses, £2,055,000 (1911, £2,083,700). Ratio working expenses to gross receipts, 58 %.

Shipping.—Total net tonnage passing through the Suez Canal. Av. 1907-11: British, 9,915,400 tons (62.99 % of total), 1911, 11,715,000 tons;

German, 2,457,000 tons (15·61 %), 1911, 2,792,000 tons; French, 815,400 tons (5·18 %), 1911, 824,000 tons. Total, 15,740,000 tons, 1911, 18,326,000 tons.

Tonnage of vessels entering and clearing at Alexandria, av. 1907-11, 7,067,000.

Imports and exports (av. 1902-6).—*Imports*, £26,772,000 (merchandise 20 mill., bullion and specie 6·7 mill.). Av. 1907-11, £33,535,000 (merchandise 25·5 mill., bullion and specie 8 mill.). *Exports* (domestic products), av. 1902-6, 23·8 mill. (merchandise, 21·3, bullion and specie, 2·5 mill.). Av. 1907-11, 33·5 mill. (merchandise 27·3 mill., bullion and specie, 6·2 mill.).

Principal articles imp. and exp. (av. 1907-11, £1,000). *Imports*: cotton manu., 3,493 (13·7 % of total merchandise imp.) 1911, 4,233; flour, 1,564 (6·12 %), 1911, 1,640; coal, 1,334 (5·23 %), 1911, 1,346; iron and steel manu., 1,314 (5·15 %), 1911, 1,360; wood for building, 1,261 (4·82 %), 1911, 1,186; tobacco, 979 (3·73 %), 1911, 1,220. *Exports*: cotton, 22,426 (82·17 % of total exp. of merchandise), H. Y. 1910, 24,848; cotton seed, 2,597 (9·52), 1911, 2,214. Other exp., tobacco, 289 (1·06 %); oilcake, 268 (0·98 %); onions, 246 (0·9 %); rice, 209 (0·76 %).

Trade with principal countries (av. 1907-11) in £1,000. *Imports* (merchandise): U.K., 8,295 (32·54 % of total); France, 3,016 (11·83 %); Turkey, 2,977 (11·68 %); Aust.-Hung., 1,798 (7·05 %); Germany, 1,312 (5·14 %); Italy, 1,266 (4·97 %); Brit. E. Ind., 1,049 (4·11 %); Total imp., 25,493. *Exports* (merchandise): U.K., 13,931 (51·06 % of total); Germany, 2,625 (9·62 %); France, 2,223 (8·15 %); U. States (1908-11), 1,796 (6·58 %); Russia, 1,629 (5·97 %); Aust.-Hung., 1,132 (4·15 %); Switzerland, 921 (3·37 %). Total exports, 27,282.

Population.—Estimated 1901, 10,238,000; census 1907, 11,287,359; estimated 1911, 11,975,000; per square mile (1907), 939; sexes (1907) 1,008 men per 1,000 women.

Revenue and expenditure (av. of five years, 1907-11, in £1,000).—*Revenue*: Land taxes, 5,151 (30·37 % of total); State railway, 3,589 (20·15 %); customs (exclu. tobac.), 2,057 (12·13 %); tobacco, 1,693 (9·98 %); other receipts, 4,472 (26·37 %); total av. rev., 16,962. *Expenditure*: Public debt, 4,027 (22·34 % of total); public works, 3,027 (16·79 %); railway, 2,934 (16·28 %); Min. of Interior, 1,171 (6·49 %); other expenses, 6,871 (38·10 %); total av. expenditure, 18,030. Public Debt (av. 1907-11), £95,236,000; 1911, 94·62 mill.

ANGLO-EGYPTIAN SUDAN

Area.—984,520 sq. m. or 8·1 times the area of the U. K.

Agriculture.—Av. acreage under crops, 1908-12, 1,790,000 (1912, 2,015,000 ac.).

Railways.—Line open 1,500 m. Av. gross rev., 1908-11, £409,500 (1912, £522,300); working exp., £301,200 (1912, £385,200); av. profits, £108,300 (1912, £137,000); av. percentage of expend. to earnings, 73·5.

Imports and Exports (in £1,000).—Av. imp., 1908-11, 2,044 (1911, 2,331); cotton goods, 512 (1911, 595·2). Av. exp., 1908-11, 950 (1911, 1,411); gum, 335 (1911, 446·5); cotton, 237 (1911, 244).

Trade with principal countries (av. 1910-11, £1,000).—*Imports*: Egypt, 910 (42·24 % of total); U.K., 714 (33·16 %); India and Aden, 135 (6·28 %); Australia, 127 (5·6 %); Germany, 21·5 (1 %); France, 14·86 (0·69 %); other countries, 232·1 (11·03 %). *Exports*: Egypt, 716·5 (59·39 % of total); U.K., 167·3 (13·48 %); France, 98·9 (8·2 %); Germany, 69·2 (5·73 %); U. States, 41·5 (3·35 %); other countries, 113 (9·4 %).

Revenue and expenditure.—*Revenue* (collected in the Sudan): Av. 1908-12, in £1,000, 1,205. Highest Year 1912, 1,410 (1902, 276·75). Principal sources of rev.: railways (av. 1909-12), 428 (1912, 518); steamers, 158 (1912, 186); land tax, 130·8 (1912, 145); customs, 84 (1912, 96); post and telegraph, 56·6 (1912, 63·6). *Expenditure* (av. 1908-12): 1,316 (1912, 1,576).

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