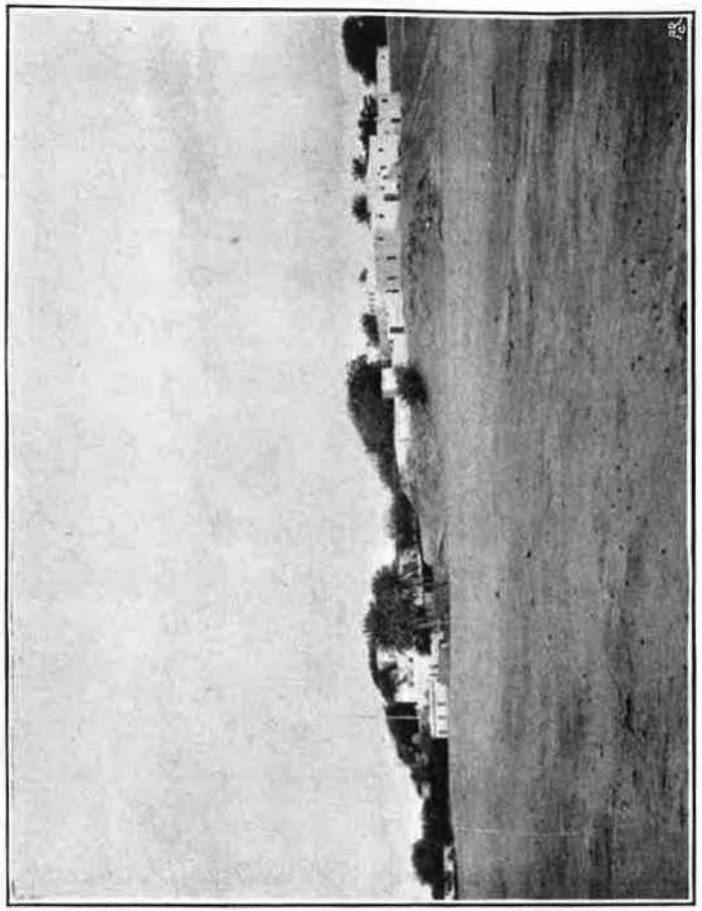

BERBERA—THE RESIDENCY.

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MILITARY REPORT

ON

SOMALILAND.

1907.

SCHOOL OF ORIENTAL & AFRICAN STUDIES
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VOLUME I.

Geographical, Descriptive, and Historical.

General Staff, War Office.

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PREFACE.

THIS Report, which is based on the Précis of Information concerning Somaliland, published in 1902, has been revised and brought up to date by Lieutenant-Colonel M. L. Hornby, D.S.O., assisted by other officers and officials serving in the Protectorate. It is particularly requested that any errors or omissions may be brought to the notice of the Director of Military Operations, War Office.

War Office,
18th June 1907.

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CHAPTER I.

GEOGRAPHY.

Area and Boundaries.

SOMALILAND—the *Regio Aromatifera* of the ancients, the *Bar-Ajam* of the Arabs, and the *Bar-es-Somal* of its inhabitants—occupies that portion of North-East Africa, known as the "Horn of Africa," which lies between the Equator and the 12th degree of north latitude, and is bounded on the north by the Red Sea and the Gulf of Aden, on the east by the Indian Ocean, and on the west and south-west by Abyssinia and the British East Africa Protectorate.

The whole of the above area covers some 320,000 square miles, and is partitioned into spheres of influence amongst Great Britain, France, Italy, and Abyssinia.

British Somaliland, occupying the north-central portion, is bounded on the north-west by a line which runs from a point on the coast opposite the wells of Hadou through these wells to Abassouen (Abaswein),* and thence follows the caravan road to Biya-Kaboba as far as Mount Somadu; on the north by the Gulf of Aden; on the east and south-east by a line following the 49th degree of longitude from the sea—just east of Bandar Ziada—to the 9th degree of north latitude, and running thence straight to the intersection of 48° E. and 8° N.;† on the south by a line running from that intersection along the 8th degree of north latitude to 47° E., and thence in a direct line to Arran Arrhe on 44° E. and 9° N.;‡ and on the south-west by a line running direct from Arran Arrhe to Eilinta Kaddo and Moga Medir, and thence successively to Mount Egu, Mount Sau, Mount Somadu, and Abassouen.*

* Anglo-French Agreement of 2nd/9th February, 1888.
† Anglo-Italian Agreement of 5th May, 1884.
‡ Anglo-Abyssinian Agreement of 4th June and 28th July, 1897.

This area, with an average length of some 300 miles, and a depth inland of 70 miles in the west, 150 to 200 in the centre, and 150 in the east, is estimated to contain 58,000 square miles, and to have a population of 246,000 (1899), comprising the following Somali tribes:—Isa, Gadabursi, Habr Awal, Habr Gerhajis, Habr Toljaala, Dolbahanta, and Warsangli.

Physical Geography.

It is conjectured that at a, geologically, recent age the whole of the littoral of the East Coast of Africa was submerged by the sea.

A convulsion of nature then uplifted an enormous tract of country, the so-called "Roof of Africa," which runs between the 38th and 39th degrees of east longitude from Ankober almost due north and south to Massowah and Kilimanjaro respectively. In this upheaval volcanic action took a great part, evidences of which remain in the hot springs of Ailet near Massowah, and of Bio Kolola near Ras el Hamar, as well in the salt lakes near Obbia and the lava valley at the head of the Gulf of Tajura.

From this upheaved mass the relatively minor features of the Horn of Africa and its two chief rivers, viz., the Webi Shebeli and the Juba, like all the large rivers of Africa, take their rise.

The volcanic action radiating eastwards created in the north-east the horseshoe-shaped ridge, which forms the background to the Gulf of Tajura. Then, after an outburst at Ghubbet Kharab, it circled southwards—raising the sea bed en route—for a distance of 60 miles inland, when it diverged eastwards and, acquiring intensity, divided into a major and minor line, which are represented by the sub-ghauts and ghauts that line the coast from Zeila to Berbera.

Beyond the latter place both lines of force joined in raising the range from Karam to Cape Gardafui, where their final efforts were expended in the broken mass which overlooks the Indian Ocean, and in a range running S.S.W. parallel to the sea, which, with decreasing height as it runs southwards, buttresses the eastern and southern plateau of Somaliland.

It also appears that the seismic power eastward of Karam was exerted southward and south-eastward to form subsidiary ranges enclosing the valleys of the Darror and Nogal Rivers.

While the line of volcanic action from Ghubbet Kharab forced up mountain ranges along the sea front, other forces of a less violent nature further south led to the gradual raising up of plains and plateaux, some 2,000 to 6,000 feet above sea-level, while here and there eruptions formed sharp-peaked solitary hills like miniature hill-forts or pyramids. These plateaux descend southwards, with an eastern trend, to the Webi Shebeli Valley and then gradually rise to heights of from 1,600 to 2,000 feet between that river and the Juba.

Somaliland may therefore be divided into three distinct tracts of country:—

1. The fringe of maritime plain between the mountains and the sea.
2. The maritime mountains running parallel almost to the coast, and often intersected by inland plains.
3. The raised plateaux to the south, with subsidiary hills lining the water drainage.

The maritime plain, a strip of arid coast, extends from Obok in French Somaliland through British Somaliland, where it attains its maximum width of 60 miles, to Cape Gardafui, near which it narrows to some 200 yards. Thence it widens as it goes south, until it merges in the Mogdishu Plain. Close to the sea it forms sand-dunes, which bed up the drainage.

The mountainous region consists of a mass of mountains forming parallel ridges and isolated peaks, connected by raised plateaux and low-lying interior valleys, all intersected by túgs or dry water-courses.

The raised plateaux are separated by a lofty seaward scarp, some 6,000 feet high, from the lower mountains of the maritime range, and form inland a series of gently sloping terraces which fall abruptly to the main line of drainage, the Webi Shebeli, and then rise and fall to the Juba.

Geology. (*Vide* also page 8.)

The fundamental rocks are metamorphic; the predominant geological feature, however, is a covering of

limestone, overlying metamorphic rocks and red sandstone. But in the mountain ranges—broken, irregular masses, with wild fantastic forms and sides, frequently steep or precipitous and accessible only by very difficult passes—is found every variety of rock from coarsely-crystalline granite (pegmatite dykes) to slate, *e.g.*, red granite, porphyry, white marble, columnar basalt, and gypsum.

The maritime plain consists of sand and alluvium, *i.e.*, marine (coralline) and subaerian (limestone) deposits of recent age.

The maritime mountains comprise limestone of uncertain age and Bathonian limestone in the ridges closest to the sea, while in the inland plains is found the formation of the maritime plain, and in the outlying ranges of the main plateau the Archæan gneisses which the latter is composed.

The gneiss and other rocks of the Archæan series are capped in the main plateau by (1) red and purple unfossiliferous sandstone, and (2) Neocomian cherts and limestone. The latter rock, amongst the ranges which enclose the Nogal and Darror Valleys, has a considerable depth, *e.g.*, 1,800 feet in the Miriya Pass, and over 1,000 feet in the Artalla and Bur Dab Ranges. It outcrops, in the form of a hard belt 250 feet thick, over many of the interior plateaux, and often is eaten into caves, *e.g.*, in the Bur Dab Range and in the hills skirting the south side of the Nogal Valley. In these hills, too, gypsum is also frequently found.

Behind the seaward scarp of the plateau the detritus has formed sandy scrub-covered plains with many mimosas and sanseviera, while at the foot of some isolated peaks, *e.g.*, Habrji Peak, the decomposition of intrusive granitic rocks has produced a fertile soil covered with green forest.

Further inland, at an elevation of 2,000 to 4,000 feet, are the grassy plains or bans, composed of a thin layer of red or chocolate-coloured clay overlying a red sand, due to the decomposition of the limestone, which in the north, *e.g.*, at Burao, has a depth of 70 to 80 feet, and in the south ceases about the latitude of Gerlogubi, where limestone rock appears on the surface.

Southwards from this latitude, 7° N., to the valley of the Webi Shebeli, the plateau, having a level of 2,000 to 1,500 feet, consists of limestone rock, generally strewn with stones and boulders, but occasionally interspersed with sandy stretches or alluvial patches.

The country watered by the Webi Shebeli and its affluents above Imi is a mass of limestone or granite hills, similar to those of the maritime ranges, with high sandy scrub-covered plateaux. Below Imi the detritus from the hilly country has formed alluvial flats which widen with the downward course of the river.

The country, stretching from the coast north-westwards between the Webi Shebeli and the Juba, is composed of (1) a red sandy clay—rich in magnetite and occasionally mixed with fragments of crystalline rock—where trees and thorny scrub abound; and (2) of grey or yellowish strata covered with grass and, to a less degree, with cultivation.

Of valuable minerals there appear to be few except marble. In the Mijjarten country iron, lead, and, to a greater extent, quicksilver—the *bio lag* or "silver water" of the Somalis—are found, and coal is also said to exist.

Drainage.

There are in Somaliland three main lines of drainage, viz.:—

(1) That of the maritime ranges and seaward slope of the main plateau.
(2) That of the inner slope of the latter.
(3) That of the Harrar Highlands.

1. From Zeila to Cape Gardafui a succession of túgs or watercourses drains the raised plains of the western and the mountainous regions of the central and eastern portions.

Their general direction is from south to north, and consequently their courses are so limited that all are of a torrential nature. Rising generally in the main plateau, they flow, after rain, in broad sandy beds with alluvial banks through the inland plains, and in narrow boulder-strewn channels through the maritime ranges into the maritime plain, where their waters are absorbed in the sand-dunes that line the coast.

Of these túgs the most important is the Issútugan in the west, which rises in the neighbourhood of Hargeisa. Running northwards down to Jalelo, it forces a way through

the sub-ghauts with a detour eastward beyond Aleyalale to Hedigaleh, and gradually widening beyond Sō Midgan, where it drops sheer down 40 feet, enters the maritime plain near Gerigoan Hill, losing itself eventually in various beds east of Bulhar. When rain falls it is a roaring torrent; at other times there is in places a tiny rivulet in the centre, sinking out of sight and reappearing at intervals. The sand of the bed is saturated with water, forming awkward quicksands.

The maritime range of the east coast is drained in the same way by a number of túgs or watercourses, which occur at increasing intervals from north to south, as the hills diminish in height.

2. The drainage from the inner slope of the main plateau either finds its way into the plains—where it is dispersed and is then evaporated or sinks underground—or else is carried off in a south-easterly direction by the túg Darror and the Nogal. The latter in its upper course, where it is known as the túg Der, receives a few insignificant affluents, and afterwards little water from the northern slopes and still less from the Haud on the south, while the Darror has apparently no tributaries beyond those which, coming from the Al Hills, join it near its source.

3. It is, however, only from the Harrar Highlands that rivers of any importance rise. The most northern of these is the Fafan, which, like its tributary the Jerer, forms stagnant pools in the dry season, but in the rains it causes extensive floods, especially about Faf.

Both it and the Webi Shebeli, which always has running water, lose themselves in extensive marshes before reaching the sea, the former south-east of Faf, the latter not far from the mouth of the Juba.

The latter river is the only navigable one in Somaliland, but navigation ceases at Bardera; its source is in the Abyssinian Mountains.

British Somaliland.

British Somaliland consists of the following areas, which have distinctive physical features:—

(*a*) A semi-desert country—valuable only for its ports, and the grazing which it affords to sheep and goats—comprises, under the collective name of *Guban*, in the west,

the maritime plain and ridges, and extends inland for an average of 35 miles in the west and under 2 miles in the east;

(*b*) *Golis*, the wooded northern crest, some 6 miles broad, of the western and central portion of the interior plateau, amalgamates east of Berbera with the maritime mountains, but in the Warsangli country again separates from them;

(*c*) *Ogo-Guban*, the country from Hargeisa westwards which intervenes between Guban and the crest, and partakes in its nature of both Ogo and Guban;

(*d*) *Ogo*, the southern slope of the northern crest behind Guban, consists of a strip from 10 to 30 miles in width of grassy downs or thorn-covered wilderness; its counterpart in the east is the Warsangli Plateau;

(*e*) The *Darror Valley*, somewhat similar to the central portion of the Nogal Valley;

(*f*) The *Nogal Valley*, with good pasturages in its upper and arid sandy or stony plains, as a rule, in its central portion; and

(*g*) The *Haud*, a belt of thorn wildernesses and pasturages (waterless in Jilal),* runs, with a breadth of 150 to 250 miles, from the neighbourhood of Jig-Jiga in a direction somewhat south of east to the maritime ridges of Italian Somaliland, and separates Ogaden and the Harrar Highlands from Ogo, Guban, and the Nogal Plateau on the north.

The following section on the line Berbera-Bihin-Golis shows most of the above sub-divisions, as well as the general geological structure of British Somaliland.

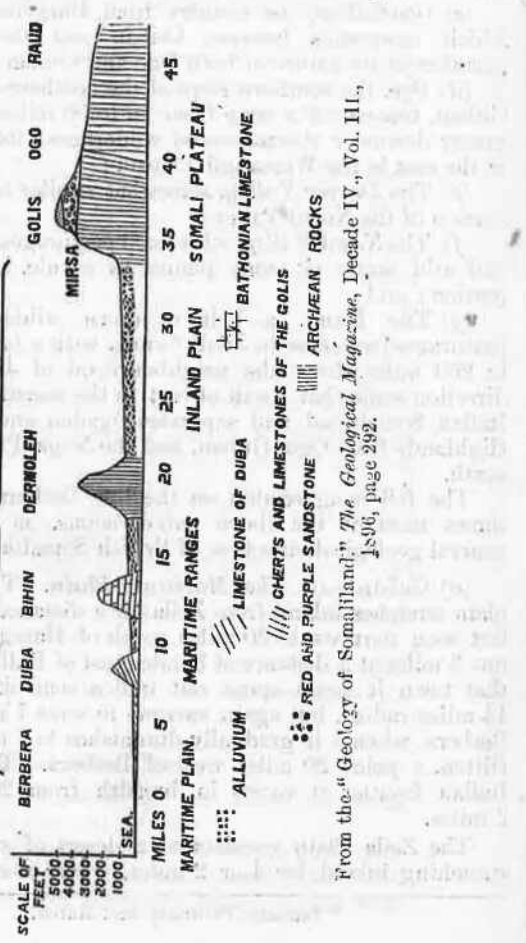
(*a*) *Guban.*—(i) *The Maritime Plain.* The maritime plain stretches inland from Zeila for a distance of 60 miles, but soon narrows to 30 miles south of Harag Jid, and to but 3 miles at a distance of 8 miles east of Bulhar. Behind that town it again opens out into a semi-circle of some 14 miles radius, but again narrows to some 7 miles behind Berbera, whence it gradually diminishes to 1 mile at Khor Hitten, a point 20 miles west of Berbera. Thence to the Italian frontier it varies in breadth from 200 yards to 2 miles.

The Zeila Plain consists of a desert of smooth sand, stretching inland for 1 or 2 miles, where a strip of ever-

* January, February, and March.

green bushes separates it from a great open grass plain which stretches to the foot of the Bur Ad Range.

At Bulhar the plain is covered with a dense bush, and between that town and Zeila is studded with holes, of brackish but drinkable water, which renders travelling on horseback somewhat dangerous.



From the "Geology of Somaliland," *The Geological Magazine*, Decade IV., Vol. III., 1896, page 292.

At Berbera the plain is a bushless strip of white pebbles for 1 or 2 miles inland, when it becomes sandy, and is clad with khansa 3 feet high, and with scattered thorn bushes 9 feet higher. It slopes gradually to a height of 300 to 400 feet at 7 to 10 miles from the coast, where the maritime range rises suddenly from it.

East of Berbera it is generally level and sandy, and is occasionally intersected by ravines, in whose sandy beds water can be found throughout the year, either in pools or by digging. In the Warsangli country, however, it is diversified by low sand hills and rocky points, and more rarely by rocky plateaux. The vegetation is scanty, and consists of salsolacious plants, stunted arman, acacia, and other thorn bushes.

(ii) *The Maritime Ranges.* The north-western frontier of British Somaliland is marked by a ridge of hills, which run from Mount Loyi Ada, 300 feet, to Biya Anot, 1,950 feet, where the north-western edge of the interior plateau begins. The maritime mountains proper rise in the south-eastern corner of the Zeila Plain, and at first form a confused mass of table-topped plateaux of black trap rock with precipices 30 feet deep, continued by steep slopes of *débris* for some 300 feet down to the river beds, which intersect them. Strewn with boulders or jagged and rounded rocks, with tufts of feathery grass in the crevices, and covered with an open jungle of khansa bush, these plateaux are very trying to camels, and still more so to horses. They stretch from Ogo almost down to the sea at Bulhar, increase in height east of that town, and break up into a number of parallel limestone ranges, which vary in height from 1,500 feet in the outer to 4,500 feet in the inner mountains. The aspect of these maritime ranges is very forbidding; bare precipices, flanking deep and narrow river gorges, alternate with rounded shoulders, on whose gravel surface only a low scrub can thrive. Within the ranges, and between them and the Golis, are undulating interior plains, intersected by broad sand-rivers winding through alluvial banks and jungle of thick guda thorn tree, or by torrent beds choked with boulders and dense undergrowth of reeds and thorns. Between the rivers are occasionally stretches of coarse grass, but, as a rule, the intervening watersheds are stony and gravelly and are studded with low mimosa.

Eastward of Berbera the maritime ranges merge into one another, and then combine with the northern crest of the interior plateau to form an irregular range, 145 miles long, of limestone hills, which limit the plain to a breadth varying from 200 yards to 2 miles.

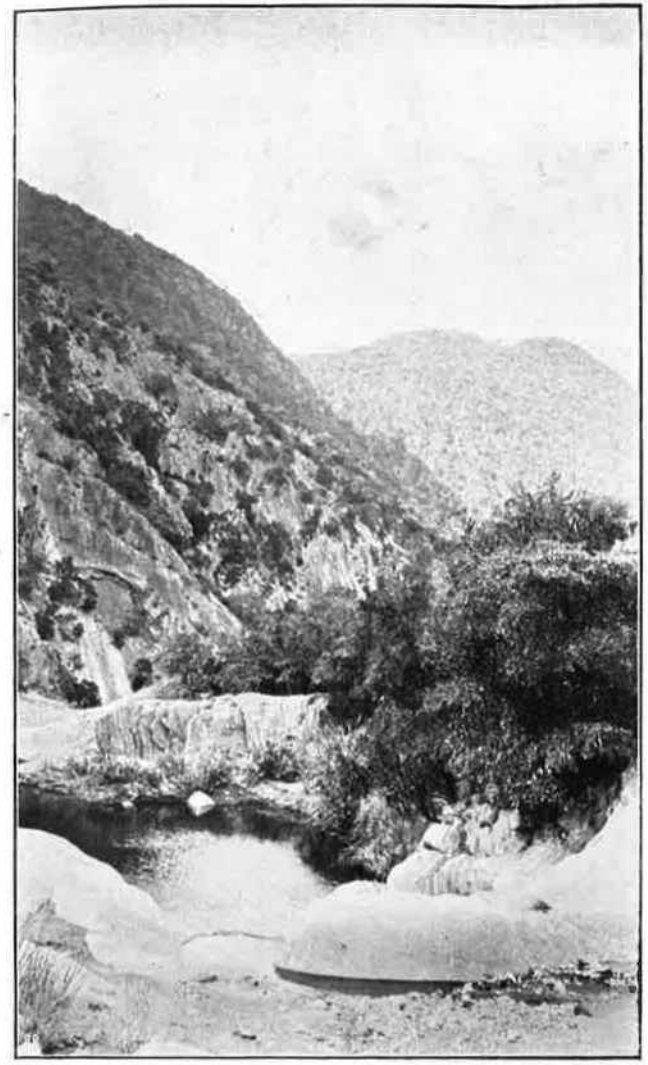
Near the sea these hills are but 400 to 1,000 feet high, but at 10 to 15 miles inland culminate in a broken crest 3,000 to 4,000 feet high, which forms the northern edge of the Nogal plateau. From the western frontier of the Warsangli country the formation again changes, and the three distinct levels of the plain, maritime ranges, and Golis again appear. The maritime hills, brown and sterile, sometimes of basalt or volcanic formation, form low broken ranges 700 to 1,500 feet in height, cut by numerous rocky ravines.

(*b*) and (*c*) *Golis and Ogo-Guban.*—The northern crest of the interior plateau runs from Biya Anot in a south-south-easterly direction to the Jebel Medir, and thence in an easterly direction to Hargeisa, whence it strikes in a north-easterly direction, under the names of the Asser and Golis ranges. It then is broken by the Huguf Plain, and afterwards runs slightly north of east to the Italian frontier.

From Biya Anot, 2,000 feet, the crest rises rapidly to 4,800 feet at Obol, and to 5,500 feet some 10 miles further south. It runs generally within 500 feet of this level to the Dubburo Mountain, west of Hargeisa. To the north it descends in terraces to the plateaux that form the western portion of the maritime mountains, and it falls similarly from Dubburo to Hargeisa, and to the country north of that town. These terraces form the tracts known as *Ogo-Guban*, where precipices of 200 to 300 feet separate cedar-clad plateaux from narrow valleys of jungle, caves, and moss-grown recesses. Here luxuriant pasturages have sprung up in the rich soil, a black vegetable mould.

From the Ogo-Guban of Hargeisa the crest rises gradually through the Asser, 3,000 to 4,500 feet, to the Golis range, 5,900 to 6,900 feet. To the north these ranges descend abruptly, forming, as it were, a gigantic step, up which lead the Jerato and Sheikh passes, steep and toilsome, though improved in recent years.

A remarkable feature in the northern slope of Golis is a ledge of broken ground, a mile or two wide, known as



IN THE GOLIS RANGE—NEAR SHEIKH.

Mirsa or the "Haven." This ledge runs some 1,000 feet below the crest of Golis for 20 to 30 miles east of the Jerato Pass; although covered with jungle, and having a shallow and stony soil, it is a favourite pasture of the Habr Awal and Habr Gerhajis.

At about 45° 40′ E. the Golis range descends in broken terraces to the Berber and Dohung passes, and thence to the narrow Huguf Plain, beyond which the northern crest of the interior plateau merges into the maritime range already described. But eastwards of the latter Golis reappears in the lofty Warsangli Mountains, which, rising in precipitous steps of 800 to 1,000 feet from the west, north and east, run for some 170 miles, parallel to, and at a distance of 10 to 20 miles from, the coast, through the whole of the Warsangli country. At Pyramid Peak, in the extreme west, this range is 5,170 feet high, then in the next 11 miles rises to 7,150 feet at Jebel Sarut, and thence for over half its length forms a uniform ridge 6,000 to 7,000 feet above the sea, and finally descends south-east of Bandar Ziada into the Dagan Valley.

Dense jungle, vegetation, and a little grass distinguish the slopes of these ranges from the sterile maritime hills below, while higher up gum, myrrh, and frankincense trees, and a variety of the aloe abound. They are said to have an invigorating climate, and water is plentiful in rocky pools.

(c) *Ogo.*—Ogo is the resort of the Gadabursi, Habr Awal, and Habr Gerhajis during Jilal, or the dry season, when water and grass fail in the Haud and Guban below. The comparative equability of the climate and the presence of water at all times have, also, led to the establishment of some permanent settlements around which jowari cultivation has sprung up. The vegetation is more varied than elsewhere, for with the thorn jungles and grasses of the Haud are mingled the cedars of Golis and the giant euphorbia or hassadan. The most important of the plains of Ogo are: the Daba-Debba Valley in the west; the Seyla Ban south-east of Hargeisa, where grass and thorn jungle intermingle; the Shilmale and Daldewan plains and Khansa Bush, south of Sik, with water in pools at most seasons, and excellent pasturage of short *dihe* grass; the Galgudan, Senak and Dodoma Plains, south of Sheikh, all

with excellent pasture, and the first two watered by the túg Der; the Harakatis and Negegr plateaux, the latter somewhat deficient in water, and both combining thorn jungle with pasturage; and the green forest which surrounds all but the northern sides of Habrji Peak to a depth of 7 to 8 miles. Here it may be noted water could probably be accumulated by damming the river which loses itself in the plains.

Behind the Warsangli Mountains is a somewhat similar country, the Warsangli Plateau, which descends from the main crest, a height of 6,000 to 7,000 feet, by successive terraces with gentle slopes, for some 3,000 feet to the Nogal Plateau on the west and the Darror Valley on the east. Luxuriant pasturages, the results of the nomad Warsangli, and dense jungle are found mingled with thorn wildernesses on the plateaux just as in Ogo.

(*e*) *The Darror Valley.* (Including portion in Italian Somaliland.)—The Darror Valley extends for a distance of some 200 miles from the foot of the Aroru hills, almost due east to the south Bay of Hafun. It is broad and well defined, being bounded by the Kurkar Range on the south, which rises some 500 feet and separates it from the Nogal Plateau, and by the Warsangli and El Maskad Ranges on the north. Near the coast the latter range diverges north-east, but sends down spurs which narrow the valley to a width of 10 miles, as compared with 50 miles at 49° E. and 25 miles near the source. A well-marked dry torrent, the túg Darror, into which a number of dry, rocky ravines run, traverses the valley. Although after rains a volume of turbid water rushes down the bed and floods the surrounding country, yet at ordinary times there is no water except in the last 50 miles. This portion of the túg is known as the Wady Jaeel to 10 miles from the mouth, when it assumes the name of Hashiri. In the Jaeel long shallow pools or reaches are to be found in places throughout the year; the Hashiri for its first 2 miles has running water, which then disappears in a mangrove-covered mud-flat. The valley and surrounding ranges are generally very arid, but amongst and around the clay and gypsum hills, some 3,000 feet above sea level, which vary the upper portion, extensive pasturages are found, *e.g.*, the Gurbi, Shemis, and Fararali. The bed of the Jaeel, which

is never less than 700 yards wide, and is shut in by precipitous banks, 50 to 200 feet high, is covered with a vivid green vegetation of tall trees, date and dum palms, and presents a striking contrast to the brown, sterile, undulating plains and hills above. But no effort is made to cultivate anything but the date palm; even the alluvial banks of the Hashiri bear only palms, acacias, and salvodora.

The chief localities in the valley are: the Galla ruins of Rat; Ur Arlet at the foot of the Kurkar hills, whence caravan routes run to the northern Italian ports; and Sagulodero, some 6 or 7 miles up the Hashiri, the summer residence of the Hafun tribes, who have numerous herds of cattle there.

(*f*) *The Nogal Plain or Valley.*—The Nogal Plain is apparently of limestone formation, and is formed by the junction of two main affluents, the northernmost rising in the Golis Range and the southernmost in the southern slopes of the Bur Dab, and similar short limestone ranges, which separate the two streams. These ranges are comparatively well watered, but produce little except gum bushes and pasturage; cut up by rocky passes and nullahs, they render marching difficult even for camels; otherwise, being easily turned, they present no tactical difficulties.

The pasturage is good in the rains, but in the dry season the grass dries up, and camel grazing can be obtained only on the sirman bush of the neighbouring Haud.

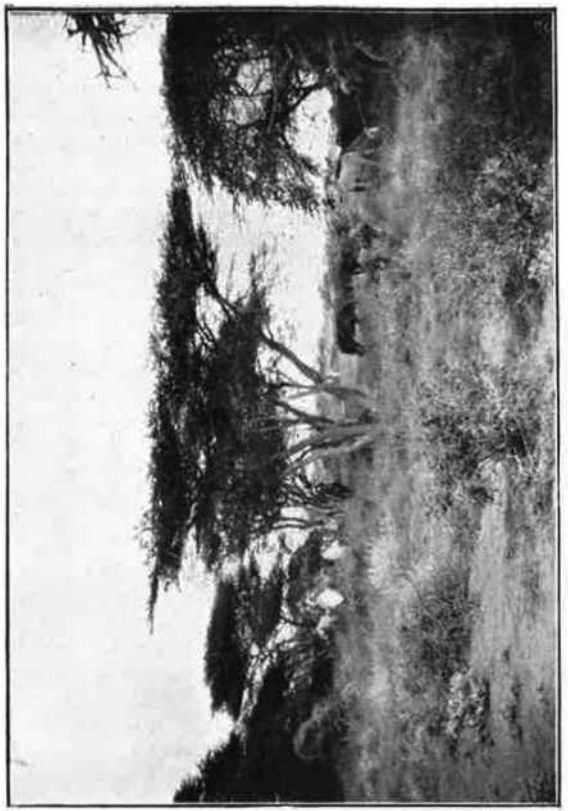
The bed of the first affluent, the túg Der, lies, as far as Burao, in a level plain, grassy on the left bank, and with open desert and jungle on the right bank. Below Burao the river bed opens out and spreads over an open level plain of excellent pasturage, forming in the rainy season an extensive swamp with dense vegetation. Below this swamp the plain is open, intersected by numerous nullahs, and generally covered with good grazing. The latter continues to 47° E., where the valley becomes arid, and so continues beyond the junction with the second affluent. North and south of both affluents and of the main stream abrupt ranges of hills rise at distances of 8 to 10 miles to the level of the Haud, some 500 to 1,000 feet above the valley.

These hills are accessible to camels only by the rocky passes, which occur to the south at intervals of 4 to 5 miles. Numerous nullahs intersect the Nogal Plain, and are full, during the rains, of excellent water, which can be found in many shady pools for some months of the dry season, as well as in the permanent wells of Wadamago, Odergoe, Las Elberdali, Beretabli, Kallis, and of other other places known to the natives only. The trees and bushes found in the Nogal Plain are never very thick; east of the Shilemadu Hills are groves of figs and dates.

The flat western portion of the Nogal can be traversed in all directions, but in the centre tracks along nullahs and through stony passes must be followed. Lateral communication is practicable but not easy.

At 30 miles east of the junction the valley, under the name of Deudi, affords excellent pasturage and is more populous, but at 48° E. it is again arid, stony, and sandy. At 49° E. it is narrowed to a width of about a mile by the northern range closing on the southern; here green jungles extend from the sandy river bed up the sides of the hills. At Garserio (49° E.), where the name is changed to the Dun, the river appears to hold running water at all seasons. Curving then in a southerly direction, the Dun below Daga Dalola receives its first tributary since the junction of the two upper affluents. After this it turns west and south-west and flows in a narrow gorge towards the Indian Ocean until, at some 15 miles from the sea, it breaks up into two or three channels, which, too, run through narrow gorges. The northernmost, the Gabbe, is sand-barred, as too is the main central channel, the Ail or Eildun, during the dry season, but the latter occasionally flows through or over the bar after heavy rains. 6½ miles further south, and 4½ miles north of Illig, is the Kululi, which, according to native report, is the southernmost channel of the Nogal. Fresh, but brackish, water of doubtful quality can be found even in the dry season within the bars of the Gabbe and Eildun.

The Nogal Plateau, or Sorl, which forms the northern limit of the Nogal Valley, has not been explored, but it apparently retains a uniform level of about 3,000 feet It is reported to have many extensive prairies similar to the Marar Prairie of the Haud, and probably is a continuation of the latter, being separated from the Southern Haud by



A GLADE IN THE HAUD.

the Nogal Valley. Water would also appear to be plentiful in places after rains.

(*g*) ***The Haud.*** (British, Abyssinian, and Italian.)—The Haud—a Somali word to describe a country of thick, sometimes impenetrable, thorn jungle with an undergrowth of *hig* or *dar* aloes, and broken up by shallow water-courses—is the name applied to a great elevated, undulating plateau, waterless in the dry season, which includes large strips of open, rolling, grass plains or *bans*, or, to the south-east, semi-desert country called *aror*. It is probably the most valuable part of Somaliland, for on its pasturages the surrounding tribes are dependent for the summer grazing of their flocks, the source of their food and their wealth. Its importance is recognised in the Anglo-Abyssinian Treaty, which maintains, without distinction of tribes, freedom of access to all the portions in which the two nations are concerned.

The Haud runs at first in a direction south of east, between British Somaliland and Ogaden, as far as 46° E.; it then widens out and embraces all the country, except the Nogal Valley, as far as the eastern maritime ranges and between the Karkar Hills on the north, and a line running from Galkayu to the sand hills behind Obbia on the south.

The Eastern Haud is divided by the Nogal Valley into a northern and southern portion. The following are the limits of the red clay or red sandy soil which is characteristic of the Western and Southern Haud:—

1. Northern: The mountain range from Jebel Sarir Garad to Jebel Korali; thence the range to Hargeisa; thence a line south of the Khansa Plain viâ Berato to Kirrit; and from that point a line running S.E. to Lassader, and thence by Las Anod, passing a little S. of Gerrowei and Kallis to about 48° 50′ E. longitude, where it curves southwards.

2. Western and south-western: The bluffs which run S.S.W. from Jebel Sarir Gerad, parallel to and above the left bank of the Jerer and Fafan, through Gagab to Hahi.

3. Southern: An east and west line from Hahi viâ Gerlogubi, Wardair and Galadi Wells, and the Dudub district to Galkayu.

4. Eastern: A line curving from the last-named wells east and north to the Sugubtur Wells.

Access to the Haud up the bluffs from the Nogal, Fafan, and Jerer is, in the case of camels, limited to fairly numerous, but steep and stony passes; elsewhere the outer edge of the Haud has a gentle slope. The Haud itself falls gradually from N.W. to S.E., as the following elevations show:—Marar Prairie, 4,900 to 6,300 feet, with isolated hills as much as 7,000 feet; Arran Arrhe, 4,450 feet; Kirrit, 3,200 feet; Sugubtur, 2,000 feet (approximately). Water is plentiful all over it in the rains, which are heavy as compared with Guban. But after the first month of the dry season all the pans and the numerous nullahs dry up owing to the porous nature of the soil, through which much of the rainfall is lost. Then water is to be found only in a few permanent wells at intervals of three to four days' march; of these wells in the Southern Haud, the most important are at Bohotle on the northern edge and at Mudug (Galkayu) on the southern, at both of which the supply is said to be inexhaustible. Possibly the deficiency elsewhere may be remedied by sinking new wells to the level at which water is found north and south of this portion of the Haud, viz., at 70 to 80 feet from the surface, as at Burao, where the wells have been dug through sand, or at Gerlogubi, where they have been hewn through rock.* Or, again, tanks might be formed where the clay is hard enough to retain the water, and much of the rainfall be thereby saved.

The vegetation of the Haud† includes the *hassadan* or euphorbia, growing at a level of about 5,000 feet; the ***derkein***, found in the lower levels of the Dolbahanta country; the *galol*, *guda*, *wadi*, and *acacia* thorn trees, and the smaller and larger *mimosa*. The best grasses are the *durr*, 5 feet; the *daremo*, 15 inches, and the *dihe*, 4 inches high; all of which are found in the Marar Prairie, an area of nearly 1,000 square miles. Many similar prairies are said to exist in the unexplored hinterland of the Warsangli and Mijjarten country, as well as throughout the Haud.

In its wooded portions dense thorn jungles and scattered trees alternate with small glades of durr grass; while ant-hills, often rising to 25 feet, appear at every

* Deep-boring operations, *vide* p. 255.

† For account of Flora, *vide* Appendix D.

100 yards in the more open portions. The Southern Haud is, as a rule, covered with thorn bush, more or less thick, and, apparently, the whole of the Haud was at one time so covered. But, especially in the Western Haud, floods and fires destroyed the bush, which was then overwhelmed by white ants. These erected their mounds around the withered trees, and after a time abandoned them, when wind and rain distributed the vegetable mould thus formed, and laid the foundation of the bans or grassy plains.

Green grass is plentiful in the rains, but in the dry season practically none is obtainable; camel grazing can, however, be always obtained throughout the year.

Mudug Oasis.—The Mudug oasis—in the shape of a horseshoe with the Doho district, where there is good grazing for ponies, in the centre—lies in the south-eastern corner of the Haud. It extends from Badwein, 20 miles N.W. of the Amai Wells, to the Dagarir tank, 50 miles south-west of those wells, and from 4 to 5 miles east to 60 to 80 miles west of them. It affords excellent pasturage to large herds of camel and cattle and flocks of sheep and goats, and has numerous permanent wells, important amongst which is Galkayu, where a fort, erected by Yusuf Ali of Obbia, was taken and destroyed by the Mullah. The country of the latter's tribe, the Bagheri, and of the Rer Ibrahim and Rer Ali, lies partly in and partly to the west of the oasis, and is in places covered with dense bush. Sub-tribes of the Marehan, Ogaden, Dolbahanta, Mijjarten, and Hawiya frequent the oasis.

French Somaliland.

(*a*) *Maritime Plain.*—A strip of low country extends from Obok between the foot of the hills of Tajura and the gulf of the same name as far as the Ghubbet Kharab, where it widens out into the Kussera or Kussa Valley. This valley, strewn with lava and volcanic *débris*, is separated on the east from the sea by the Eiroli Cliffs, beyond which is the Dudoim Plain with the port of Jibuti.

(*b*) *Maritime Mountains.*—A range of heights runs along the northern shore of the Gulf of Tajura to the head of that gulf, whence it sweeps to the south-west

and then north-east, reappearing on the southern shore of the gulf in the form of the Eiroli Cliffs, 400 to 500 feet high.

Abyssinian Somaliland.

Abyssinian Somaliland embraces:—

(*a*) The Harrar Highlands.

(*b*) The Ogaden country, comprising—

(i) The southern portion of the Western and Central Haud (*vide* British Somaliland).

(ii) The mountainous and hilly country watered by the Webi Shebeli, the Fafan and their tributaries, and continued across the former river to the Juba.

(iii) The high stony plateau eastward of the last sub-division and north of the alluvial plain of the Webi Shebeli.

(*a*) *The Harrar Highlands.*—The Harrar Highlands consist of lofty peaks, 8,000 to 10,000 feet above sea level, and elevated plateaux, which are highly cultivated by the Gallas, and more to the east afford excellent pasturage for the cattle of the Somalis. An eastern spur, the Joji Hills, connects this mountainous tract with the Sau Range in British Somaliland, and thus forms the north-western boundary of the Haud. Between this spur and the range, which, running S.S.W., connects Biya Anot with Gildessa and Harrar, lies an extensive plain or high ban known as the Harawa Valley and the Banki Ellis, where rich pasturage similar to that of the Haud is found.

(*b*) *Ogaden.*—(i) *The mountainous eastern portion* is formed by the foot hills of the Abyssinian Mountains and of the Harrar Highlands, and is roughly bounded as follows:—

a. On the north by the eastern range of the Harrar Highlands.

b. On the west by the Errer and Webi Shebeli as far as Imi, and by a line thence to the Juba at Dolo.

c. On the south-east by a line from Dolo to Bari; and

d. On the east by a line from Bari to Dibitag, and thence by the Fafan and Jerer.

The northern portion of this area is a series of ranges and broad plateaux of limestone, or, in places, of granite, covered with open jungle of thorn trees and with high grass. The sides of the hills and plateaux are generally bare, but in the valleys thorn bush and jungle grass are diversified by stretches of cultivation, open sandy plains, and abandoned tracts of jowari cultivation. Water is found after rains in the túgs, but in the dry season is obtainable only in wells often 40 to 50 miles apart. South of the latitude of Milmil the ranges break up into isolated hills some 3,000 feet high, while the túgs in the west, which generally have water at all seasons and often are flowing streams, run through gorges, sometimes 1,000 feet deep, between alluvial banks covered with excellent grass, creepers, undergrowth, and tall trees. The plateaux and valleys become broader and are often bare and sandy or stony, but are still interspersed with tracts of grazing for camels. Water on the plateaux east of the Webi Shebeli appears to be comparatively abundant, but many wells have been destroyed, for the country is thinly inhabited owing to the attacks by the Ogaden on the Gallas, and the counter raids by the Amharas. For this reason, too, many tracts of jowari cultivation have been abandoned. These are now found only along the banks of the Fafan, Ainli, and Webi Shebeli.

The mountainous country south of the latter river is unexplored, but it appears to be somewhat similar to the country to the north, with more jungle and extensive pasturages for cattle and camels.

The narrow valley of the Webi Shebeli, formed by the junction of the Errer and Burka, is shut in by precipitous hills of, apparently, ferruginous sandstone; it appears to be fairly well wooded with groves of dum palms fringing the banks. 30 miles below the junction the valley opens out, more particularly on the left bank. At Imi begin the alluvial flats, some 1 to 3 miles broad, from which steep bluffs, some 800 feet high, rise to the bare or bush-clad plateaux above. These alluvial flats have a dense population of negroid origin, and are extensively cultivated, chiefly with jowari. There are many grassy stretches of pasturage on which numerous cattle and camels graze, and which away from the villages are interrupted by a jungle of tall trees and dense undergrowth.

These alluvial flats continue through Bari and the Hiran country to the edge of the Juba-Shebeli plateau, and then, in Italian Somaliland, open out into wider alluvial plains, in which the Shebeli eventually loses itself before it can reach the sea.

At the junction of the Errer and Burka the Shebeli is, in the rains, a deep river, some 80 yards wide, with a current of 5 miles an hour and over; 6 miles lower it narrows to 40 yards. Below Mount Kaldash in the dry weather it is fordable for men, horses, and camels, but its banks are steep and require cutting away. At Imi it has a depth of 3 to 7 feet, a breadth of 100 yards, a bottom of sand and mud and shelving banks. At Karanle its current is rapid and its breadth 90 yards.

It is said to divide into three branches some three days above and to unite two days below Bari, which is on the Huddi branch, where the width is 50 to 60 yards. At Barue, some 200 miles lower, the width is but 30 yards, the current 2 to 3 miles an hour, and the banks, 8 to 10 feet above the water, are clean cut.

The gradual decrease in width is worthy of notice. The river is subject to sudden changes of level; above Imi a rise or fall of 1 to 2 feet in 24 hours does not appear to be unusual; while at Bari, within a week from being nearly dry, it became impassable except by raft.

The valley of the Fafan is well cultivated, particularly around the numerous tarigas which have been established near it. But in the rains the inhabitants are forced by the floods to drive their cattle and camels to the hills to the west and to the plateau to the east.

(*b*) *Ogaden.—The Marehan Plateau country of the east* lies south of the Haud and north of the Webi Shebeli, and is bounded on the west by the Fafan and on the east by a line which runs from, approximately, the junction of the Eldairi with the Shebeli to the Galkayu Wells.

Except along its outer edges it is a barren elevated plateau of rocky and disintegrated limestone, generally open, but occasionally interspersed with thorn jungle.

The eastern edge is a mixture of stony plain, khansa bush, jungle, and pasturage; it is the meeting line of the Marehan and of the Hawiya from the south. Water is found at only wide intervals, some three to five days' march, both within the plateau and along its northern edge. But

along its other sides water in fair quantity is found either in wells on the west, in the Shebeli and its affluents on the south, and in wells or pans on the east.

Italian Somaliland.

Italian Somaliland may be divided into—

(*a*) A maritime plain, which runs eastwards from Bandar Ziada to Cape Gardafui, and thence southwards to the Juba River.

(*b*) An elevated interior plateau, the seaward crest of which forms a broken series of maritime ranges and which descends gradually southwards to

(*c*) An alluvial plain that stretches inland from the maritime plain along the lower Webi Shebeli.

(*d*) The plateau country between the latter and the Juba Rivers.

(*a*) *The maritime plain* extends from the Anglo-Italian frontier eastwards to Cape Gardafui in a low sandy belt, varying from 200 yards to 5 miles in width, and scantily covered with a stunted vegetation of marine plants, acacias, and other thorn bushes. In places it is interrupted by scarped rocks and rocky points and hills, especially east of Alula, and between Bandars Khor and Maraya is but a narrow beach backed by a steep limestone range. In the broader portions it forms low sandy hills or plateaux, and south of Bandar Alula becomes swampy and broken by lagoons. A few watercourses intersect it, but these are generally dry; water is, however, plentiful, as too are sheep and firewood, at all but a few of the coast villages.

From Cape Gardafui southwards the maritime plain continues a narrow strip of sand, scantily covered with bush, and rising gradually to the foot of the maritime range. As far as Ras Ali Bash Kil it is often broken by rocky bluffs and ranges; south of that place, as far as the Khor Hashiri or Darror, it is continuous and increases gradually in width from 1 to 5 miles. From the Khor Hashiri to the Nogal Valley it is a narrow, broken, rocky, coralline stretch, 200 to 400 feet in height, with occasional patches of drift sand, and fairly well supplied with water.

From Illig southwards to 7° N. the plain continues the rocky coralline formation, but around Cape Garad are extensive pasturages which, mingled with occasional

patches of vegetation, then extend as far as Obbia between the rocky foot hills of the maritime range and the low sandy strip, interspersed by sand-dunes, that borders the coast.

Numerous herds of camels and flocks of sheep and goats are seen on these pasturages, of which the most extensive are at Lagakalaka and Obbia.

A few miles south of Obbia the maritime plain, a succession of sandy hills and plains, with occasional pasturage and cultivation of durra and beans, rises to an interior sandy, undulating plain of similar vegetation, but with also wide belts of dense jungle. This interior plain stretches apparently from the Marehan Desert on the north to the alluvial plain of the Webi Shebeli on the south-west, and behind Mogdishu is continued southwards by the maritime plain which, gradually changing from white to reddish sand, is at first bare, but from Brava to the Juba becomes covered with a stunted bush. The whole of the maritime plain south of Obbia is well populated, and camels, sheep, and goats abound.

(*b*) *The interior plateau.*—The northern crest of the interior plateau, consisting of a series of flat-topped limestone mountains, covered with frankincense trees, runs from the Dagan Valley parallel to, and as a rule not more than 5 miles from, the coast.

Of these mountains the most important are:—(1) The Jebel Hantara, 5,000 feet, from which a lower range, 800 to 1,500 feet, runs westwards along the coast to Ras al Hamar, 18½ miles; (2) Jebel Hesmath, 3,800 feet, 10 miles east of J. Hantara; (3) Jebel Maraya, 4,000 to 5,000 feet, from which a lower range, 1,500 to 3,000 feet, falling almost into the sea, runs south-westwards for 25 miles; (4) The Suwarkerun Mountains, which run south-eastwards to Gardafui, where they combined with the Gurihal or Girdifo Range. The latter faces the Indian Ocean and, turning north-westwards along the Abayere Valley, forms the southern edge of the Suwarkerun Plateau. Up the Abayere Valley there runs a track from Bargal to Alula, which crosses the Mulog or Jihiss Plateau, 4,500 feet, the watershed between the Indian Ocean and the Gulf of Aden.

Between the Suwarkerun Mountains and Jebel Maraya lies the J. Godob Range, which forms the main crest of the

plateau; but north of it is also a high limestone plain which descends precipitously to the west and north and is intersected by the Khor Galweina, a river, probably navigable, which, rising from the Mulog Plateau, flows through a gorge, 900 feet wide and 250 feet deep, to the Alula Lagoon.

Along the Indian Ocean from C. Gardafui to Bargal the seaward crest, 3,000 feet high, is rarely more than 4 miles inland, and descends in a series of deep precipices to the maritime plain, or sometimes to the sea itself. From Bargal the Gor Ali Range runs westwards to Bandar Khor, and forms the southern edge of the plateau of the Osman Mahmud tribe. Close to Bargal this range turns southwards to the Gengado Peaks, a spur which sheds the water by the túg Weina to the Gulf of Aden and by the Wadi Dabanl to the Indian Ocean, and which also connects with the plateau of the Isa Mahmud to the south. From Bargal southwards the main crest diverges south-westwards under the name of the Suleiman Mountains, 2,700 feet, which, uniting with the El Mashad, forms the northern boundary of the Darror Valley.

Parallel to the Suleiman Range runs the túg Jijail, south of which is a lofty stony plain, separated from the sea and the Darror by the Sehau Mountains or J. Milhan, a table-topped range, at least 700 feet high. South of the Darror Valley the continuous line of the Karkar Hills rises rapidly to a second limestone plateau, which, bounded on the west and south by the Nogal Valley, falls eastwards, at a few miles from the sea, to the coralline maritime plain by broken chains of steep, rocky, flat-topped hills, 1,500 to 2,000 feet, from which numerous deeply ravined and, as a rule, dry watercourses find their way to the sea. This stretch of maritime hills, beginning in detached or continuous conical hillocks of friable sandstone, rises to arid, stony plains of limestone and undulating plateaux with thickets of acacias, aloes, and the like; then follow in succession large tracts of pasture in a chalky clay, rich vegetation, and stony hills as far as the Wadi Darimo. From this place stony, cheerless, boldly undulating plateaux with wide zones of forest extend to the Agdaldanshe Mountains, south of which an arid and rugged country of basalt outcrop and scanty water supply—except for the luxuriant valley of the Wadi Dugaloho—stretches to the Nogal Valley.

South of the latter the hills gradually lose the boldness of outline which characterizes them further north. The rock still outcrops, but is frequently interspersed with sand or sand and clay. The interior plateau becomes more diversified and undulating; good pasturage alternates with sandy tracts, now open and again covered with sirman bush or jungle, while rocky patches are less frequent; water becomes more plentiful, but still is often only to be found at intervals of 25 to 30 miles. Approaching Obbia from the north a succession of sandy hills extend inland for some 20 to 30 miles, while inland beyond them lies an elevated diversified plain of white sand, which at 50 miles is varied by a red clay. Some few miles south of Obbia the sand hills fall away gradually to the interior plain, already described, in which the maritime plain merges.

(c) *The alluvial interior plain.* — The alluvial plain extends for some 3 to 10 miles along each bank of the Webi Shebeli from Burfule, where the river leaves the plateau country, to the swamp, north of the mouth of the Juba, in which the river is lost. The plain is densely populated, more particularly about Shidli, Geledi, Galwin, and behind Brava, and is exceptionally fertile.

Geledi, 10 days by camel from Mogdishu, is especially worthy of mention, for not only does the latter port draw all its supplies from the Geledi district, but also the town of Geledi stands at the main crossing over the Shebeli of the caravan routes between Lugh, Bardera, and Mogdishu.

The district has a population of some 15,000 negroid Ogadens, produces two crops of durra and millet and a little maize, is rich in cattle, sheep, goats, and donkeys, and has many camels. Millet is grown in sufficient quantities not only to supply Mogdishu, but also to be exported. Donkeys, though small, are very powerful. At the village of Geledi the Shebeli has a width of 30 yards, and a current of 2 miles an hour; 1½ miles furthur up it is 20 yards wide, and has a current of 1 mile an hour, but is deep. At many other places, however, including Geledi, the Shebeli is fordable in dry weather. At Saballe, behind Brava, the Shebeli is 48 feet wide and 9 feet deep; in dry weather passage is effected by a canoe hollowed out of a tree trunk, and by other canoes of planks, sewn together with vegetable string. The passage should not be attempted in the rains, as the river then forms several branches; in this season the better passage is at Kumfia. Oxen, camels, and donkeys are fairly numerous along this portion of the river, but in the treeless grassy country to the north of Saballe, a fly, similar to the tsetse, is prevalent in the dry weather, and camels are then driven to the pasturages in the sand hills along the coast. Sesame muindi (white maize) is the chief crop.

The country lying between the Shebeli and the foot of the Juba-Shebeli Plateau appears to be composed of a friable soil, generally covered with thick jungle. Water is fairly plentiful in the south-western, but scarcer in the north-eastern portion. Good water from wells, 30 to 40 feet deep, is obtainable at Dafit, an important village at a junction of roads, with some durra cultivation.

(d) *The Juba-Shebeli Plateau.*—This plateau, a rough square of sides 160 miles long, extends from the Abyssinian foothills in the north-west to the alluvial plain of Italian Somaliland on the south-east, and descends somewhat abruptly in an easterly and westerly direction to the Shebeli and Juba respectively. Adjoining the north-western border, the country is a sterile, mimosa-covered plain, thinly inhabited by a portion of the Afgab sub-tribe of the Adoni. Of its eastern portion little is known, except that the inhabitants are of the Aulihan and Rahanwein tribes. The western crest is well populated, especially in its central portion, near Revai, which is an important junction of caravan routes and the chief town of Baidoa, a perfectly flat district 1,600 feet above the sea, with many villages, a black clay soil, cultivation of durra, cotton and beans, and numerous artificial tanks of rain-water. Between Revai and Lugh are alternate stretches of thick bush and luxuriant vegetation, while south of the Baidoa district the soil is red clay or sand, cultivation (durra and a little cotton) becomes rarer, and pasturage, tall forest trees, such as the baobab, and dense bush more frequent. Between the western crest and the Juba are elevated undulating plateaux, arid and sterile, and studded with thorny bush. These plateaux descend southwards to the alluvial plain, and for some 50 miles north of Bardera along the Juba, break into rocky, sterile, sharp-peaked hills. The lower banks of the Juba are clothed with thick forests, which, at some 40 miles from the sea, become interspersed with durra cultivation and pasturage, backed by belts of thorny bush.

Between Bardera and Marille cultivation ceases, but some 10 miles below the latter town grassy spaces and large forest trees reappear. From Marilla to Lugh the banks are covered with durra, between which and the sterile plateaux runs a dense belt of jungle.

NOTE ON SURVEY WORK IN SOMALILAND.

During the Operations in 1903–4 a Survey Section, under Captain G. A. Beazeley, R.E., carried out some triangulation, plane tabling, and traverses.

The line Berbera, Bohotle, Galkayu, Obbia, and also Galkayu to Galadi was fixed by a combination of triangulation, plane table traverses, and prismatic compass traverses checked by observations for latitude.

Areas round Berbera, around Wadamago, in the Nogal Valley, and eastwards from Las Dureh to Las Khorai were also surveyed.

Railway surveys have been run from Berbera to Harrar, and from Berbera to Argan.

Both before and during the operations a large number of route and other sketches were made by officials and travellers.

NOTE ON THE MAPS PREPARED BY THE TOPOGRAPHICAL SECTION, GENERAL STAFF.

The index map (pasted inside the front cover) shows the sheets of the 1 : 1,000,000 and 1 : 250,000 series of Africa which have been published, and which refer to Somaliland, and also the areas covered by T.S.G.S. 1781 and T.S.G.S. 1675.

The 1 : 1,000,000 sheets are out of date.

The 1 : 250,000 sheets, T.S.G.S. No. 1781 and T.S.G.S No. 1675, have been brought up to date (April 1907).

CHAPTER II.

THE COAST.

British Somaliland.

The coast of British Somaliland extends from Loyiada, 14 miles north-west of Zeila, in a south-easterly direction for 100 miles to Jebel Elmas, and thence trends almost due east for 45 miles to Berbera, whence it runs in a generally E.N.E. direction for 290 miles to Bandar Ziada, 49° E. Thus the total length of the coast is approximately 440 miles.

(*a*) *The coast line.*—The most important points, other than ports, along the coast are as follows :—

Ras Maskan, a low point 12½ miles south-east of Zeila, has several pools of fresh water from December to February. The shore between it and Zeila is low and swampy, but south of it becomes firm and sandy.

Khor Maduji, 5½ miles south-east of Ras Maskan, is frequented by small boats from Berbera, Zeila, and Tajura for fire and building wood.

Khor Kulangarit, 25 miles south-east of Zeila, can only be entered by small boats at high-water. It is the south-eastern boundary of the White Esa. The coast from this neighbourhood to Berbera has not been surveyed, and, although there is said to be no danger off shore, ships could not come within 6 miles of it.

The 20-fathom line is 7 miles off Kulangarit, but is only 1½ miles off Jebel Elmas, a distance which it maintains as far as Berbera. Between the latter and Zeila a heavy surf makes communication between ships and shore difficult, and sometimes impossible in the height of the monsoons, but in fair weather buggalows can land stores and animals at many intervening points.

From Ras Tamar (Berbera) the coast trends E.N.E., viâ Ras Katib (45° 20′ E.), to Ras Khanzir, 56 miles. It is low and sandy, with convenient depths for anchorage between the two last-named places, over sand and shells inshore, and sand and coral further out.

From Ras Khanzir a low sandy concave coast forms the Ghubbet Ankor, a bay with sandy bottom, and further east the Ghubbet Raguda, in which the water is very deep, and a considerable swell makes landing dangerous, even in the north-east monsoon.

Ras Katib (long. 47° 10′) is 140 miles east of the other Ras of the same name. The shore from Ras Khanzir is throughout low and sandy, except for a rocky point formed by the Jebel Mait, and for 4 miles of cliff west of Ras Katib.

Mait Island, 6 miles from the mainland, is a barren rock, 430 feet high, covered with guano, which is collected and exported in native boats.

Ras Hambais, 9 miles east of Ras Katib, and the same distance west of Bandar Hashau, is a low sandy point.

Bandar Hashau, a small village close to the beach, marks the western boundary of the Warsangli country, which ends in the east at Bandar Ziada.

Ras Sora (Sorreh), 17 miles east of Ras Hambais, is a low bluff, continued for some 3 miles to the eastward by low cliffs. Thence a low sandy shore, with bushes at a short distance from it, extends for 27 miles to Ras Galwein, and forms a bay, 3½ miles deep, called Ghubbet Kalwait, with the village of Koshe at its head.

The 10-fathom line runs about ¾ to 1¼ miles off shore throughout this portion, a distance which it maintains from Ras Galwein to Las Khorai, 20 miles. Between these two places, which are connected by a track, the shore is low and sandy, but inland soon rises to a range of undulating hills.

North of Las Khorai is Ras Gori, a low sandy point of several small hills, with a swampy khor of brackish water.

The coast then trends north-east for 32 miles to Ras Adaddo, and is slightly concave, with small projecting rocky points and intervening bays. Soundings are irregular, and anchorages in 5 to 10 fathoms are indifferent. The shore, which is low, with an occasional hill, is traversed by a path from Las Khorai to Durduri, and thence inland.

Durduri village lies 10 miles east of Ras Gaham (Gahm), and 5 miles east of the low sandy Ras Dorfilla (Dofghilli), whence the path runs over arid, broken ground, and past a brackish lagoon. The village is on the right

bank of the Wadi Melo, a little stream with luxuriant vegetation and abundant water.

Ras Adaddo (Hadadeb) is a rocky point, 300 feet high, backed by a cluster of reddish hills, 300 feet higher. From this point to Ras el Hamar, 40 miles, the coast is slightly concave and low, with occasional hills. Vegetation is poor, and the soil in places consists of coral and shells. Soundings are regular but deep; the 10-fathom line is ½ to 1¼ miles off shore, and the bottom is rocky close in and sand, mixed with shells sometimes, further out.

Between Ras Adaddo and the small village of Elaiya (Alayeh) is a black tableland of basalt and volcanic rock, 300 feet high, which borders the shore. From Elaiya to Bandar Ziada, 12 miles, the country is occupied by the numerous Dabeis sub-tribe.

(b) Harbours, ports, and anchorages.—Zeila, the only port, and that a poor one, except Jibuti in the Isa Somali country, is a town of about 50 stone houses, 600 huts, and narrow and tortuous streets, built on a narrow spit which is nearly level with the sea, and becomes an island at high tide.

In the south-west monsoon the heat is excessive, and more than half the natives migrate to the interior highlands, but in the trading season the population is 15,000.

The export trade in coffee, dye, ghi, hides, skins, ostrich feathers, gums, and a little ivory is with Aden; sheep can be procured, but water has to be brought in mussocks from Takusha, 3 miles south-west of the town. A pier or causeway, inaccessible after half ebb, runs for 500 yards north-west from the custom-house, and would have to be prolonged for ¾ of a mile to reach 3 fathoms.

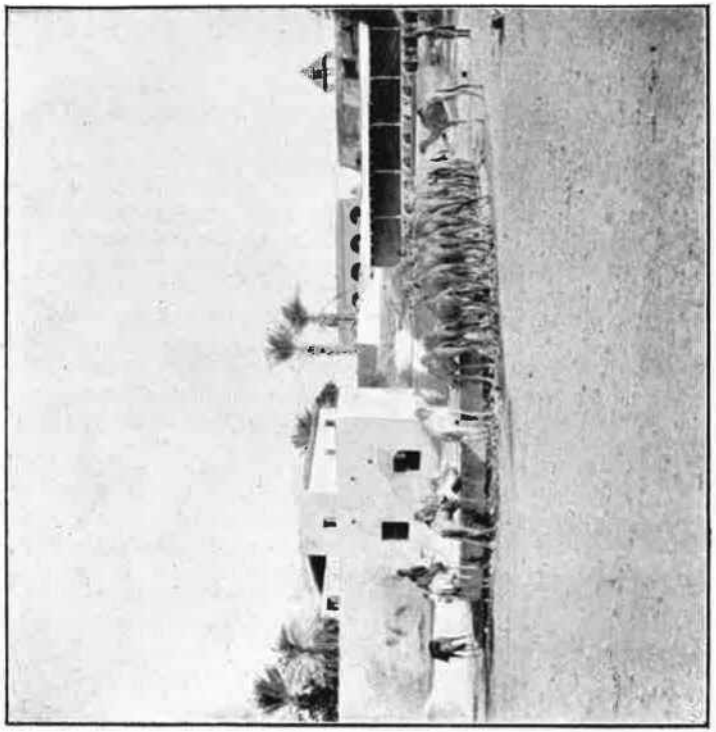
The roadstead, 1 mile from north to south and 3 from east to west, affords anchorage in at least 3½ fathoms over mud and sand, about 1½ miles off shore, but the best is in 4 fathoms, 2 miles north of the town. In the north-east monsoon a moderate swell sets in and increases towards afternoon.

Bulhar.—The town, standing on the beach and surrounded by a dilapidated stockade, almost entirely washed away, consists of the Residency—a double-storied building of coral—the quarters of the native troops and police, a defensible jail, and some stone houses all along the beach

and native *cutcha* houses in regular blocks and streets, separated from the stone portion by a clear space of 100 yards. The permanent population, Ayal Yusuf clan of the Habr Awal, numbers 3,000, increased in the trading season to 10,000. There are a number of brackish wells along the beach, but no good water supply, except when, after very heavy rain, the Issútugan cuts its way to the sea.

Bulhar has an open roadstead where the surf is so heavy during the monsoons, especially the S.W., as to render landing very difficult and sometimes impossible, but at other times an anchorage can be found in 6 to 7 fathoms, ½ a mile from shore. Native reports say that the wind blows for seven days on end, during which landing is impossible, as it is often in March until evening. A surf-beaten spit, which small vessels can cross at high tide, affords an inner anchorage. There is a fixed white light, 19 feet above the sea, visible 8 miles.

Berbera.—The town of Berbera, occupied by the Egyptians in 1875 and by Great Britain in 1884, is built in two portions, ¾ of a mile apart. To the east, at the inner end of the harbour, is the native town, rebuilt since a great fire in June 1888, and consisting now of mat huts, an increasing number of stone buildings almost all along the sea, a few mosques, a pier, customs-house, and its own drinking tank, all laid out in broad streets. It is low-lying and was exposed, until the construction of a large circular embankment, to floods during the burst of the rains of the north-east monsoon. The official town, Shaab, consists of a number of stone buildings, including court-house, treasury, jail, Residency, and officials' quarters, and is situated on high ground, which drops steeply 20 to 30 feet to the mud and coral beach, on which. just below the Shaab, is a large stone water tank. The Shaab contains one shop, that of Messrs. Cowasjee, Dinshaw and Brothers, where European provisions, &c., can be purchased. Between the native and official town are the police quarters, and west of the latter a detached fort, from which to the Shaab pier, which is described below, runs a trolley line. The surrounding tribe is the Isa Musa Habr Awal; the population, 5,000 in the hot weather, is



BERBERA—THE SHAAB TANK.

increased to 25,000 to 30,000 in the trading season. Water, somewhat brackish, is brought by pipe from Dubar,* 8 miles, laid on to the pier, where it gives 237 gallons per hour, and to tanks in the town, having a cubical capacity of 19,350 feet, of which the Shaab tank contains 10,500. The heat is intense in the south-west monsoon, but the climate is not unhealthy, and in the north-east monsoon it is comparatively cool. A little of the trade is with the Red Sea and Persian Gulf, but the bulk is with Aden, 150 miles, which obtains from Berbera almost all its supply of cattle and sheep, which are plentiful.

The harbour is the only one along the Somali coast where vessels can lie in all weathers and where cargo can be easily loaded or unloaded. It lies E.N.E. and W.S.W., and is formed by a low curving sandy spit, which extends $1\frac{1}{2}$ miles westward, and terminates in the steep Tamar Point. It is 1 mile wide at the entrance, which is free of all dangers, and has a depth of 11 to 13 fathoms, which decreases gradually to 5 fathoms at 400 yards from the shore. It affords good anchorage and complete shelter from all but westerly winds in a space $1\frac{1}{4}$ miles long, 300 to 1,000 yards broad, and 4 fathoms deep; steamers can enter and leave at all times, but buggalows have been occasionally driven on shore, and in the south-west monsoon cannot leave till the evening.

Off the official town is a screw pile pier of wood and iron with $1\frac{1}{2}$ feet of water at low and 10 feet at high tide at the head of the pier. The Aden mail boats and buggalows come alongside, and ships of 2,000 to 3,000 tons can approach within 250 yards in 30 feet of water. An extension of the pier by 100 yards would give a depth of 18 feet at low water. A pier of coral stone, used by buggalows at high but unapproachable at low tide, runs from the customs-house in the native town into the harbour at its head, which is shallow and apparently silting up.

For over-sea communications, *see* page 53.

$2\frac{3}{4}$ miles west of the official town is a disused lighthouse, 70 feet high, but a light is hoisted on a pole at its foot. There are three fixed lights, viz., one white, 49 feet high and visible 8 miles in clear weather; the other two red, visible 2 miles; Tamar Point is marked by a beacon.

* Water supply data, *vide* page 256.

Siyara, 20 miles north-east of Berbera, has good wells 60 yards from the beach, and an unprotected anchorage in 10 fathoms ½ mile off shore.

Anteral (Ed Darad) is a small village of one stone house and a dozen portable huts, 25 miles from Siyara. It does a large trade with Aden in sheep, and affords good shelter to small craft from easterly winds as well as a tolerable anchorage in 6 to 8 fathoms at 1 to 1½ miles from the shore.

Karam, distant about 50 miles from Berbera, 124 (sea) miles from Aden, and four days from the Dolbahanta country, is one of the most important Habr-Toljaala villages. It has an anchorage west of the village in 4 to 10 fathoms, sandy bottom at 1,200 to 1,600 yards from the shore, with tolerably good shelter from easterly winds.

Ankor, 43 miles from Karam, is an open roadstead, where landing is impracticable at low water. In January 1904, a force of 270 Somali Levies was landed here with considerable difficulty by means of buggalows plying between the shore and the transport. There is a small village of the same name, consisting of a collection of Somali huts, and containing about 150 inhabitants. It is situated just above high water mark on some rising ground, and brackish wells supply the necessary water. The village contains a small stone blockhouse built in 1904. About a mile inland runs the shore track from Laskhorai and Heis to Berbera. Occasional caravans proceeding to and from Berbera call at the village. Trade is practically nil, buggalows calling at intervals only, with rice and dates from Berbera, and exchanging these commodities for charcoal, which is worked at in a spasmodic manner by the people of the village.

Hais, 50 miles from Ankor, is fronted by a reef which affords protection to dhows. North of it is Hais Island, between which and the mainland is a reef that affords fair shelter in the north-east monsoon in 5 fathoms.

Mait, the burial place of the Sheikh Ishak, stands on a small plain and takes its name from the *mayet* wood, long thin rafters of which are used in the construction of native houses and are exported to Aden. Its anchorage is sheltered from all winds E. of N.E. by N.

Dabero, at the foot of Mount Gondoudin, an off-shoot of the Al Sangeli Mountains, consists of a fort of mud brick, a ruined mosque, and six huts, with a very fluctuating population. A considerable cattle trade is done here with Aden, and buggalows can anchor close to the shore.

Kurayat, 4 miles west of Las Khorai, is a small mud fort.

Bandar Gori, or Las Khorai, is the principal town of the Warsangli, and the chief residence of the Gerad. It is occupied by the Ogais Lebbay and Ayal Fateh sub-tribes. It consists of two villages, 600 yards apart, three large and six small mud forts, all very dilapidated. Each village consists of 20 to 30 long, flat-roofed and very large matted constructions, partitioned off to contain half-a-dozen families, and unlike anything else on the coasts.

Good and abundant water is obtainable at a depth of 12 feet from an old and well-built well. The sea abounds in fish; cattle, sheep, and firewood are procurable. Sheep and gums are exported to Aden and Bombay, and guano to Macalla.

There is a considerable caravan trade to the interior to the Dolbahanta and Mijjarten tribes; donkeys are the best means of transport across the high mountains. The roadstead is open and suitable for native craft only; the anchorage is rocky, and the best is probably in 7 to 10 fathoms, ¾ of a mile off shore. For three months of the monsoon, June especially, the surf is so bad that buggalows are taken to Berbera for safety.

Bandar Gaham, west of the Ras of the same name, lies 10 miles from Las Khorai. It is a miserable village of 10 huts, with a mud fort and mosque, occupied by the Adan Said and Ayah Fatah sub-tribes, who trade in gums. Near by are two other small villages and several inlets of the sea in which the water is fresh after rain.

The anchorage off these villages is bad, being in 12 fathoms close in shore and rocky bottom.

Bandar Ziada (Ziadeh or Gaou), 140 miles from Cape Gardafui, is a small town consisting of a mosque and white-washed citadel of stone, some mud buildings for storing gum, and brown mat huts.

It carries on a large trade with Aden in frankincense and gum, and is visited by caravans from Mudug and elsewhere on the Indian Ocean.

It has an indifferent anchorage in rock and sand, but boasts a dock for repairing buggalows.

It is the most easterly post of the Warsangli, who are separated from the Mijjarten by a lagoon—3½ miles to the east—into which flows a stream navigable by boats for 3 miles. Both east and west of the town a small stream enters the sea after rains.

French Somaliland.

(*a*) *Coast line.*—The coast of French Somaliland extends from Ras Siyan, a volcanic peak, 442 feet high, of reddish colour, to Loyi Ada, a distance of some 190 miles.

The most important localities, other than anchorages, along it are as follows :—

Jebel Jan, 13 miles south of Ras Siyan, and the highest of three or four lofty ranges of table mountains; off it is an exposed anchorage with foreshore free of reef.

Ras Al Bir, a craggy point 70 to 100 feet high, with a fixed white light 157 feet above sea level and visible for 15 miles.

Gulf of Tajura, extending inland in a S.S.W. direction for a distance of 55 miles, inclusive of the Ghubbet Kharab at its head, and having a breadth from Ras Al Bir to Ras Jibuti of 25 miles. On its northern shore are the villages or settlements of Obok, Tajura, Ambabu and Sagallo, all in Danakil, and on its southern Jibuti in the Black Isa country.

Sagallo, a ruined village, affords excellent grazing, to which the natives resort when pasturage is scarce further inland.

Ghubbet Kharab, an irregularly shaped basin, 12½ miles long and 5½ miles broad, is enclosed by precipitous limestone cliffs, 400 to 2,000 feet hign, on the north and south, while the whole of its western shore is formed by volcanic lava, extending 2 to 3 miles inland to the foot of a range of sand hills 200 to 300 feet above the plain.

The boundary between the Danakil and Black Isa runs inland in a south-westerly direction from a point in the southern coast of the Ghubbet Kharab, south-east of Parrot Island.

A bold precipitous coast, with 20 to 50 fathoms of water close in shore, runs from Ghubbet Kharab to Manga Duffa, 5 miles to the west of Ras Jibuti, but from Manga Duffa through Jibuti to Zeila the shore is low, swampy, and covered with mangrove jungle.

(*b*) *Harbours, ports, and anchorages.*—Obok, 4½ miles west of Ras Al Bir, stands at the mouth of an inconsiderable stream, which dries up in the summer. From 1884 to 1887 its population increased from 30 to 700, but, owing to the development of Jibuti, it has lost its importance. It is now practically abandoned by Europeans; only the remains of the old town and penal settlement remain, and a native population of about 300. It is not unhealthy, but although the temperature of the winter months is supportable, precautions against the sun are always advisable. Beef of inferior and mutton of fair quality are obtainable; a few vegetables are grown for the troops. The well water is only suitable for washing; a condenser, capable of supplying 20 tons daily, is used for Europeans.

The harbour is provided with a signal station, two beacons and two piers, one of iron 400 yards long. It lies east of Cape Obok, and is protected by outlying reefs, 1¾ miles off shore, which divides the inner space into two ports, the south and the north-east, connected by a straight, narrow channel, 8 to 10 fathoms deep.

The north-east port is little used, although it has a larger space and more convenient depths of water, 5 to 8 fathoms, than the south port. The latter affords anchorage for four to five vessels in 6 to 17 fathoms, is conveniently near the settlement, and allows of small vessels beaching on its north-west side; it is protected from all but south-westerly winds, which blow strong at times and render the port dangerous.

Tajura, the seaport of the Danakils and residence of their Sultan, contains 1,000 inhabitants, 200 huts and two coral houses, has a rude fort at the back, very good water in wells sunk 10 feet, and affords anchorage, in the north-west monsoon only, to native craft in 10 to 14 fathoms.

Ambabu, 10 huts in a groove of trees, has numerous herds of cattle and sheep, and affords a fairly good anchorage in 12 to 14 fathoms, mud, or in 3 to 4 fathoms close to the beach.

In *Ghubbet Kharab* there are four anchorages, in 7 to 17 fathoms, over sand and mud, of which the Etoile affords protection in all winds to big ships.

At *Ras Eiro* is a doubtful anchorage in 5 fathoms, protected from east winds. *Khor Ambada*, further east, has, however, a fair anchorage in 12 to 14 fathoms over sand and mud, sheltered in both monsoons, and a spring of water, which is covered at high tide.

Jibuti, a small but growing town with several well-built houses, stores and shops, clean streets and a healthy reputation, is situated 1½ miles south of the low, rocky point of Ras Jibuti. It has a considerable and growing trade with Abyssinia and Harrar; sheep and cattle are cheap and plentiful, and good water is obtained in abundance about 1½ miles from the town, and is to be conveyed to it by pipes. 4,000 to 5,000 tons of coal are kept in stock, and are partly stored in lighters which supply vessels.

The anchorage space for ships, 1 mile long and ½ a mile broad, is enclosed by reefs and well sheltered, and affords good holding ground of mud in 4 to 7 fathoms. The harbour has two piers and two fixed lights, one white, 105 feet above high-water and visible at 15 miles, one red, 64 feet high and visible at 9 miles, while in the town are two other white lights, still more powerful. A third substantial pier is also under construction.

Jibuti is the headquarters of French Somaliland, and has a population of 10,500, including about 500 Europeans.

A table of arrival and departure of steamers is given on page 55.

For Jibuti–Harrar railway, *see* page 56.

Italian Somaliland.

The coast line.—The coast of Italian Somaliland comprises the Mijjarten and the Benadir sections. The former runs from 3½ miles east of Bandar Ziada in an E.N.E. direction to Cape Gardafui, and thence S.W. to Cape Awad, 6′ 13° N., whence the Benadir coast continues in the same direction to the mouth of the Juba River. The length of these sections are as follows:—

Mijjarten:	Northern, 150 miles Eastern, 520 (app.) miles	Total, 1,200.
Benadir:	„ 530 „ „	

(*a*) *The Mijjarten coast.*—From the frontier eastwards to Ras al Hamar the coast is low, sandy, and backed at first by a low range and then by a plateau of similar height. From Ras el Hamar a sandy, slightly concave shore trends north to Ras Hantara, a high rocky cape, distant 18½ miles. Soundings with one exception are regular and gradually increase to 20 fathoms, a depth which is found at 2 miles off the sandy bush-covered strip, which extends for 10 miles from Ras Hantara to Ras Korai, another rocky point. From the latter to Bandar Maraya, 57 miles, the shore is bold, with no shallow water except off Bandar Khor; the coast is again slightly concave, with rocky points and intervening bays.

From some 8 miles eastward of Bandar Khor the sandy coast is replaced by a precipitous ridge for 25 miles. 3 miles west of Bandar Maraya the shore is again flat and sandy, and so continues for 16½ miles to Ras al Fil, and thence for 10 miles to Ras Alula, a low and sandy but prominent cape, east of which is Khor Galweni, an extensive mangrove lagoon, accessible to small boats at all times, but to buggalows only at high tide. From Ras Alula the coast line runs E.S.E. for 31 miles to Ras Asir or Gardafui. Soundings increase rapidly in depth, and the maritime plain is limited to two or three spaces, intervening between the hills, 1,600 to 1,800 feet, which approach close to the sea.

Cape Gardafui, the Portuguese corruption of Girdifo—the Somali name for the neighbouring high plateau—is locally known as Ras Asir. It is a precipitous, rocky, cape, 780 feet high, of a whitish-brown colour, and is often enveloped in haze. In the south-west monsoon a dangerous current sets north and west close round the cape.

At Cape Gardafui the Mijjarten coast strikes almost due south to Ras Hafun, a distance of 97 miles, with intervening points, viz., Ras Jard Hafun (or Shenarif) and Ras Ali Bash Kil, distant 12 and 42 miles respectively from the Cape. A sandy beach runs south to Ras Jard Hafun, a bold, broken, rocky point 400 feet high, and then curving S.S.W. and almost due east to the precipitous bluff headland, also 400 feet high, of Ras Ali Bash Kil, forms the Ghubbet Binna, a bay with regular soundings and no dangers.

From Ali Bash Kil the shore continues low and sandy; soundings shoal regularly and gradually, and the 10-fathom line increases from 500 yards off Ras Ali Bash Kil to 4 miles off North Hafun Bay.

Between the latter and Cape Gardafui are the villages of Tohen and Bargal. The first is a meagre collection of huts with a fairly numerous migratory population, which encamps amongst the bushes that border the túg Tohen on which the village stands. The túg is as a rule dry, but near by is a small spring of excellent water which forms a small pond.

Bargal, a miserable village of a few mat huts and crumbling mud towers, with only 40 inhabitants, stands in a patch of green vegetation and is of importance as the residence of Nur Usman, the Mijjarten Prime Minister.

Ras Hafun, 8 miles from north to south and 12 from east to west, is a peninsula surrounded by sandstone or limestone cliffs which rise steeply from the sea to a height of 400 to 500 feet. Its interior, cut up by ravines and torrents, affords extensive pasturages to the camels, horses, cattle and sheep of the Ayal Fatha (Othman Mahmud), who in the dry season migrate to Saguladero (in the Darror Valley). A narrow strip of white sand, and in places of mud, 12½ miles long and 6 miles broad, covered with shora brush and camel grass, connects the peninsula with the mainland.

The Khor Hashiri (or Darror) enters the sea immediately south-west of Ras Hafun.

Thence to Ras Mabber or Cape Stand Off, a low reef-bound, surf-beaten cape, the coast is rocky, and apparently low but steep, as is the stretch from Ras Mabber to Ras el Khail, known to the Arabs as "Hazine" or "Rough Ground." The whole of this coast-line would appear to be surf-beaten like that further south. There are no known dangers off-shore, the water is deep close to Ras Mabber, and apparently so near Ras el Khail, or Horse Point.

The latter is a reddish rocky point, 400 feet above the sea, the southernmost of three cliffs, from which the northernmost, Ras Illig or Tooth Point, a sharp perpendicular point, 130 feet high, is distant 5 miles.

The latter forms the southern and Cape Bowen (Morigior Beduin) forms the northern extremity of Negro Bay in which are the mouths of the Nogal and the village of Illig.

From Ras el Khail to 7° N. the coast is high and rocky, and thence to Obbia low but steep, and throughout is beaten by a surf, practicable only for the local surf boats during the north-east monsoon, but in the south-west monsoon landing is at times impossible.

As far as Cape Awad (or des Baiscas) the coast is known to the Arabs as Sif-el-Tamil or "Low Coast." This point formerly marked the southern limit of the Mijjarten tribe. As, however, Obbia is now the headquarters of Yusuf Ali of the Mijjarten Royal House, the limit may now be placed at that town.

(ii) *Benadir coast.*—The coast, called by the Arabs El Herab or hilly country, from Obbia as far as Ras Aswad, is marked on the existing charts some 2 to 3 miles at its extremities and at its centre some 6 miles too much to the west. Depths of 20 to 30 fathoms are found 2 miles from the land, which rises in long gentle undulations to a height of 650 feet from a strip of sand and coral, some 20 to 50 yards wide.

From Ras Aswad, to a few miles north of Warsheik, the coast is a similarly narrow piece of sand, backed by low sand hills, which extend to that town, and fronted by lines of breakers from 200 to 1,000 yards off the numerous small projecting points, and with no outlying dangers except the Daphne, Ternate (Ternulo), and Warsheik banks.

Around Warsheik the coast is of black rocks backed by reddish sand hills, a formation which continues to Ras Awai (Awad ?), where it becomes low and sandy as far as Mogdishu, to north and south of which a line of reefs runs about a mile off shore. It then becomes bold with a few rocks, and is sterile and sandy as far as Brava, south of which are a succession of reddish sand-dunes, with, as a rule, surf-beaten ledges off shore.

(*a*) *Harbours, ports, and anchorages.*—(i.) *Mijjarten coast.* *Bosaso* or Bandar Kasim or Gasem, the most important market of the Mijjarten, is a town of four forts, washed by the sea at high tide, and 100 huts, which form

two quarters, viz., one for the Harti, *i.e.*, Deshishi and Osman Mahmud, and one for the half-caste Arabs. The permanent population numbers 500 to 600, increased to 1,000 during the trading season. Caravans resort to it from Kurkar, as well as from the Warsangli and Dolbahanta, and a considerable export trade is conducted with Aden in gums, frankincense, ostrich feathers, sheep, and ghi. It stands in an arid plain, backed by a distant mountain range, cut up by several torrent-beds, and studded with a few bushes. A track, connecting Bandar Ziada with it, continues east for 1½ miles and then strikes inland past the hot-springs of Bir Kolola. Anchorage in an unprotected roadstead is available at half a mile off shore, outside a coral bank in 6 to 8 fathoms over sand. Good water is obtainable in wells in all the forts: firewood can also be had.

Bandar Bad and *Bour Gaben*, occupied by the Deshishi (Nur Hassan) tribe, lie east of Ras al Hamar. The first is a small village, in the citadel, surrounded by sand dunes; a well at the foot of the mountains supplies good water. Bour Gaben is a wretched hamlet engaged in pearl fishing, and like Bandar Bad in the export of gums and frankincense.

Bora (Boreh), on the western side of Ras Khorai, is a somewhat important port of a few huts commanded by a fort, which, perched above the bed of a great ravine, also defends the Hesmath (Aïsema) gorge. At the foot of the Jebel of the same name is an outcrop of rock salt to which enormous flocks of sheep resort annually.

Gandalo (Gandela), a small village, also at the foot of Jebel Hesmath, consists of a large and fine mosque, two forts surrounded by some huts, and a few pisé or mud buildings for the storage of gum. The latter, as well as indigo and a grass, *aron*, used for mats, are brought by caravans from the Mie district by a route which skirts the Jebel. Water is deficient; snakes are numerous; and sharks attract the Arab fishers.

Bandar Khor, a town with a mosque and a circular mass of huts surrounding tombs, stands in an extensive plain which is backed by steep ground and falls to the

level of the shore at 1 mile inland. The town is situated at the junction of a branch torrent with the *tág* Wina, some 5 miles from the latter's mouth. Near by is a fort guarding the defile by which the caravan route leads to the interior and to Bargal on the Indian Ocean. The Wina is navigable as far as the fort for small boats at high water, but a sandy bar prevents access at low water. The bar is continued seawards for 1 mile by a sandy bank with 1 to 3 fathoms of water, beyond which is a good anchorage, protected from off shore winds, in 6 to 10 fathoms. The export trade in gums and frankincense is in the hands of Banyan traders. Water is procurable.

Bandar Maraya, one of the most important Mijjarten towns, contains the chief residence of the Sultan, whose Prime Minister is Governor of the place. It extends for nearly half a mile along the beach, at the foot of the Jebel Maraya, and contains over 200 houses (of which one quarter are of sun-dried bricks and the remainder of matting), the palace, three mosques and five forts, of which the chief is of pisé. A considerable trade in gums is carried on by Banyan traders. Cattle and firewood are procurable, and good, but slightly astringent water from a well at Eil Teaz, 2 miles distant. The permanent population is 600 to 700, but this number is doubled in the trading season, and is much reduced in the hot weather, when many migrate to the hills.

There is good anchorage 1,000 to 1,600 yards off shore over sand; the 20-fathom line is a mile further out.

Guesli and *Guersa* are two small villages with bad anchorages and dependent on Eil Teaz for water, although there are also wells at the second named. Guersa has 40 huts of lime and palm leaves, a pisé fort, and a mosque.

Bandar Filuk or Haapoo is a village of commercial importance, although small. It is situated at the narrow entrance to the Khor Filuk, a lagoon, 12 miles long, full of mangroves, and separated from the sea by a low narrow spit. This lagoon affords a secure refuge to buggalows at high-water. There is anchorage off Bandar Filuk in 6 to 7 fathoms, which deepens suddenly at 900 yards from the coast; a good anchorage protected from southerly and

easterly winds is also found in 5 fathoms at 1,200 yards from a small and deep bay close westward of Ras Filuk, or Ras al Fil, 7 miles N.E. of Bandar Filuk.

Bandar Alula, 31 miles from Cape Gardafui, is the most commodious port on the Mijjarten coast. Connected with the interior by a well-watered route, which runs solely through Mijjarten territory, it may in the future divert trade from Berbera. It consists of some 200 huts, and two three-storied loopholed stone forts situated on a narrow tongue of land, which divides the sea from the lagoon. The exports are gums, frankincense, sharks, and principally pearls sent to Bombay; sheep, cattle, and firewood are ordinarily procurable, but occasional droughts drive the two first-named into the interior; water is scarce at the village, but at Moya Bole, a few miles eastward at 100 yards from the beach, there are several wells with an unfailing supply of excellent water. The best anchorage is off the lagoon, in 9 fathoms on the edge of a coral ledge, some 300 to 800 yards from the shore, and is protected from easterly winds. Outside the lagoon there is a bank between which and the shore is an anchorage in 17 fathoms over sand. The lagoon itself can be used by small boats for 4 to 5 miles from the mouth.

Beride, a miserable village of half mud, half plank huts, lies near a lagoon of salt water in a hill encircled plain, and is frequented by the nomad Mijjarten.

Dama and *Olok*, neighbouring ports with anchorages in 8 to 10 fathoms, protected from southerly winds, are miserable villages frequented by fishermen from Arabia and Sokotra; water has, however, to be brought in mussocks by donkeys from the Wadi Tahom, 10 to 12 miles to the south. Turtle, cattle, small sheep are obtainable, and fish are plentiful and good.

(ii) *Eastern Mijjarten coast.*—*Binna*, a small hamlet in the bay of the same name, affords good anchorage in not less than 7 fathoms and sheltered from southerly winds.

Hunda, a straggling collection of huts, portable gurgis and mud, 2 miles long, has a population varying according to season; it is situated about 20 miles N.W. of Ras Hafun and is exposed to high, inclement winds. It exports

frankincense, shark-fins, ambergris and matting, and receives in exchange corn from Zanzibar, and cloth and dates from Macalla and Shehr.

Hafun North Bay affords anchorage during the S.W. monsoon in 7 to 10 fathoms over hard sand with bad holding ground, and a doubtful shelter to large ships owing to the heavy swell and violent gusts of wind.

Khor Hurdia, on the northern side of the Hafun Isthmus, is an extensive harbour, 12 by $2\frac{1}{2}$ miles, available, however, for boats only as its depth is but 1 to $1\frac{1}{2}$ fathoms. It is probably the most unhealthy spot on the coast owing to decomposed vegetable matter. During the S.W. monsoon a kind of fair is held by the merchants from Macalla, Shehr, and the Mijjarten Bandars, who beach their buggalows and carry on a brisk trade in gums, ostrich feathers, ghi, and hides. There is no fresh water, but natives report a running stream at the head in the Khor Hashera.

Hafun South Bay affords the best anchorage in the N.E. monsoon over sand and rock, but exposed to a swell and surf with a slight shift of the wind. Hafun, a wretched village, has a supply of fresh, but brackish, water from three sand holes. It exports sharks fin and pearls to India, and ostrich feathers and ambergris to other ports. Cattle, fish, and firewood are obtainable, and asses can be bought in great numbers at 5 to 6 dollars each.

Bandar Bela, a village of some 100 huts divided into three portions, stands between the Darimo Stream and Ras Mabber. Sheep and goats are procurable; shark fins, cord made from the doum palm, and large quantities of ghi are exported to the Benadir coast and Zanzibar; dhows occasionally put in for water, and during the S.W. monsoon find a good anchorage in 6 fathoms on the north side of the cape.

Illig, one of the most important ports of the Isa Mahmud, is a disorderly collection of 40 huts inhabited by some 200 of the Isa Darud clan of that sub-tribe. It owes its importance to its exports of sheep and goats (totalling 15,000 to 20,000 annually), of ghi (50 tons

annually), and of dried or salted meat to the Benadir coast, Zanzibar, and Bombay.

Obbia, a town of 120 huts and 3 large square stone buildings, is situated, some 50 yards from the sea at high tide, on a large open and grassy, undulating plain of firm sandy soil. It is the chief residence of Yusuf Ali, who captured it in 1884 from the Habr Ghidir, a pastoral sub-tribe of the Hawiya, that extends inland for some 25 miles. There is plentiful grazing, which, however, begins to dry up after January. Fair and drinkable water is found in numerous small wells around the town, at 2 feet below the surface; better water is obtainable at a depth of 4 feet in two wells 2 miles from the town; here fresh wells could be dug in half an hour. Important trade routes lead inland to Mudug oasis, 76 miles, and Jeriban amongst other places. Its climate is moderate, and, though the heat is great at times, it is free from malaria.

It is the chief outlet of Hawiya trade, but in the height of the monsoons is said to be cut off from communication seawards. Dhows anchor in 2 fathoms in a shallow bight formed by Diga Point, 10 feet high, projecting north-east for 400 yards and prolonged by two rocky islets for a further 1,600 yards, which give shelter from south-west winds.

Large ships can anchor in 7 fathoms in good holding ground at 1,400 yards from the point, but this anchorage is quite unsheltered; there are, however, no outlying dangers. The point forms a natural breakwater (with a depth of 4½ to 5 feet of water), inside which dhows can be beached, and landing can be effected by surf-boats at all states of the tide and weather, and by ships' pulling-boats in ordinary weather. There are six surf-boats, similar to those at Illig; these carry a crew of seven, and seven to eight passengers and are very crank; their number could probably be considerably increased.

(ii) *Benadir coast.*—*Itala* (Athelet or El Adhale) is a village situated on the northern corner of a bight of coast, which is fronted by narrow and detached reefs to a maximum distance of 1½ miles. Within the reefs there is protection for small craft, and outside them two anchorages over sand in 4 to 5 fathoms, 1,400 and 1,700 yards from the shore. Good and abundant water is obtainable at a shallow depth

in the sand. Itala is a recently founded Italian zaribaed station of Arabs, and will, it is hoped, attract the trade of the Webi Shebeli.

Warshiek, a thriving well-populated village, lies half a mile west of Ruin Point, on which are some lofty stone houses. Water is scarce and bad, and live stock, brought from three to four days inland, are obtainable to a limited extent. The anchorage for large ships is exposed to wind and swell in 16 fathoms, over good holding ground of grey sand, and is distant ½ mile from Pyramid Islet. The latter rises from a ledge which runs westward from Ruin Point for 600 yards, and forms a dhow harbour, completely protected from all but south-west winds and having a maximum depth of 2½ fathoms. In strong south-west winds a heavy sea runs in the dhow harbour and makes the entrance impracticable for boats.

Mogdishu (Magadoxo), the most important town on the Benadir Coast and the seat of government, stands about 40 feet above a sandy plain, and is surrounded by a semi-circular range of low hills, rising at a distance of 1,000 yards to a height of 300 feet. The eastern hills are bare, but the others are covered by a short grass. It is a town of two portions: the southern or Amarwini has about 150 abandoned and ruined stone houses, the remains of the original Portuguese settlement; the northern or modern portion, Cingani, consists of buildings of sand-stone, quarried in the neighbourhood, or of pisé, many of the latter being in ruins. A sand-stone wall, 8 to 10 feet high and 2 feet thick, surrounds the town on all but the south sides. Between the old and new town is a large isolated Arab building, the Garesa or citadel, in which the Vali lives, while the Governor's residence is in the south-west of Cingani. On the sand hills behind the town is Fort Cecchi, square in shape, with a low wall and a central look-out tower some 40 feet higher. Water—muddy and brackish, but fit for drinking*—is to be found at a depth of 10 feet anywhere around the town; some 3 to 5 tons can be obtained in a day at a cost of 1½ to 3 dollars per ton.

* The Italian Pilot Book does not recommend the water for any but washing purposes, and says that the quantity, available for ships, is limited.

Bullocks, costing 10 to 15 dollars each, goats, eggs and milk are cheap and plentiful, but vegetables are unobtainable; excellent fish can also be had when the sea is favourable. In a fortnight 600 camels and 2,000 donkeys, both of a good type, could be collected. The exports from and imports to Mogdishu are common to the whole Benadir coast. The former include ivory, rubber, rhinoceros horns, skins, orchilla weed, cattle, and above all durra (about 1,500 tons exported annually), and the latter americani, rice, sugar, and household utensils. The population numbers some 9,000 of the Waden, a somewhat unruly tribe, amongst whom an escort is necessary.

The sheet of water lying between ½ and 1 mile from the shore and south of the parallel through the southernmost extreme of Amarwini affords anchorage, exposed however to both monsoons, for large ships in 6 to 18 fathoms over sand or sand and coral. For 3 miles east of Mogdishu runs a coral reef on which the sea breaks, and inside which is a channel, 200 to 440 yards broad and 1 to 2½ fathoms deep, which furnishes a safe harbour in all monsoons to some 16 dhows, but, though the entrance and exit is possible in the north-east monsoon, it is so difficult to leave it in the south-west monsoon that dhows, caught inside by it, are beached as a rule. Landing is possible for ships' boats in calm weather, and in native canoes apparently always.

Merka is a large walled town, far more imposing than Mogdishu, with a considerable trade in hides, ivory, and gum copal. Eggs, sheep, and water are obtainable. The anchorage is unsheltered and much contracted by a steep bank; large vessels can anchor in 15 fathoms over sand and mud 1 mile from the town, or, with some risk, closer in in 5 fathoms. The dhow anchorage lies close south-west of the town and is sheltered at low water by a reef, but at high water a heavy swell rolls over the reef and renders landing on the beach impracticable.

Brava, a walled town close to and 100 feet above the beach, is surrounded by a reddish soil with dark clumps of brushwood. Cattle and other supplies are obtainable in small quantities, and brackish, but drinkable, water. The climate is said to be healthy. November to April are the trading months, when a busy import and export trade

is carried on with Zanzibar; loading is done in native boats. Anchorage for large ships is available in the south-west monsoon in 4 to 7 fathoms north-east of Kila Islands, and in the north-east monsoon to the southward in 6 to 12 fathoms good holding, but exposed position. Vessels of 7 to 9 feet draught can use the dhow anchorage lying between the Kila Islands and the town.

CHAPTER III.

Towns, Villages, and other Settlements.

The Somalis are a nomad race. They have few permanent settlements, such as towns and villages, but wander annually in fixed orbits in search of water and pasturage.

These orbits are generally marked by the zaribas of thorn bushes, called "rer," in which the sub-tribe or clan establishes itself for a period not exceeding two months at a time. These zaribas are formed by a double ring of thorn-fence, of which the outer is often 12 feet high to keep out lions. Inside the zariba pens are made for cattle, camels, sheep, and goats, and the gurgis or huts, which consist of a portable frame of "galol" wood covered with grass mats, hides and skins, are erected on arrival. As a further protection against wild animals fires are lighted at night.

The construction of the zaribas devolves on the male portion of the tribe, but that of the gurgis, as most of the manual labour, is the duty of the women.

Caravans form single zaribas of a similar but more temporary nature, while near the coast a low single fence as a rule suffices.

Towns and Villages.

(i) *In British Somaliland.*

With the exception of the coast towns and villages, there are no other towns or villages in British Somaliland, unless we designate by the latter term the considerable collection of huts and shanties which, during the operations in the interior of 1902–1904, sprang up round the permanent wells of Burao, where there was always a considerable number of troops. The number of these huts and shanties amounted in May 1904, when the outside troops began to leave the country, to about 1,000, but

gradually diminished to about 200 in December 1905. These are chiefly Somali "coffee-shops" and the shops of small Arab and Somali traders. There is always an influx of Somalis into Burao during the dry seasons to water their animals, and as long as we maintain a military or police force there it is improbable that this collection of huts and shanties will disappear.

The coast towns and villages have already been described in Chapter II. They consist, generally speaking, of a varying number of stone buildings, the property of Government or of Indian or Arab merchants, and of native huts similar to, but on a larger scale and more substantially constructed than, the gurgis of the nomads; in some cases the mat coverings are replaced by mud. In the Warsangli country (as well as in the Mijjarten country) the coast towns are a collection of mud or pisé huts, with a mosque occasionally whitewashed, a few pisé or stone forts; in the latter case of two or three storeys, and one to six large buildings of the same materials for the storage of gum; the Hadramaut type of architecture is generally followed.

(ii) *In French Somaliland.*

The coast towns and villages of French Somaliland have been described in Chapter II.; there are no towns or villages in the interior.

(iii) *In Abyssinian Somaliland.*

The towns of Harrar and Gildessa and the military post of Jigjiga are described below:—

Harrar, a walled town with five gates, closed at 6 p.m., and the capital of the province of the same name, is situated at an elevation of 6,000 feet on a limestone eminence in a plain surrounded by hills. It has a population of 30,000 to 40,000, mostly Mahommedans; its houses are closely packed and its streets narrow and intricate.

Weaving, pottery, and dyeing are the chief industries, and a considerable trade, including gold, ivory, coffee, and skins, is conducted with the coast and the capital. It is situated 40 miles from the site of Addis Harrar, a town to be built at the head of the French railway from Jibuti,

which lies 202 miles by rail further to the north, and is distant by caravan route 190 miles from Zeila and 240 miles from Berbera. The chief buildings are the church and the residence of the Governor of the province. Great Britain, France, and Italy are represented by Consular Agents. It is defended by two old forts. Leprosy is common.

Gildessa, a town of 100 mat-houses with a stone zariba, 60 yards square and walls 10 feet high, is on the Zeila-Harrar caravan route, and swarms with a mixture of eastern nationalities, Abyssinians, Somalis, Arabs, and a few Soudanese engaged in bartering cloth, tobacco, coffee, &c. It has a small fort.

Jigjiga consists of two stout wooden circular stockades situated about three-quarters of a mile apart at the bottom of a broad valley. A small stone tower lies on the high ground towards the north-east at a distance of roughly a mile.

There are several towns and villages on the middle Shebeli. These usually consist of a cluster of palisaded huts of durra stalk surrounded by a stockade of light timber.

(iv) *In Italian Somaliland.*

Lugh, 210 miles N.N.W. of Brava, is an open town standing in a narrow neck of land, 200 yards broad, formed by a loop, 2 miles by 1¼ miles, of the Juba. The town, about half a mile long, extends into the peninsula which the loop surrounds, and on which bush, pasturage, and durra cultivation is found.

It is the capital of Southern Somaliland, and the great centre between the Boran and the coast.

The surrounding country is rich and fertile, and is watered by the Juba, which is here 160 to 200 yards broad.

The Sultan, Ali Hassan Nur, is responsible to the Italian Resident.

Bardera, a disappointing town of 500 grey conical mud huts, inhabited by some 2,000 Somalis, lies on heights rising from the right bank of the Juba. The western side of the town is protected by the river and the remaining sides are surrounded by a ruined enceinte, which is covered with a thorny vegetation.

The huts only cover about half the area of the town, around which are numerous durra plantations, but in dry years the inhabitants suffer severely from famine. Ivory, coffee for local consumption, and cotton sheetings are the articles in which the town trades.

Tarigas.

Permanent settlements of priests are scattered throughout the country. These so-called tarigas are of importance, not only because of the influence exercised by their educated and, as a rule, travelled occupants, but also as they form the nuclei around which a portion of the nomads may be induced to settle, and from which cultivation and the establishment of a permanent water supply may radiate. Jowari cultivation and wells are, as a rule, to be found in their neighbourhood. The most important are as follows:—

(i) *British Somaliland.*

Hargeissa, under Sheikh Madar, a village of about 1,000 inhabitants, mainly Habr Awal, consisting of mat huts, with one stone building and breastwork, situated on the caravan routes to Milmil, Imi, Harrar, Gildessa, Zeila, Bulhar, and Berbera. This settlement has a permanent and plentiful supply of water, and usually about half a square mile of jowari cultivation.

Au Bakhadle, about 20 miles N.E. of Hargeissa.

Upper Sheikh, at the summit of the pass of the same name, under Haji Nur.

Suksodi, about 12 miles east of Sheikh.

Hahi, two days' march west of Burao, under Haji Musa (H.Y., Rer Abuker), had formerly a population of about 1,000, which has, however, now fallen to about one-quarter of that number. The amount of jowari cultivation is now not large. In the dry season water has to be carried from the wells at Oadweina, 10 miles away, but in the rainy season is stored in "ballis" or tanks made by the tariga people.

Berato, which lies about 8 miles south of Hahi, and is under Haji Mohamad Arab (H.Y., Eli Said), has a population

of about 100 persons. In good rainy seasons about 4 or 5 acres are under jowari cultivation. A permanent water supply is obtained from wells dug in the túg (river) running from Oadweina.

Kob Faradod, the Mullah's stockaded village in the Nogal valley, was destroyed in 1901.

(ii) *In French Somaliland.*

Nothing is known as to tarigas in French Somaliland.

(iii) *In Abyssinian Somaliland*:—

Seyid Mohamad's tariga, of about 400 huts, of somewhat the same size as Hargeissa, situated on the túg Fafan, and surrounded with patches of jowari. The head of this tariga had, in 1895, much influence with the two Mahommedan chiefs of Karanle.

En, west of Seyid Mohamad's tariga.

Faf (6° 27′ N. and 44° 17′ E.), an important centre under Haji Mohamed Nur, with extensive cultivation, herds of camels, flocks of sheep, and good grazing, and one of the reported sources of the Mullah's supplies.

Bussorah, four days above Bari.

(iv) *In Italian Somaliland.*

Kulmis and *Bidli* in the alluvial plain of Italian Somaliland.

CHAPTER IV.

COMMUNICATIONS.

1.—*Over-sea Communications.*

(*a*) *British Somaliland.*

British and Italian men-of-war and Royal Indian Marine steamers pay occasional visits to Berbera.

A regular weekly mail service by Messrs. Cowasjee, Dinshaw and Brothers' steamer is maintained between Aden and the principal Protectorate ports. The usual course is Aden to Berbera direct, Berbera to Zeila, Zeila to Bulhar, Bulhar to Berbera, and thence back to Aden, the whole course occupying five days.

The first vessel of a line owned by a new company, formed for trading between Aden and the Somali Coast, has just commenced calling at Zeila, and Bulhar, as well as Berbera, will probably be included in the itinerary before long.

From Calcutta about six steamers belonging to the Bombay-Persian Steam Navigation Company annually discharge rice at Berbera, and an occasional vessel leaves Bombay either for the same purpose or with Government and mercantile stores.

Throughout the year there is a very considerable trade by buggalows between the Somali Coast and Aden. During the south-west monsoon the connection with Aden and "Makar" (the ports to the north-east of Berbera) ceases, but there is no interruption in the country craft inter-portal traffic, which indirectly maintains the communication.

During the trading season, from November to April, three or four steamers of different lines, freighted with dates from Busra, call at Berbera, and dhows with similar cargo, varying in tonnage from 50 to 300 tons, frequent Berbera and Bulhar (mainly the former) from the Persian Gulf and Red Sea ports. Busra dhows, which have sailed in the first instance to Bombay, sometimes sail thence to

Berbera when the traders cannot sell their stock at Bombay, and the Protectorate appears to offer a profitable market.

Foreign dhows engaged in the pearl and shark fisheries victual at Berbera and Zeila, cruise in the Protectorate waters, and return with their catch to these ports, where, during the trading season, the shark fishers establish a yard for curing the fish and extracting the "seefa" or shark liver oil.

(*b*) *French Somaliland.*

A table is appended (*see* p. 55), which gives particulars of arrivals of steamers at Jibuti and of their departures.

There is a buggalow trade along the coast as well as with Aden during the "Bat Furan" when the sea is open.

(*c*) *Italian Somaliland.*

There is no regular steamship service with the Mijjarten or Benadir coasts. Steamers of the German East African Line call occasionally at Mogdishu and Brava on their way to and from Bombay and Zanzibar, and European trading vessels also put into these ports during the trading season, November to April. There is an active buggalow trade, during the north-east monsoon, between the Mijjarten ports, Aden, and Persian Gulf, and a lesser trade with Bombay. Arab fishers also frequently stay at the Mijjarten ports. The Benadir ports carry on a fair dhow trade with Zanzibar, and are connected with Aden by Messrs. Cowasjee, Dinshaw and Brothers' steamers.

2.—*Cable Communication.*

(*a*) *British Somaliland.*

There is no cable communication with British Somaliland. The nearest cable lines to Berbera are at Aden or Jibuti, each of which places is about 150 sea miles from Berbera.

(*b*) *French Somaliland.*

A single conductor cable, the property of the French Government, connects Jibuti with Obok, 31 sea miles, whence a similar cable, leased by the French Government from the Eastern Telegraph Company, runs to Perim, 52 sea miles, which is connected by this company with Aden and Suez.

TABLE OF ARRIVAL AND DEPARTURE OF STEAMERS.

Jibuti.

Name of Company.	Nationality.	Date of Arrival.	Date of Departure.	Proceeding From	Proceeding To	Remarks.
Messageries Maritimes	French	2nd of every month	All vessels depart the same day as they arrive.	Madagascar	Marseilles.	
Do.	Do.	13th of every month		Do.	Do.	
Do.	Do.	5th of every month		Marseilles	Madagascar.	
Do.	Do.	21st of every month		Do.	Do.	
Do.	Do.	Every 28 days		Saigon	Marseilles.	
Do.	Do.	Do.		Marseilles	Saigon.	
Do.	Do.	Every month		Do.	Melbourne.	
Do.	Do.	Do.		Melbourne	Marseilles.	
Havraire Navigation Company.	Do.	Do.		Havre	Madagascar.	
Do.	Do.	Do.		Bombay	Havre.	
Russian Navigation Company.	Russian	Every three months		Odessa	Bassorah.	
Do.	Do.	Do.		Bassorah	Odessa, India, *viâ* Aden.	
Austrian-Lloyd	Austrian	Every month		Trieste		
Bucknall Brothers	British	Do.		Marseilles	Bassorah.	
Anglo-Arabian Company.	Do.	Do.		Do.	Do.	
Hansa Navigation Company.	German	Every three months		Hamburg	Durban, *viâ* Aden.	
"Binger"	French	Every week		Jibuti	Aden.	
Orientale.						
Do.	Do.	Do.		Aden	Jibuti.	S.S. "Africa."
Do.	British	Do.		Do.	Do.	Do.
Do.	Do.	Do.		Jibuti	Aden	

3.—*Inland Telegraph and Signalling Communication.*

(*a*) *British Somaliland.*

The telegraph line extends from Berbera to Sheikh (42 miles), and thence on to Burao (40 miles). An old line constructed during operations against the Mullah of 1902–1904, between Burao and Wadamago (64 miles), has been left standing, though it is not now in use.

There is also a branch line from Sheikh to Adadleh (46 miles), and thence on to Hargeissa, another 46 miles.

It is proposed to construct a line from Berbera to Bulhar, and thence to Adadleh and Hargeissa, and the Sheikh-Adadleh-Hargeissa line will then probably be dismantled.

The telegraph requires constant attention during the rainy season, as it gets much damaged by storms.

(*b*) *French Somaliland.*

An inland telegraph follows the railway.

4.—*Railways.*

(*a*) *British Somaliland.*

The following surveys have been made :—

Berbera-Adadleh-Burao-Bohotleh.

Berbera-Aragan.

No railways have, however, been constructed, and none are either under construction or projected.

(*b*) *French Somaliland.*

The only railway is that which runs from Jibuti to Addis-Harrar, 40 miles north of Harrar.

The following is a brief description of the line :—

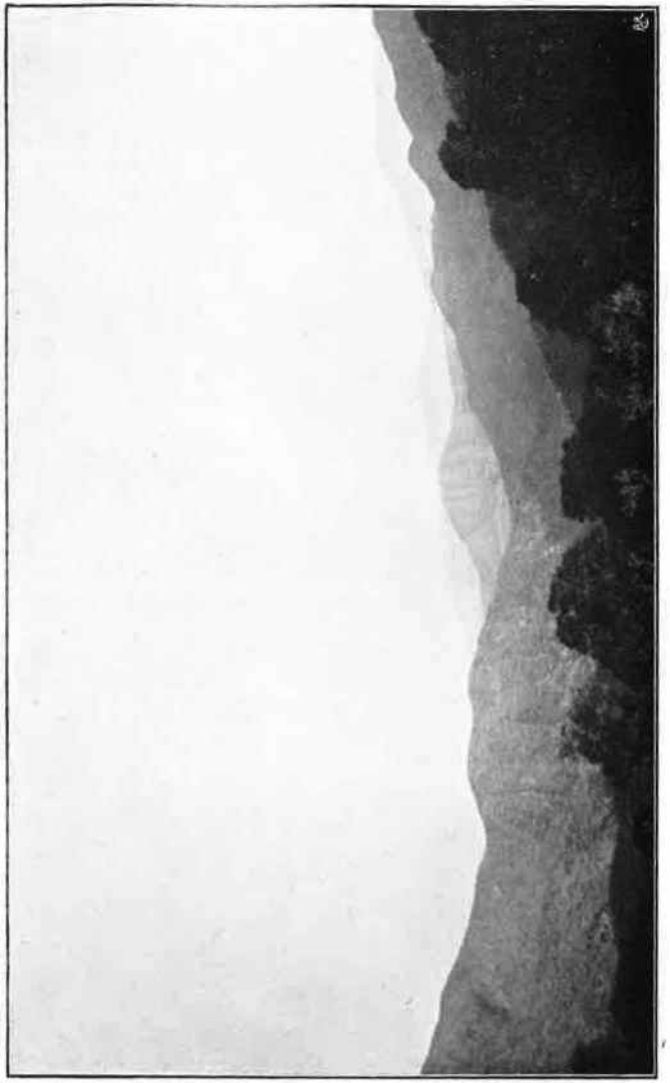
Length of line, 191 miles; gauge, metre; maximum gradient, 1 in 40; maximum curve, 164 yards radius; permanent way, completed.

Open to traffic, Jibuti to Addis-Harrar.

Principal stations, seven, viz., Jibuti; Holl Holl, 32 miles; Douanle, 66 miles; Lassarat, 101 miles; Adagalla, 125 miles; Mello, 153 miles; Addis-Harrar, 191 miles.

Speed, 12 miles per hour (provisional).

Rolling stock: mainly third-class carriages and open trucks; engines, six-wheeled, coupled, 4-feet driving wheel, with vacuum automatic brake, and mostly of Swiss manufacture.



VIEW FROM THE TOP OF SHEIKH PASS.

5.—*Inland Communication and Roads.*

Communication across the maritime plain is frequently interrupted during the period of the south-west monsoon by violent sandstorms, and during Jilal the want of water makes the crossing of the Haud a matter of great difficulty and risk. In the rainy season the Fafan and Shebeli rivers flood the neighbouring valleys, while south of the latter river, the routes are so heavy and greasy that travelling is brought to a standstill.

There are in Somaliland no roads in the European sense of the word. The only road in British Somaliland, which can be considered in any way suitable for wheeled traffic, is the one constructed during the operations against the Mullah of 1902–1904, which runs from Berbera viâ the Gotarera Pass, Bihendula, Gelokar, and the Sheikh Pass to Burao, and thence to Kirrit, where it branches into two, one branch going to Wadamago and the other to Bohotle. This, however, is only a rough military road, constructed for the purpose of facilitating the work of supplying the chain of posts which formed the line of communication of the expeditionary force. For the first 10 miles from Berbera to the Gotarera Pass, over the sandy maritime plain, the road was marked out only, and not constructed; carts and wagons were used on it, but it was very heavy going. From the Gotarera Pass to Upper Sheikh the road has a good hard surface and it is fit for wheeled traffic throughout, being graded so as to be suitable for the construction of a light railway; although it has not been repaired for the past two years it is still in very fair condition, having been damaged by rain storms in a very few places only. From the Upper Sheikh Post, which is situated at the top of the Sheikh Pass, onward as far as Wadamago and Bohotle, the road is practically nothing more than a track cut through the jungle, and was quickly cut up by the traffic of transport trains, more specially on those portions where wheeled transport was experimented with. This road could at no very considerable expense be rendered fit for wheeled transport throughout, as also could other tracks from the coast across the maritime plain to the foot of the hills, such as the Senak route, the Duss Pass route, and the Jerato Pass route. Further inland in the hard red clay of the Western

Haud, and in the open portions further east, roads could be easily made, but owing to the greasiness and heaviness of the soil in wet weather, could probably be used only after the rains had run off. But pack-camels afford such a plentiful and cheap means of transport that the want of broad roads suitable for wheeled traffic is not felt. It is to be noted that in the Haud there are no marked tracks over the open spaces which are everywhere fit for marching, but through the thorn-covered portions the tracks, often narrow and easily lost in the dark, must be followed. These tracks, though wider than those of Ogo and Guban, which average about 2 feet, are not so well kept and are often flanked by "wait-a-bit" or "fish-hook" thorn bushes, which catch in the camels' loads and lessen the rate of marching.

From the maritime plain to the interior plateau access is to be obtained only by the passes or defiles. The most important of these are enumerated (from east to west) in the following table, but there are many other paths and tracks also which it is not necessary to detail :—

Name of Pass or Defile.	From	Through	To
Midgad Pass - -	Karam	The Maritime hills.	The Habr Toljaala country.
Gaha Pass - -	"	" "	" "
Moghor-Bar Pass -	Berbera	" "	" "
Duss Pass - -	"	" "	The Dolbahanta country.
Duberi Pass -	"	" "	" "
Ellan-Bidoleh Pass -	"	" "	" "
Miriya Pass -	"	" "	" "
Ragar Pass - -	"	The Golis Range	The Habr Gerhajis country.
Sheikh Pass -	"	" "	" "
Sagik Pass - -	"	" "	" "
Jerato Pass -	"	" "	" "
Murko Pass -	"	" "	" "
Eil - Awad - Murko Pass.	Bulhar	The Maritime hills.	Hargeissa.
Arisin Pass - -	"	" "	"
Issutugun River Defile.	"	" "	"
Dowei Pass - -	"	" "	"
Hanjera Pass - -	"	" "	"

Name of Pass or Defile.	From	Through	To
Kadar Pass -	Bulhar	The Maritime hills.	Hargeissa.
Marodile Pass -	"	" "	"
Kabille Pass and Waranwiss Defile.	"	" "	The Gadabursi country.
Kabri Bar (open passage).	Guban	" "	" "
Usuli Defile -	"	The Bilo Range	" "
Barrho Defile -	"	" "	" "
Sattawa Defile -	"	" "	" "
Balad Pass - -	"	" "	" "
Aroweina Defile -	"	" "	The Isa and Gadabursi country.

NOTE.—The names in *italics* are the main passes.

Part II. of this handbook contains reports of the majority of the routes north of the Webi Shebeli, and of some of those south of that river.

The following table shows the principal routes through Guban, in order from east to west :—

From	Viâ	To (Distance in Miles).
Berbera	Siyara - - -	Karam and the eastern ports.
"	Gaha Pass - - -	The Habr Toljaala country.
"	Magab and the Miriya Pass (Senag route).	The Habr Toljaala country, Ber, 163.
"	Ragar Pass - -	Ber, 163 ; Garrero, 210.
"	Sheikh Pass - - -	Burao, 80 ; Ber, 93 ; Garrero, 141 ; Bohotle, 228.
"	Lafarug and Jerato Pass	Adadleh, 53 ; Ber, 91 ; Tuyo, 99.
"	Malgiu and Murko Pass	Adadleh, 72 ; Goriale (?).
"	Malgiu and Argan -	Jalelo, 74½ ; Hargeissa, 105 ; Harrar, 392.
"	The coast - -	Bulhar, 41.
Bulhar	Issutugun River Defile -	Hargeissa, 105 ; Harrar, 392.
"	Dowei Pass - -	" "
"	Hanjerah Pass - -	" "
"	Korah - - -	Harrar, 392.
"	Kadar Pass - -	"
"	Marodile Pass - -	"

From	Viâ	To (Distance in Miles).
Bulhar	Gibili - - -	Harrar, 392.
„	The coast - -	Zeila, 98.
Zeila	Takusha and Hambos -	Gildessa, 156; Harrar, 185.
„	Warabod, Dadah, and Heusa.	Gildessa, 154; Harrar, 183¾.
„	Two other routes to -	Gildessa.

Some of the more important caravan routes are shown in the following table :—

From	Viâ	To	No. of Days (approximately).	Remarks.
Bandar Maraya.	Kurkar - -	Mudug -	30	
Bandar Ziada.	„ - -	„ -	30	
Heis -	Haliclo - -	Daga Dalola.	—	
Daga Dalola	„ - -	Mudug -	5	
Berbera -	Sheikh and Burao	Nogal Valley.	8	
Mudug -	Wargalo, Rakn, and Elaheli.	Obbia -	11	
Berbera -	Burao and Bohotle.	Mudug -	22	
„ -	Burao. Bohotle, and Walwal.	Gerlogubi	28	(Warda Arnot Road.)
„ -	Aik, Gonda-Liba, and Walwal.	Sinnodogo	32	
„ -	Tuyo, Gonda-Liba, and Faf.	Bari -	30	
„ -	Tuyo, Daror, Kurati, and Faf.	„ -	30	(Warda Gulif Road.)
„ -	Daror, Kurati, Hahi, and Turi.	Karanle -	38	
„ -	Hargeissa and Milmil.	„ -	38	(Warda Gumarad Road.)
„ -	Hargeissa and Eil-Abosa.	Harrar -	20	(Warda Farah Road.)

From	Viâ	To	No. of Days (approximately).	Remarks.
Zeila -	Gildessa -	Harrar -	10	
Sinnodogo -	Joh - -	Baad -	8	(Baad is south of Obbia on the east coast.)
Imi - -	Bari and right bank of Shebeli.	Mogdishu	38	
Mogdishu -	Dafit and Mulimad.	Lugh -	13	
„ -	Wale and Revai	„ -	13	
Brava -	Soblale, Kumia, Ariagi, and Revai.	„ -	15	
„ -	Kumia and Munsur.	Bardera -	7	

6. *Caravans.*

Caravans coming to Berbera from far parts of the Ogaden country, or from the Shebeli, make but one trip annually, arriving at Berbera about the end of Haga, *i.e.*, in September, and returning in April or May.

Caravans coming from a moderate distance, *e.g.*, 10 to 12 days off, such as those from Milmil or north of Gerlogubi, make two trips in the year, viz. :—

(*a*) First trip, arrive Berbera September, depart December.

(*b*) Second trip, arrive Berbera January–April, depart April–May.

Caravans from Ogo and the nearer parts of the Haud, which are engaged in petty barter, may make more trips.

Caravans used to be subject to raids by :—

(*a*) The Mahmud Gerad (Dolbahanta) near the Gaha, and other passes south and east of Berbera.

(*b*) The Jibril Abuker (Habr Awal) and the Aidgalla (Habr Gerhajis), around Hargeissa and on the Mandera route.

Of recent years, however, these tribes have come more under Government influence, and there is now little or no looting of caravans in British territory.

Caravans, as a rule, make each day's march in two portions, in order to escape the mid-day heat, and to give the camels time to graze. An ordinary march lasts for some seven or eight hours, during which about 20 miles or a little less would be covered. An easy march is 15 to 17 miles. Marches of 25 miles, continued from day to day, are exceptional, unless loads are very light and the weather is favourable; on such marches, frequent halts of a day must be made to rest.

According to the length of the march, which is dependent usually on the intervals between the sources of water supply, the morning and afternoon hours of march would vary as follows:—From about 4 or 5 to 8 or 9 a.m., and from about 3 to 6 p.m.

Caravans often avoid the heat of the day by marching at night, when they can cover 30 miles without a rest, if the roads are good. This is always done in Guban.

The eastern tribes generally make longer and quicker marches than the Isa and Gadabursi, whose country, being of trap rock, is difficult, and whose camels are generally inferior to those of the eastern tribes.

7. *Land Transport.*

Camels are universally used throughout Somaliland for purposes of transport; in certain localities mules and donkeys are also employed. Ponies are kept for riding purposes, and not for transport work.

These riding and transport animals, and their special qualities and defects, are discussed in the next chapter.

8. *Water Transport.*

About the coast the bulk of the trade is carried in the north by buggalows, and in the south by dhows. An average sized buggalow, *i.e.*, 60 by 15 feet, can carry 270 sheep and 15 bullocks.

Surf boats are used along the coast from Illig to Obbia, and native canoes further south. The former are propelled

by a crew of seven paddlers, and can carry seven to eight armed soldiers.

Inland boats are few in number, and are found only at the ferries, which consist of ricketty rafts, a dug-out canoe occasionally, and boats of planking fastened by vegetable cord. A description of the only navigable river, the Juba from the sea to Bardera, is given in Part II.

CHAPTER V.

Riding and Transport Animals.

The riding and transport animals of Somaliland are ponies, mules, camels, and donkeys. Ponies are kept entirely for riding, raiding, and fighting. Mules are used for riding as well as for transport purposes, but the supply is limited. Camels are universally used throughout Somaliland, for purposes of transport, but are not used for riding as are Indian and Arabian breeds. Donkeys are used solely for transport purposes.

(*a*) *Ponies.*

Where found.—In former days almost all up-country tribes were rich in ponies; the Habr Toljaala and, among the Dolbahanta, the Mahamad Gerad were specially famous for their good mounts. Pony breeding was a general occupation. The ponies were kept for raiding, and the possession of a large number of ponies meant power among the tribes. During the constant fighting of the last five years, however, there has been a great drain on the pony supply of the country, and several tribes which were formerly possessed of considerable numbers are now practically without any; their animals having been either sold to Government for the various expeditions, or looted by the Mullah's raiders.

The few tribes which are not pony owners are the Isa Musa in the Golis district, and the Isa and Gerhi, whose pasturage is also unsuitable.

Of the Ishak tribes the Habr Yunis possess the best ponies. Among the Habr Awal, the Jibril Abuker have still a considerable number, but the ponies are, as a rule, of inferior quality, being of Abyssinian extraction.

The Abyssinian pony, it should here be explained, has not the powers of endurance or the grit of the Somali pony. The latter is inured to hardship and to shortage of

A SOMALI PONY.

water, whereas the Abyssinian pony is unaccustomed to hardship and is seldom without a plentiful supply of water, which he therefore requires. Again, the feet of the Somali pony are hard, and he can move comfortably over stony and rocky ground, which the feet of the Abyssinian pony can not stand. A pony, then, which is bred from an intermixture of Abyssinian and Somali blood is an inferior animal to the pure bred Somali.

As a rule the pure Somali pony of the best type is to be found only among the "burri" or eastern tribes. The "Galbeti" or western pony is usually of Abyssinian extraction. Some ponies of pure Somali breed are, however, to be found in the west.

A very good stamp of pony with well-developed quarters and of a stronger and heavier build than the average Somali pony is to be found among the Ogaden.

Uses and Treatment.—Ponies are never used for transport purposes, but are kept for raiding and fighting and occasionally for hunting. When grazing they are hobbled, and sometimes side-lined; and on raids they are frequently placed in line with the bridle round the wrist of the owners, who sleep under the ponies' heads. They are ridden when scarcely two years old, and are subjected to such harsh treatment that splints, spavins, slipped shoulder and hips are common.

Merits and Defects.—In his own country, and for a light weight, the Somali pony, averaging as he does 13 to 13½ hands, is preferable to any other; he is handy in bushes, can go fast on rocky and stony ground which does not hurt his hard, unshod feet, and is accustomed to traverse long distances on short allowance of food and water—being able to continue for as much as two days without water, and sometimes more. He usually eats nothing but grass, receives little care, and is never covered up or sheltered, except from thieves and lions, even in the hardest weather.

On raids the Somali spares his pony as much as possible by getting off and walking, and as he rides light (about 11 stone) can cover 70 to 100 miles in the 24 hours. Carrying 14 stone, a Somali pony will do 42 miles in 10 hours. In the 1901 operations against the Mullah our mounted troops on one occasion marched 100 miles in

36 hours, and during the 1902–04 operations the Somali Mounted Infantry on more than one occasion distinguished itself by its mobility. On one occasion a company of mounted infantry, starting during the night, covered 50 miles, and after carrying out a successful raid, returned during the next night to its starting point. On another occasion a Somali Mounted Infantry Company rode for three days through a district where there was no water and only very poor grazing, losing only one pony.

It is usual to water Somali ponies only once a day, and they require less water when the grass is green than when it is dry. When water is scarce, as in the case of ponies kept with the men who are engaged in guarding their flocks and herds at a distance from the wells, camel's milk diluted with water is sometimes given. The wells of the Dolbahanta country, which are impregnated with sulphuretted hydrogen, are considered best for ponies.

It has been stated above that the Somali pony usually eats nothing but grass. This refers more especially to the ponies of the tribesmen, which are not kept in constant use, but as a rule, after a comparatively short spell of work, are again thrown out of work to rest. When in constant daily work, and more especially so when subject to the conditions of active military service, Somali ponies require grain, and if they do not get it rapidly lose condition. Four to six pounds is the usual ration on service, the actual amount being dependent on the quality of the grazing available. A Somali pony playing polo regularly will eat eight pounds of grain daily, in addition to a full hay ration.

During the operations against the Mullah of the past four years several kinds of pony have been employed in the country—Argentines, South Africans, Indian country breds, Arabs, and others. As regards endurance none can compete with the Somali pony. They are not so hardy, require more grain and a plentiful supply of water, and unless shod are useless over stony ground or in a rocky country.

Diseases, &c.—The Somali ponies being, as a rule, never groomed, are covered with ticks, of which the "Kud-Kudah," ¼ to ½ inch in diameter, with a tortoise shell back, is very venomous. Leeches are sometimes picked up when watering, and flies at certain seasons are very venomous.

Spear grass and certain camel fodder is bad for ponies. Anthrax occurs occasionally amongst the Rer Ibrain (Ba Hawadle, Ogaden), and, further south, the valley of the Middle and Lower Shebeli is not suitable to either camels or ponies owing to the tsetse and dun flies, as a protection from which ghi is smeared all over the animals. Eye diseases are common, chiefly during the "Haga," brought on by the hot winds and the dust storm. A form of horse-sickness known as "Duffa" is common, and during late years a considerable number of ponies have succumbed to it. It occurs chiefly in the North and West, where there is thick undergrowth and jungle, the open plains of the South and the Ain and Nogal valleys being comparatively free. Appendix E. contains a note on this disease.

Saddlery, &c.—The saddle is a demi-pique, high-backed wooden frame, like the Egyptian fellah's; two light splinters leave a clear space for the spine; the tree is lightly bound with wet thongs, and a sheep-skin is loosely spread over it; a dwarf iron stirrup, admitting the big toe, is used. The bits are cruel, and a solid iron ring, which, as in the Arab bridle, embraces the lower jaw, takes the place of a curb chain. The headstalls are of cut leather, tasselled and ornamented, and the whip has a hard, hide, zinc-plated handle and a single, short, broad thong.

This native saddle and bridle are quite useless for military purposes. The bit is, as already stated, very cruel, and the saddle invariably gives a sore back. The local mounted troops use English-made saddlery.

Price.—The price of a pony has risen from Rs. 100 in 1892 to about Rs. 250 now. But if a considerable number are required, a higher price must be paid, *e.g.*, in 1901, when the Habr Awal and Habr Gerhajis were unwilling to sell owing to the Mullah's threatened raids, 100 ponies cost Rs. 375 each, but when danger decreased 200 ponies could have been procured at a cost of Rs. 300 each. During the 1902–04 operations against the Mullah, Somali ponies were bought by Government for Rs. 400 and even Rs. 500, and when Somali ponies could not be obtained Abyssinians were bought at Rs. 300 and Rs. 400. But these were war prices, and the demand having now ceased the price has fallen, and ponies are procurable for Rs. 200 to Rs. 300 each.

(*b*) *Mules.*

Mules are limited in number and difficult to obtain. No mules are bred in Somaliland, and the supply is from Abyssinia, where they are extensively used. During the recent operations against the Mullah of 1902–04, a large number of baggage mules were purchased in Abyssinia. At the conclusion of the operations some of these were sold locally, others were issued to the tribesmen to assist them in the arrangements for tribal defence which were then initiated, and about 400 were retained by Government for military transport purposes. Mules are now much sought after by the tribesmen, who appreciate their value.

Abyssinian mules may be divided into two classes—riding mules and baggage mules. The best riding mules are highly prized and fetch considerable prices, a good animal being frequently sold for Rs. 125 to 150. They have a very comfortable "trek" pace, an ambling run—at which they travel about 5 miles an hour, and which they can keep up for 40 to 50 miles on end in the cool. Riding mules are usually fed on grain; three or four pounds a day will keep them in good condition. They do not require water more than once a day. The baggage mules cost less, about Rs. 50 each being a usual price for good animals. They are somewhat smaller and lighter in build than Indian mules, but carry a load of 160 pounds. They are very hardy, thrive on grazing on which a horse would soon lose condition, and can travel comparatively long distances without water. When in constant work they require a few pounds of grain daily, unless the grazing is very plentiful. They are usually watered once daily.

(*c*) *Camels.*

Varieties.—The Somali camel, found in immense numbers in all parts of the country, is everywhere used as a means of transport (for pack work only), and also to a certain extent for eating.

Somali camels may be divided into two classes, viz.:—

(*a*) Hill camel.

(*b*) Plain camel.

The hill camel is bred in the range of hills which runs parallel to the sea from near Huguf to the south-east of Zeila, by the Isa Musa (Mohamad Isa and Aden Isa sub-sections) and Jibril Abuker sections of the Habr Awal, and by the Isa and Gadabursi. He is hardy, sturdy, and sure-footed. Though not such a quick mover on the level and perhaps not so well able to endure thirst as the plain camel, yet he is on the whole considered preferable to the plain camel, who is useless in hilly country.

The plain camel is bred everywhere south of the maritime range. He is of no use in hilly country, but is a faster animal on the level, and is considered to possess greater powers of enduring thirst than the hill camel, which may be accounted for by the fact that he is bred and reared in the "Haud," where water is more difficult to obtain than in the Golis and maritime ranges.

The best breed is called "Ayun," and is found among both hill and plain camels.

The camels of the country north-west of Zeila are called "Dankali," and are considered inferior to Somali camels.

Numbers.—According to Captain Swayne's estimate, made in 1898, the tribes of British Somaliland (exclusive of the Warsangli) and the black Isa owned 2,225,000 camels. He considered that amongst the tribes of the western coast every adult male would have, on an average, five camels; while the Ogaden, on the basis of a population of 40,000 married men and 20 to 25 camels to each, would have another 750,000 at least. Herds of 10,000 are said to be not unusual in the Ogaden country, where even a Midgan will sometimes own 300 to 400.

The above estimates, necessarily based on insufficient data, include young and milch camels, which form about four-fifths of the total, and eating camels. The number of burden camels, at one-sixth to one-seventh of the total, would be approximately 500,000—a figure which excludes those of the Warsangli, of the whole of Italian, and of the greater part of Abyssinian Somaliland.

But in spite of these immense numbers, it has usually been found to be matter of considerable difficulty to purchase quickly large numbers of burden camels for military expeditions. This is chiefly due to the disinclination of the Somali to part with livestock in any form. The same difficulty has not, however, been found in the matter of hiring animals.

Description.—The Somali camel is willing and gentle owing probably to the favourable treatment he receives.

In the selection of camels for transport purposes, the following are desirable points :—

(i) Age should be from six to eight years. Age is told by the teeth.
(ii) Health : this is indicated by clearness and brightness of the eye, fulness of hump, and by the way in which the animal kneels with his fore and hind feet well together, instead of flopping on his side, which points to internal disorder.
(iii) Fulness of calosity on chest.
(iv) Size and strength.
(v) Absence of sores, which are most common on the back and at the root of the tail.
(vi) Paces and general tractability.

The female camels breed from five years of age every second year and foal in "Gu," *i.e.*, May to June, or after the August rains.

Food.—Somali camels, in the hands of their tribal owners, receive no grain, but subsist entirely by grazing on grass, shrubs, bushes, and trees. The best class of grass is that known as "daremo"; of shrubs and bushes, those principally eaten are "rak," "galan," "sirman"; the trees eaten are "galol," "gurra," "kidhi," "adad," "dufrur," "galangall," and many others.

The most luxuriant pastures are in the "Haud." In and after the rainy seasons there is abundance of feed everywhere, but during the dry season grazing becomes a matter of difficulty.

Camels are not worked continuously by their tribal owners for any length of time, but, after a comparatively short spell of work, are usually rested in order to recover strength. Under these conditions they do well on grazing only, without grain. But if required to do continuous hard work, grain requires to be given, and without it animals rapidly become unfit, more especially in the dry season and when engaged on active military service, the conditions of which are essentially different from those of tribal life. Appendix F. contains a note on military transport in Somaliland, which goes more fully into the matter.

In tribal life herds of camels, when grazing, are

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generally led by the oldest animal, which carries a large wooden bell called "kor," and are left in charge of boys and girls, attended by a small escort if far away from the "rer." Yearling colts are generally kept separate from the older camels, and these again from the she-camels and their young. Camels have an aversion to sheep and goats, and are therefore never grazed with them; they are much more easily rounded up than cattle or sheep and so graze further afield. The morning dew on the grass is considered harmful to camels, and consequently they are not driven out till the sun is well up, 7 to 8 a.m.

Water.—When doing no work and feeding on green food camels require water but once a month. When at work on dry food they should be watered every five to seven days, but they are able, in an emergency, to continue as much as 15 days or even more without water. Camels which have been working without water for seven days in the dry season, have been known to drink as much as 22 gallons each, but 6 gallons is an ordinary drink.

The water of the Nogal district, which is impregnated with sulphuretted hydrogen, is considered the most wholesome for camels as for other animals.

Sickness and Remedies.—In the Ogaden country at certain seasons the "bali," a small gad-fly, causes great mortality amongst camels, which also suffer at times and places from the dun-fly "dug," always from ticks' "shilin," and occasionally from leeches' "allaheil." Sore backs are common, especially in wet weather owing to sodden mats, and thorn wounds are frequent. Thorns are excised, and open sores are cut with the dagger; they are then cauterised with glowing stones, after which moist camel dung is applied. Melted sheep's tail is administered to animals off their feed. Firing with a red-hot ramrod or hoop of iron is almost invariably used when a camel shows signs of stiffness.

In the case of hired transport the owners prefer to apply their own remedies, but for Government transport trains a proper supply of veterinary drugs and medicines and a veterinary officer or subordinate are necessary in Somaliland as elsewhere.

Pace, Load.—Somali camels, except a few trained by the Midgans, cannot trot. When loaded their usual pace is

2¼ to 2¾ miles an hour, or an average of 2½ miles, including stoppages. Good camels have been known to do as much as 3½ miles an hour for a short spell. When unloaded they can canter or gallop at a good pace, and cannot be caught by a man on foot if they get a fair start.

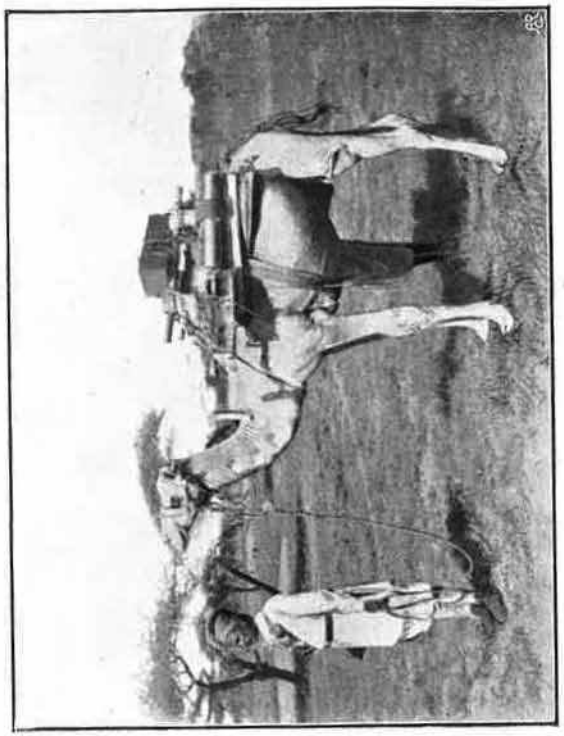
The usual load is 320 lbs., excluding the weight of mats, but this is too much for military transport employed with troops on active service, when the load should be 240 lbs., and must be still further reduced if animals get into bad condition. Water carried in tanks is a load of 240 lbs. to 320 lbs. (according to size of tank), but it is an easy riding load. Water is carried by the Somalis themselves in goat-skins or in "hans," which are vessels made of grass or wood. The grass "hans" are pliant, and not so liable to split by sudden jars as are the wooden. "Hans" are always leaking, and in thick jungle are liable to be torn off by overhanging branches, &c. These "hans" are, without exception, tainted by the smoke of "galol" bark and by curdled milk, and the water carried in them is unfit for Europeans or regular troops, for whom casks or tanks are therefore used.

The Maxim-gun pack transport equipment of mule pattern is easily adapted to camels.

The Somalis usually carry their sick strapped to a camel's back and propped up between "hans." It is a very uncomfortable, if not dangerous, method. For slightly wounded men the Arab pad (rough riding saddle) is recommended, and for the severely wounded a "kajawa" or "litter."

Equipment.—The Somali pack saddle consists of three mats; two, called "aus," are made of hard, coarse grass or aloe fibre, and are of a light straw colour; the third, called "kibit," is made of the chewed bark of the "galol" tree, and is of a dark red hue. The mats are folded and placed—with the "kibit," which is soft and thick, underneath—on the back, and bunched up round the hump, to which the bunch is then fastened by a rope, which acts also as crupper; cords, passed round the belly, are then knotted to this rope. The "kibit" requires frequent washing and thorough drying in order to prevent its causing sore backs.

For use by Somalis, in Somaliland, with Somali camels, this form of saddle is hard to beat. As a military transport



MAXIM GUN ON A CAMEL.

pack saddle it has its disadvantages, which are detailed in the note on military transport contained in Appendix F.

Price.—The price of a Somali camel varies very considerably. The price is always higher in and after the rainy season, when grazing is abundant and milk plentiful, than in the dry season when grazing of animals is a difficulty and, milk being scarce, money is required to buy rice for food. In time of unusual drought prices fall very low indeed; in the drought of 1891–1895 the price fell to Rs. 5. A large demand for camels, as in the case of a military expedition, creates a rise in prices, and the price continues to rise till the demand ceases. For instance, in November 1902, when transport was being organised for the operations under General Manning, the price of camels in Berbera went up at once from Rs. 35 to Rs. 45, and it continued to rise till it reached Rs. 130 in April 1904, when the operations under Sir Charles Egerton were concluded and the unusual demand for transport camels ceased. During the two following years of peace the price has steadily dropped until now, February 1906, towards the end of the dry season a good burden camel can be purchased in Berbera for Rs. 30. An eating camel also costs about Rs. 30 at the present time, and a milch camel about Rs. 50, but milch camels vary much in quality and price.

The difficulty of purchasing large numbers of camels for military operations is more fully dealt with in the notes on military transport, which are contained in Appendix F.

The Arab riding, or trotting, camel.—No mention has yet been made of the imported Arab riding camel which is used for mounting camelry in Somaliland.

There are, in all, three corps of camelry in the country. They are—

(i) The Coast Camel Corps, an armed civil police force.
(ii) The Camelry of the Standing Militia.
(iii) The Camelry Company of the 6th (Indian) Battalion King's African Rifles.

All these are mounted on Arab riding camels purchased in Aden or in the Aden Hinterland. Their price is at present about Rs. 200 to Rs. 300 each for trained mature animals from six to eight years old; but this price is high, having risen on account of the recent large demand in

connection with the Aden Hinterland operations. They can carry a man with his rifle, ammunition, and blanket, and a supply of rations for man and beast for about ten days. They are trained to trot and cover five miles an hour at a comfortable jog. They are grain-fed, and must receive a regular and sufficient supply of grain as well as good grazing. They have not the same capacity for enduring thirst as the Somali camel, but can be trained to continue without water for two or three days, during which they can cover 100 to 120 miles or so.

(d) *Donkeys.*

Donkeys are not much used, except in the west of British Somaliland and along the lower Shebeli. They are largely employed in the salt trade from the coast to Harrar, over very bad trap rock but well-watered roads. Somali donkeys are better than the Indian, but inferior—especially for riding purposes—to the Aden variety. They, however, endure great hardships, and did very well on a waterless march of 70 miles with the brothers Swayne. The Northern Somali donkeys, except those on the Zeila-Harrar road, are in the charge of and are ridden by women, but never by men; they also carry the cooking utensils of moving "karias," and along the coast bring water from distant wells.

Numbers were to be found in 1892 at Au Bakadle and Hargeissa, but in the same year it was estimated that at Berbera only 500 could be obtained by making strenuous efforts.

Although considerably heavier loads are carried by traders and others, yet for military purposes the load does not exceed 80 pounds, varying from 50 to 80 pounds, according to the capacity of the animal. In the 1901 operations against the Mullah the donkeys constantly threw their loads and bolted, though they are said to have marched faster than the camels. In the operations of 1902–1903 a train of donkeys did good work with the Obbia force, working backwards and forwards on a waterless stage of 20 miles on the line of communications and travelling almost entirely by night.

The price of a donkey varies from 15 dollars (Rs. 22½) at Harrar to Rs. 15 to Rs. 30 at Berbera.

CHAPTER VI.

Climate and Health.

Climate.

(1) *Seasons.*—The year in Somaliland may be divided into four main seasons: Jilal, the dry; Gu, the fertile rainy season; Haga, the hot season ending with the second interior rains; and Dair, the cold season extending into January, the first month of Jilal. A fifth season, sultry and calm, viz., Kalil, is said to occur at the end of Jilal. The determining causes of the seasons in Somaliland are the two monsoons, the north-east from November to March, and the south-west from May to September. April and October, the two months intervening between the monsoons, are periods of variable airs and calms. The south-west monsoon is ushered in by rain, which is spread over one or two months, and its departure is marked by still heavier rains in the interior, while on the coast the second and more regular rains do not occur until November or December.

(2) *Climate.*—The tables printed on pp. 77, 78, and 79 give the local variations of wind, temperature, and rainfall throughout Somaliland; they show a similarity in the names of the seasons, but a divergence in their periods for Northern and Southern Somaliland.

As regards climate the first of these portions may be divided into four main zones, dependent mainly on elevation, viz.:—

(*a*) *Maritime region.*—Temperature hot, 79° to 105° in the shade; rainfall slight, generally only 2 or 3 inches annually; wind, constant and cool in the north-east monsoon, November to January; squally and hot in the south-west monsoon, June to August.

(*b*) *Ogo, Golis, Ogo-Guban.*—Comparatively equable climate; temperature, 40° to 91° in Western and as low as

25° in Eastern Somaliland, with great variation between day and night; rainfall, variable from 10–20 inches annually, accompanied by mists, and spread mainly over April to September; wind uncertain in the same period, otherwise as in maritime region.

(*c*) *Higher interior plateau.*—Greater variations than in (*b*) of temperature between day and night; extremes, 56° to 108°, dependent on nature of vegetation, *i.e.*, wood or grass, or on its absence, *e.g.*, bare, open, alluvial or sandy tracts; rainfall similar to but less than in (*b*), varied in some years by droughts, which are more common in the arid country south of the Eastern Haud; wind, strong to a gale in the northern plateaux from June to September.

(*d*) *Valley of the Webi Shebeli.*—Damp, trying and sultry from March to September; rainfall apparently heavier than elsewhere; wind slight throughout the year, except in the lower portion.

TABLE O

N.	Dec.		Nov.	Dec.	Remarks.
	Dair.		Dair.		
	N.E. monsoon.		*Vide* Jilal.		
	an.				
		Mid A or n storm At Mog occas very			
	Moderate to very light.				
	ation.	* In (B			
	Two of he coldest months.	Plains *vide*		51°	In Isa country
	90° 6	† Octo W	84°	80°	77°	In the Warsangli country in the month of Oct. a maximum of 76° and a minimum of 25° has been recorded.
	59°‡	‡ Dec.,	54°	41°	42°	
		§ At ser			¶ At Karkar in Darror Valley, maximum in sand storms. ¶ Average at Karkar.

Table of Seasons.

II.

Rahanwein Country (between Shebeli and Juba Rivers).

—	Mid-August to Mid-November.		Mid-November to Mid-February.	Mid-February to Mid-May.		Mid-May to Mid-August.	Remarks.
Seasons.	Der.		Jilal.	Gu'h.		Agai.	Year starts with Neirus, about middle of August.
Monsoon.	S.W.	N.E.	N.E.	N.E.	S.W.	S.W.	
Wind.			Constant.		Variable,* S. to S.E.	Constant.	* "Tanganbili" on coast, *i.e.*, favours vessels from Zanzibar to Benadir, and *vice versâ*.
Rainfall.	Rain.		Dry.	Wet season.		Lesser occasional rains.	

Migrations.—The following table shows the migrations of certain of the Somali tribes according to the different seasons of the year :—

Tribe.	Where Found in.			
	Jilal.	Gu.	Haga.	Dair.
Habr Awal, Isa Musa.	Guban.	Ogo.	Southern base of Golis.	Ogo.
Habr Awal, Ahmed Abdulla, Samanter Abdulla.	In British Haud.	In Abyssinian Haud.		In Abyssinian and British Haud.
Habr Awal, others.	Guban and Ogo.	Ogo-Guban and Haud.	Southern part of Haud sometimes.	Guban.
Habr Gerhajis.	Ogo and Golis.	Far away in Haud.	Ogo.	Haud.
Ogaden.	South of the Haud.	Haud.		Haud and south of it.
Ogaden of Taf.	Valley of the Fafan.	Neighbouring hills and plateaux.		Valley of the Fafan.
Afgab.	Plateau at foot of hills.	In Abyssinian foot hills.		Plateau at foot of hills.

Calendar.—The Somalis use the Mahommadan Calendar of 354 to 355 days, divided into lunar periods.

Health.

During the south-west monsoon the hot winds by day, often charged with dust and sand, and the sultry nights

make the climate of the maritime region and of the south-eastern interior plateaux very trying ; malaria, too, is prevalent in the valleys of the Webi Shebeli throughout the year and in the Fafan and around Gildessa at times. During May, June, and July it is common among the Somalis at the coast, and at Burao and Hargeissa in the interior. But otherwise the climate of Somaliland is not unhealthy. On the higher mountains it is often bracing and the heat is rarely oppressive, while in the northern interior plateaux the air is generally dry, and at Berbera for seven months, mid-September to mid-April, the climate is equable.

Diseases.

The most prevalent diseases are ulcers, malarial fever, ophthalmia, and respiratory diseases, which, with others, are described in the following paragraphs :—

(*a*) *Beri-beri.*—An outbreak occurred in the 2nd Battalion King's African Rifles in 1900, but has not been recorded since.

(*b*) *Cholera*, according to native report, has visited the country three times in the last 50 to 60 years. In the last attack, 1892, Bulhar lost three-fourths of its population——686 deaths out of 826 cases—and Zeila also suffered severely, but in Berbera, owing to a strict quarantine, only a few cases occurred. Harrar, infected by Zeila, became a town of the dead; thence the epidemic followed the Errer and Shebeli to the east coast, but the interior of British Somaliland escaped.

(*c*) *Dysentery.*—This disease assumes almost an epidemic form, especially amongst new arrivals, on the coast at the beginning of the cold weather—October and November. The determining cause is believed to be the mica in a fine state of sub-division which is contained in the Berbera water. It is milder than the dysentery contracted in India, and, if treated at once, an attack does not exceed three to four days, during which the symptoms are acute. The magnesium sulphate treatment has given satisfactory results. Brackish water frequently causes acute diarrhœa amongst new arrivals, who, however, soon become accustomed to it. In the 1901 expedition against the Mullah, dysentery cases formed only 3·9 per cent. of the admissions; all the cases were mild, and recovered in two

to three days. In the Abyssinian expedition of the same year dysentery and diarrhœa and other bowel complaints accounted for 25 per cent. of the cases treated.

(*d*) *Malarial fevers.*—These occur in two forms—intermittent and remittent. No European escapes an attack of the former milder kind; even those who have resided in the tropics are not exempt, although they suffer less severely than others.

The second form is, as a rule, quickly fatal.

In the neighbourhood of the coast malarial fever is most prevalent in the month of May, begins to decline in intensity in June, when the south-west monsoon is in full swing, and reaches its minimum in October. Around Gildessa mosquitoes and malarial fever appear simultaneously with the arrival and cessation of the rains. In Ogaden malarial fever is said to occur between July and mid-November, although mosquitoes are not numerous. Anopheles are rarely seen at Berbera, but the culicidæ are common enough—stegomyia fasciata, the yellow fever carrier, being by far the commonest, breeding freely in the water contained in the larger porous vessels used during the hot weather for cooling soda-water bottles. Care should be taken to have these cleaned out at least every three days.

But it is the valley of the Webi Shebeli and its tributaries, as well of the Fafan below En, which are most notorious for this disease. All expeditions, from the James's to Donaldson Smith's, afford similar records of a stay of any duration. The whole of the latter expedition were down with fever in the month of January within a fortnight of their arrival at Bari. A peculiarity of the disease was that the temperature in only a few cases rose above 103° and the pulse above 95°. Again, during Finch's expedition to Imi all but seven out of thirty-three men were rendered unfit for work at one time.

In the 1901 expedition against the Mullah, 38·4 per cent. of the admissions to hospital were due to malarial fever, but the disease appears to have been contracted in the maritime plain prior to the departure of the troops for the interior, where they enjoyed very good health.

In the Abyssinian expedition of the same year, 21 per cent. of the cases treated suffered from malarial fever.

Bilious, hæmoglobinuric fever (black-water) is unknown.

(*e*) *Leprosy* is rarely met in Somaliland, except at Harrar and in parts of the Benadir coast.

(*f*) *Ophthalmia* is very prevalent. Cataract and ulcerations of the cornea are frequently seen. The ophthalmia is due to the glare, sand, and flies. Nyctalopia (night blindness) does not occur amongst the natives, but defective nutrition and dazzling sunlight produce it amongst Indians.

(*g*) *Respiratory diseases.*—Affections of the throat and chest are very common, due partly to dust and wind. The main cause, however, is the inadequate clothing of the Somali, who, in spite of the variations of temperature between night and day, uses for his bed covering his one garment, the tobe, which must be worn, if wet, until the sun dries it. Bronchitis, especially in February to April, when the weather begins to get warmer and the natives prefer sleeping out of doors, is common in the plains, and pneumonia is frequent from February to March in the highlands. Phthisis is a comparatively rare disease, and the climate, with care and by change of residence from the coast to the interior for the five hot months, appears adapted to the cure of incipient forms of this disease.

(*h*) *Scurvy.*—Although the Somalis eat no vegetables, except dates, they do not suffer from this disease, probably owing to the amount of fresh meat and milk they consume. Amongst Indians and other Africans it soon appears, unless they receive a plentiful supply of fresh meat or vegetables. Scurvy appeared to be the most important of the diseases prevalent amongst the troops during the operations from 1901 to 1904.

(*i*) *Small-pox.*—In 1889 Berbera alone lost 2,000 from this disease. The Somalis crowd to be vaccinated when the disease becomes at all general, but vaccination is not compulsory. The number vaccinated in 1901–02 was but 1,131. Another severe epidemic visited the country during the years 1904–05; the mortality was high as the disease was of the confluent type, the total number of deaths in Berbera alone being over 800. The Gadabursi and Isa country were the only parts of British Somaliland which were practically free from it.

Hundreds of Somalis were vaccinated both in the interior and at the coast, the total for Berbera alone being about 3,000.

In the interior the Somalis enforce a very strict quarantine on those attacked. The nomad tribes are comparatively free from it, but it frequently appears amongst the settled populations of the Fafan and Shebeli.

(*j*) *Ulcers* account for 75 per cent. of the cases treated at the Berbera Hospital. If cauterised at the outset, when they form small watery pustules, they can be quickly cured, but neglect and want of cleanliness convert them into suppurating sores, and often make amputation of a dead or putrid limb necessary. They appear first on the feet and legs, and then spread to the hands, arms, and head.

There is another large sore like an ulcer in appearance but more of the nature of a benign growth. In the early stages it should be scraped and then cauterised. A very large number of these cases are admitted into hospital when the growth has invaded the deeper structures and consequently destroyed all hope of saving the limb.

They are invariably met with on the lower half of the leg and foot.

In the 1901 British expedition against the Mullah, ulcers accounted for 31·6 per cent. of the admissions; but these were mainly due to the Somali footgear, which affords little protection from thorns. Properly fitting boots or sandals should be issued to all but locally-raised troops, and all troops, local and foreign, should be provided with putties. In the Abyssinian expedition of that year ulcers accounted for 37 per cent. of the cases treated. Ulcers are cured slowly but effectively by an ointment of iodoform and vaseline.

(*k*) *Venereal diseases.*—Although there are not many admissions to the Berbera Hospital under this heading, yet these diseases are increasing rapidly amongst the natives of the coast. Sufferers frequently visit the Island of Mayef, in the Red Sea, where the Sheikh is said to effect a cure by immersion in a mineral spring.

(*l*) *Wounds* are of frequent occurrence amongst a race so excitable as the Somali. The large majority of the wounds are on the head, and are caused by the long staff know as "bud," which is usually carried by every adult

Somali who is not armed with spears. Considering the weight of some of these "buded," it is surprising how seldom one really sees a skull fractured.

Spear wounds are rare, as they are more likely to kill, and the Somali does not care to do this, as it means the payment of 100 camels in the case of a man and 50 in that of a woman. Deep wounds caused by lions, &c., can be granulated in 10 days by the use of a 1 per 1,000 solution of mercuric chloride applied with a syringe, after which carbolic acid in the proportion of 1 to 60 parts of water should be used. The mercuric chloride is best carried in the form of soloids made up with a little ammonium chloride.

Surgical wounds heal well and rapidly, but scratches and "field wounds" have a great tendency to suppurate and resist ordinary treatment. Many of the thorn bushes have poisonous properties, and wounds inflicted by them often pass to severe erysipelatous attacks. Inflammation of the exposed parts of the body is common, and is due to the intense power of the sun. This often proceeds to ulceration, and an affection closely resembling the South African "veldt-sore" results.

Somali Surgery.

The Somalis have plenty of practice in trepanning, for broken heads are common; cases have been seen where large areas of the parietal and frontal bones have been removed. They often kill a sheep, goat or camel, and remove a portion of the skull and place it over the gap in the patient's skull so as to protect the brain.

Broken limbs are tied up in splinters, but sufficient attention is not paid to the proper junction of the broken bones, and false joints often result. For most diseases and ailments cautery is the general cure, and hot melted ghi is the favourite aperient.

The Somali constantly applies for medicines to travelling Europeans, who, as a rule, provide themselves with an extra store on that account.

CHAPTER VII.

Trade and Products.

(a) *Exports and Imports.*

(1) *British Somaliland.*

Exports.—Cattle, sheep, goats, hides, charcoal, ostrich feathers, mother-of-pearl shells, ghi, myrrh, gum-arabic, bones and fibre comprise the general exports. Abyssinian products supplement the Zeila and Bulhar trade; condiments and waras or saffron are brought from Harrar to Berbera; guano is collected at Rebehi (Meit) Island, and wood, frankincense, toffi or the dum palm leaves, and some ponies are additional indigenous exports from the eastern or "makar" ports.

Aden consumes practically the whole livestock and receives 99 per cent. of the merchandise, for which it is the transhipping port. Hides are shipped mainly to America; gums, a little fibre, shells, coffee, gold, and beeswax to Europe, India, and America; civet to Arabia and France; guano to England; ostrich feathers supply either the Aden passenger traffic or the European market; and waras, ghi, fibre, rope, tallow, dried aloe, shark liver oil, &c., and re-exported commodities, constitute the direct or indirect trade with Aden, Jibuti, Assab, Bandar Kassim, and the Red Sea and Persian Gulf ports. Ponies are in demand at Aden for riding and carriage hacks and are also exported to Mombasa, where brood mares fetch high prices.

Imports.—The imports include American grey sheeting, European white long cloth, cotton and silk piece goods, rice, flour dates, sugar, kerosine oil, tobacco, tea, salt, some earthenware and glassware, building material, and other miscellaneous articles. The entrepot for practically all goods is Aden. The following articles, however, are imported direct:—Rice and tea from Calcutta; dates, poultry, and a few carpets from Bassorah; toffi from Assab; and from the Red Sea and Persian Gulf ports, salt, native pottery, fresh and salted dates, dried fruits, &c.

Custom Duties.—Sea Customs. There are custom houses at Zeila, Bulhar, Berbera, Karan, and Hais. The import duty on merchandise at Zeila varies between 1 and 5 per cent. ad valorem on specified goods, and the export duty is 1 per cent. At the other four ports the outward and inward taxation on all goods is 7 per cent. The assessment on alcoholic liquors is Rs. 2 per gallon (50° centigrade). Horses, mules, camels, donkeys, cattle, sheep, and goats are charged on exportation at a uniform rate, namely, horses* Rs. 20 each, mules Rs. 8 each, camels Rs. 4 each, donkeys Rs. 1 each, cattle Rs. 4 each, and sheep or goats 4 annas each; but on importation the duty on animals is ad valorem. At Zeila civet is duty free, and specie and bullion are duty free at all ports.

Land customs or "zariba." A slight tax is levied at Berbera and Bulhar on merchandise and livestock entering these towns.

Freights.—Dhows, and a coastal steamer from Aden weekly, calling at Berbera, Zeila, Bulhar and again at Berbera en route to Aden.

Trading Season.—The season when the tribes and caravans congregate at the coast extends from October to April. Country craft communication between Aden and the east coast entirely ceases during the south-west monsoon from July to September, but throughout the year dhows from Berbera and the western ports maintain a desultory trade.

Value of the Trade.—The annual value of the duty-paid trade for the period from 1894–1905 is given below. The decline of trade at Zeila is due to the effect of the Jibuti–Dire Daoua Railway, and the fluctuations in the general trade of the country must be attributed to its unsettled state usually from the rise of the Mullah Mohamed Abdulla and the consequent military operations.

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* Since these particulars were given, the export duty on horses has been modified as follows:—

Somali horses	Rs. 100
Abyssinian horses (if certified from Harrar)	„ 20
Abyssinian horses (uncertified)	„ 100
Indian horses	„ 20

Imports and Exports.	1894-5. Value.	1895-6. Value.	1896-97. Value.*	1897-98. Value.	1898-99. Value.	1899-1900. Value.	1900-01 Value.	1901-02. Value.	1902-3. Value.	1903-4. Value.	1904-05. Value.
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
Zeila - -	4,671,855	6,117,022	6,578,197	4,407,670	5,556,991	5,695,202	5,300,368	4,139,447	2,448,157	2,397,487	1,918,090
Berbera and Bulhar.	3,777,757	4,111,319	4,102,505	4,808,432	5,668,151	5,583,509	4,618,437	4,841,869	4,579,615	5,756,364	5,092,220
Karam - -	—	—	—	—	—	—	—	18,554	46,485	72,240	43,412
Hais - -	—	—	—	—	—	—	—	—	244,132	254,861	159,669
Total -	8,449,642	10,228,341	10,680,705	9,216,102	11,225,142	11,278,711	9,918,805	8,999,870	7,318,389	8,480,952	7,213,400

* Unprecedented export of Abyssinian coffee, value in 1896-97 being Rs. 37,11,397, as against Rs. 16,40,729 in 1897-98.

(2) *French Somaliland.*

Trade is chiefly in transit to and from Abyssinia and Harrar, but a large and increasing commercial and labouring population at Jibuti is making the port itself an important trading centre. Goods consigned to France are duty free. The export duty on 100 kilos. of skins, hides, coffee, and ivory is 2, 2, 1, and 10 francs respectively.* The export duty on camels is 12 francs, on horses or mules 16 francs, on asses 6 francs, on cattle 4 francs, on sheep or goats 1 franc. Excepting an octroi of 10 francs per 100 bottles of wine and spirits, all imports consigned per through booking by rail to Harrar or Abyssinia are exempted from duty, but other goods are charged at the following rates :—Cereals and dates, 2 francs per 100 kilos. ; raw and prepared tobacco, 25 and 50 francs per 100 kilos. ; flour, sweet oil, and kat, 2, 5, and 100 francs per 100 kilos. ; rifles, guns, and revolvers, 6 francs each ; 100 rounds of ammunition, 4 francs ; liquors, from 5 to 140 francs per 100 litres. The railway carriage from Jibuti to Diri Daoua, the present terminus of the Jibuti-Abyssinian Railway, is 200 francs per ton, with a reduction in rate for consignments of greater weight. Grain and flour are transported at specially reduced rates. Shipping comprises country craft, the Messageries Maritimes, outward and homeward bound steamers, and a small French and a British cargo steamer plying between Aden and Jibuti.

(3) *Abyssinian Somaliland.*

The exports are hides, skins, cattle, cardamoms, gums, gum-arabic, myrrh, saffron, condiments, ostrich feathers, drugs, civet, ivory, gold, and especially coffee, of which the "Harrari" is considered better than the Abyssinian or "Habshi" berry. The tax at Harrar on the sale of camels, donkeys, horses, mules, cattle, and sheep and goats brought into the town is as follows :—Rs. 3 per camel, Rs. 1.10 per donkey, Rs. 2.12 per horse, Rs. 2.12 per mule, Rs. 1.10 per cattle, and 6 annas per sheep or goat ; these amounts are recoverable from the purchaser. The caravan dues are 8 annas for each laden camel, and 4 annas for each laden donkey ; and merchandise is assessed as follows :—2 annas

* The exchange value of the franc is Rs. 6 per 10 francs, or about 9½ annas a franc.

per skin; cloths 10 per cent. ad valorem; 7 annas and 11 annas per 32 pounds of hides and coffee, &c.; but these rates are not strictly enforced, the personal element affecting such monetary transactions. The levy on goods taken out of Harrar is about double these rates, and is subject to the same influence. Certified payment at one Abyssinian post constitutes exemption at another. Nomads travelling to Harrar are taxed at Jigjiga 10 annas for a laden camel and 5 annas for a laden donkey, but if the animals are for sale the sum is 10 annas and 3 annas respectively, and the toll on sheep and goats is 3 annas. Returning from Harrar to Fiambiro 2 annas must be paid for each laden animal. Transport animals without loads are not liable to any impost. The dollar, which is equivalent to Rs. 1.16, is current throughout Abyssinia.

(4) *Italian Somaliland.*

(i) The Mijjarten Coast.—Commercially the Mijjarten country is one of the most important portions of Somaliland, which obtained its ancient name, "Regio aromatifera," from the frankincense (olibanum), gums, and myrrh that abound in the Mijjarten mountains and plateaux. The exports comprise gums, incense, myrrh, maithi, frankincense, mother-of-pearl, pearls, feathers, indigo, mats, tortoise shells, wood, tallow, seefa (shark-liver oil), shark fins and flesh, ghi, horses, cattle, sheep, and goats. The imports comprise flour, rice, durra, dates, tea, coffee, tobacco, American cloth, European white cloth, cotton and silk piecegoods, a little cutlery, and building materials.

Trade is mainly with Aden, but also with Socotra, Macalla, Shehr, Mocha, Jiddah, Muscat, Hodeida, and Indian ports. Most of the corn comes from Zanzibar and the Benadir ports.

(ii) The Benadir Coast.—Direct trade is maintained with Bombay, Zanzibar, and Aden, particularly the two latter places. Once a month a vessel from Zanzibar and one from Aden visit the chief ports, but from April till November (the opening of the trading season) communication is closed. Country craft traffic is mainly with the Mijjarten Coast, Sher, Macalla, and Zanzibar. The exports consist of hides, horse skins, gum, myrrh, ivory, ostrich feathers, homespun cloth, durra, ghi, tallow, orchilla weed, gingelly oil, sesame, cattle, and earthen pots. A great deal of the durra is taken

from the North Benadir Coast to the Mijjarten Coast and Macalla. The imports comprise cotton goods, mainly American cloth, cotton twist, iron, sugar, nutmeg, molasses, and dates. Zanzibar and Aden supply the American cloth.

(b) *Direction of Interior Trade.*

Jibuti with its transit facilities is attracting the whole Ethiopian, Isa, and Gadabursi trade, and, consequently, the commerce of Zeila, the former emporium, is decaying at the rate of 25 per cent. per annum.

Caravans of merchandise and livestock from the whole British Protectorate converge on Berbera. Bulhar is largely dependent on the Habr Awal, Harrar, Ogaden, and Gadabursi trade. Karam, which is affected by local conditions at Berbera as regards the volume of its trade, is the natural outlet for the Habr Toljaala and Dolbahanta trade, and Heis for that of the Musa Abukir and Jibril Aden sub-sections of the Habr Gerhajis. Laskhorai is the Warsangli port. With a view to conciliating the Abyssinians the Ogaden now visit Harrar instead of the British towns, and since the Mullah's ascendency the Dolbahanta and many Ogaden have commenced to trade with the Mijjarten, the port of Bosaso attracting caravans to the detriment of Heis.

(c) *Trade in Arms.*

During the last decade a very large importation of arms has taken place through Obok and Jibuti to Harrar and Abyssinia. A considerable number of these arms have found their way into the Ogaden country to the south-west and the Galla country to the south. But the number which has reached Somaliland by these directions is trifling in comparison with the active trade which has sprung up in the last seven or eight years through the Mijjarten and partly through the Warsangli country. These arms, mostly of the Gras pattern, are brought from Jibuti, either direct or through the Arabian ports between Ras-el-Ara and Ash-Sher, mainly to Bandar Ziada, Bandar Kasim (Bosaso) and Bandar Khor, and also to Gandalo. They find their way thence through the Naliya Ahmed and Nur Ahmed (Dolbahanta), across the Nogal Valley to the

Mullah's headquarters. The close of the south-west monsoon starts the period of activity in the arm trade, and at that time an average of one buggalow a day is said to leave Jibuti with arms for the Arabian coast. Arms are also said to be landed occasionally further south, namely, at the mouth of the Nogal and on the Benadir Coast, and to be brought thence to the Mullah. The latter's anxiety to possess himself of rifles is shown by the price he is said to have offered in 1900, viz., five camels per rifle and one per 15 rounds of ammunition. Rifles of patterns which are said to be British, French, and Russian are also brought overland through Persia or across Arabia and are exported to Somaliland from Mucat and other Persian Gulf ports.

Caravan traders transporting guns and ammunition usually bury them at a convenient spot before entering the British coast towns.

Arms on board a dhow will be found beneath legitimate cargo, between bales of tobacco, &c., or within hollow parts, false keels, or furled sails. The "walad" or lashed spar at the foot of the main-mast is a common receptacle. A search should extend not only to the vessel itself but along her track, because, in case of alarm or when signalled to stand by, a case or bundle of arms may be attached to the anchor rope and heaved over the side or temporarily cast away, fastened to a hauser affixed to a float, which indicates the spot when an opportunity occurs to recover the jetsam. If ammunition be not stowed in the dhow, the smugglers have it on their persons within belts girded round the waist and tucked between the naturally heavy folds of the loin cloth.

(*d*) *Cultivation.*

(i) *Northern Somaliland.*—The tribes of Northern Somaliland are almost entirely engaged in pastoral pursuits. Cultivation is limited to a few vegetables in the Government garden at Dubar, a little coffee formerly at Hargeissa, and some jowari (durra) around the tarigas. The western portions of the country are, however, not so unsuited for agriculture as its absence would indicate. The abandoned fields of jowari around Dagabur and Turi appear at one time to have supported a considerable population of Gallas, and their produce seems to have been bartered in fair quantity with the Ogaden and other Somali tribes. Around

Harrar are many jowari fields cultivated by the Gallas. Cereals are brought into Harrar from the surrounding district during the six months from September to February, and vegetables are generally procurable there; fodder is also plentiful.

Almost any cereal or vegetable can be made to grow and flourish where manure and water are available.

The gums, exported in such large quantities, entail in the Dolbahanta and Ogaden country no trouble beyond their collection. Every Somali household collects gum if there be a necessity. There is not individual but tribal ownership of trees, although constant use would no doubt constitute a tacit right to tap certain trees. Amongst the Warsangli and Mijjarten, where the trees do not exude naturally, cutting is necessary. This duty is left by the owners, who live, as a rule, on the coast, to the nomads. The latter visit the trees at the end of March and April, and on each occasion cut a notch; a month latter, when the gum is ready, it is collected by the women and children. The Mijjarten in some cases replace the old stock by planting new trees, but the Warsangli leave its replenishment entirely to nature. In the latter country there is little myrrh, and gums are not so abundant as frankincense trees, which do not grow so well on the highest ranges, and are found in only small quantities west of the Warsangli Range.

The wild fig tree found commonly in river beds near wells yields an abundance of fruit, much sought after by the Somalis. Quantities of shrubs bearing edible fruit and pods are found in every jungle mass; and there are many plants known to Somalis as possessing medicinal qualities.

There would appear to be a future in the cultivation of aloes for their fibre, which is locally used, and has been also exported experimentally in small quantities to England, where the samples have been well reported on by experts, and have realised good prices.

A concession has been granted to a British company, but the industry has not yet been placed on a working basis.

(ii) *Southern Somaliland.*—Here, mingled with the pastoral and other Somalis, are the earlier Negro agriculturists—some slaves (berci), others freed men (bessers)—to

whom all the labour of cultivation is left. The staple product of the valleys of the Shebeli and Juba, and of the neighbouring hills, is the reddish-brown variety of "durra," but a little cotton, tobacco, white maize, white durra, and sesame are also grown. The system of agriculture is primitive, being as follows in the Rahanwein country:—

The grass, bushes, and trees are burnt during the dry season and the ashes then serve as the sole manure. The ground is roughly levelled and freed of stones, and then dug up to a depth of 5 to 6 inches by an iron hoe, the only implement used. Durra is planted at the new year, in holes 2 feet apart; in four days it is above ground, and is 8 to 10 inches high in another four days, when it is weeded. In 115 to 120 days from sowing the crop is reaped, and the cobs, after being separated from the stalks by women and children, are then buried in silos ("bakkar" of the Rahanwein, and "got" of the Shebeli), for the Somalis have no store-houses. As grain is required, the silos are opened and the cobs are threshed on open ground or pounded in wooded mortars. The stalks are given to camels, and oxen and sheep are turned into the fields after harvest to eat the leaves and young shoots. The roots are left for a second harvest later in the year, and after that are dug up.

Along the Shebeli artificial canals are carried a long distance, and the country is carefully levelled and divided into a number of small embanked plots. Three harvests in the year are thus obtained. Behind Brava, at Geledi (near Mogdishu), and at Bari the "durra" is not only sufficient for local consumption, but is also bartered in large quantities for cotton cloth.

(c) *Food Supplies.*

(i) *Locally produced.*

General.—The staple foods of Northern Somaliland are camel's milk and the flesh of sheep and goats; ghi, obtained from the inland tribes, is largely used by the rice-eating coast tribes; camels' flesh is somewhat of a luxury; cattle-owning tribes also live largely on cows' milk, but apparently are not great beef eaters.

Along and south of the Shebeli cattle and "durra" furnish the staple foods, but poultry, eggs, sheep and goats are plentiful along the river.

Game is, as a rule, too "dry" a food for Somalis, and birds are never eaten by them, yet smoked or sun-dried meat and a little water forms the only sustenance on raids, and the Midgans, who live on roots and berries also, are mainly dependent on the produce of the chase. Fish is consumed only by the tribes resident on the coast.

Milk.—When the grass is green, milk is plentiful, and is the sole food of the nomads, but in the dry weather the flocks are slaughtered for their meat.

Camels' milk is best after foaling, when each camel gives over 2 gallons daily (besides nourishing the foal), *i.e.*, sufficient for two men living on nothing else, and better in young than old animals. Both camels and cows are milked morning and evening. The latter, which benefit by the morning dew on the grass, are driven out at or before dawn, and milked on return between 8 and 9 a.m. The Somali milk-pails, smoky and tainted with sour milk, which is always preferred by the natives, should be avoided by whites

Ghi.—Clarified butter or "ghi," made from the surplus milk of cattle, sheep, and goats is required when the meat is lean, and is bartered in considerable quantities by the inland tribes to the coast inhabitants.

Camel Flesh.—Somalis—more especially the Ogaden—fatten many of their camels and send them to the coast, where they sell at present for about Rs. 30 each. In Berbera market camels' meat is sold at 4 annas per pound. The flesh is palatable and tastes something like beef. A slaughter camel is called "gol."

Cattle.—Cattle are chiefly kept by tribes who inhabit hilly country or who have a good supply of water, *e.g.*, the Isa, Gadabursi Habr Awal (Mohamad Isa, Rer Jibril Yunis, and Rer Hared sub-sections), and Habr Gerhajis (Kassim Ishak sub-section) in British; the Abbasgul and Bertiri in Abyssinian; the eastern Mijjarten, Northern Hawiya, and all the tribes along the Middle and Lower Shebeli in Italian; and the Danakil and Isa in French Somaliland. They are also always to be found at tarigas, and at

Hargeissa are numerous. Large numbers are sent to the Benadir coast from the Shebeli Valley. The whole of the Aden meat supply is drawn from Northern Somaliland, where, according to Captain E. J. E. Swayne's estimate of 1898, some 20,000 head were to be found in an area extending 300 miles inland from the coast between Zeila and Berbera. Shipments to Aden are made from Berbera, Bulhar, and Zeila, as well as from the eastern ports.

Cattle can march about 20 miles a day, and come to the coast from as far inland as Ogaden.

They are much affected by drought, and suffer from periodical outbreaks of pleuro-pneumonia.

Sheep and Goats.—Sheep, a small breed, about 25 to 35 pounds deadweight, with black heads and fat tails, are so plentiful that they are given everywhere as presents, are eaten daily by the nomads, and yet furnish a large annual export both of live animals and of skins. Captain Swayne's estimate, quoted above, puts the number of sheep at 3,500,000 in the area there mentioned, while another estimate gives 200 sheep to every adult male. The annual export from Berbera in 1904–1905 was 692,620 sheep and goat skins, and 26,687 sheep and goats, and in 1903–1904 was 583,496 sheep and goat skins, and 40,722 sheep and goats. Sheep, like goats, can go for six to eight days without water at all times, and when the grass is green or during the rains can do without it entirely. Milch goats are occasionally taken on the march for their milk, and should then have water daily to ensure a regular supply; they produce more milk in the warmer climates, and in the higher mountains and on the Haud suffer from the cold. The grazing in Guban is scanty; on Ogo and the Haud it is unlimited.

Sheep are driven to the coast from Ogaden, and march some 16 miles a day.

(ii) *Imported.*—Imported food supplies include rice, jowari, dates, tea, and sugar. All necessaries are procurable in any quantity at Berbera, Bulhar, and Zeila, Messrs. Cowasjee, Dinshaw and Brothers' shop at Berbera provides European stores, liquors, &c. A good supply (rice, dates, and ghi) for about 1,000 men for three months is now always obtainable in Berbera.

(iii) *Rations.*—The usual daily ration for Somali soldiers and others serving in the interior is: 1 lb. of rice, ½ lb. of dates, and 2 oz. of ghi, supplemented by an allowance of meat of 4 oz. per day. This meat ration requires, in the opinion of the medical authorities, to be increased for soldiers doing hard work continuously.

(iv) *Prices of Food Supplies, &c., in Berbera.*

	Price.	
	From	To
	Rs. A.P.	Rs. A.P.
Cattle—Ox - - - per head.	14 0 0	25 0 0
,, Cow - - - - ,,	18 0 0	30 0 0
Sheep—Prime - - - ,,	7 0 0	8 0 0
,, Medium - - - ,,	3 8 0	4 0 0
,, Small - - - ,,	2 0 0	2 8 0
Goats - - - - ,,	2 0 0	4 0 0
,, Milch (Arabian) - - ,,	10 0 0	15 0 0
,, ,, (Somali) - - ,,	4 0 0	6 0 0
Ghi - - - - per lb.	—-	0 7 6
Rice—1st quality - - 1 md. (28 lbs.)	—	2 8 0
,, 2nd ,, - - ,,	—	2 0 0
,, 3rd ,, - - ,,	—-	1 12 0
Potatoes - - - ,,	—	2 0 0
Onions - - - ,,	—	2 0 0
Firewood - - - ,,	—	0 2 0
,, - - 1 camel load (12 mds.)	1 4 0	1 8 0

(*f*) *Fuel.*

The denudation of the plain around Berbera by the tribes that resort to it during the trading season is steadily reducing the available supply of fuel in its neighbourhood, while in the immediate neighbourhood of the sea on the Eastern Mijjarten Coast it is not plentiful. The towns of Berbera and Bulhar are also supplied from Gheri, which place lies betwen Berbera and Bulhar, and is the centre of the wood industry along the coast. The expeditionary force which landed at Obbia at the end of 1902 had considerable difficulty as regards the supply of firewood until it left the coast on its march to the interior. In the

interior, however, it is generally obtainable in ample quantities. The nomads obtain fire by the friction of small pieces of wood—one soft and the other hard—called "*madag*," which each one of them carries.

(g) *Water.**

With the exception of the Juba and Webi Shebeli rivers with their tributary streams, all of which lie in the west and south within the Abyssinian and Italian spheres, there are no other permanent rivers or streams in Somaliland. The whole of the northern, north-eastern, and eastern portions of the country are dependent for water in the dry season on the permanent wells only, which however are, in the rainy seasons, supplemented by rain pools. There are, it is true, in the maritime hills and Golis Range a few small streams, some of which flow above ground for short distances in their courses during the whole year, while others contain running water at intervals in their courses for only a few months in the year; but to call them permanent streams would give rise to a misconception. Nor can it be considered that a permanent water supply is afforded by the torrents which, after heavy rain, are formed by the surface drainage from the high ground, and fill for a few hours the dry nullahs and watercourses, but rapidly pass, leaving behind them only a few pools at intervals in their courses, the remainder of their volume being absorbed by their dry sandy bottoms or by the coast sand-dunes into which they empty themselves.

The permanent wells or groups of wells (for they are often found in groups) lie at intervals from each other, which vary from 10 to 100 miles, and occasionally even more, as for instance the distance from Bohotle to the Mudug wells, which is about 130 miles.

In these wells, called "*Eil*" or "*El*," water, as a rule, is some 50 to 80 feet from the surface of the ground; the greatest depths occur in the Dolbahanta and Ogaden country. Narrow circular funnels are dug through alluvial soil or hewn through rock to the water level, and are provided with slots on which men stand and pass up the

* *Vide* Appendix G., "Water supply during Campaign, 1901–4," with list of watering places.

water from one to another by hand in skin buckets. About half the water is lost *en route*, and the remainder is turned into rough hide or wooden troughs, at which the animals drink. Separate wells and, if necessary, separate watering hours are allotted to the different tribes or sub-tribes. Some of the more important permanent wells and the names of the tribes and sections who water at them are given in the following list:—

Name of Well.	By whom chiefly used.
Hargeissa	Habr Awal (Rer Yunis, Rer Samatar, Yunis Nuh). Habr Gerhajis (Arab and Aidegalla).
Adadleh Oadweina Burao	Habr Yunis.
Kirit Garrero Bohotle	Dolbahanta.
Hodayawein Gerlogubi Bulali	Ogaden.
Galkayu	Mijjarten.

In addition to the wells, water is often found in the rainy season not only in pools formed in nullahs and watercourses as described above, but also in pans, *i.e.*, shallow pits or broad tanks of clay called "*las*." These pools and pans are frequented by the tribes as soon as the rains begin until they run dry and the surrounding grass is withered. In the case of the largest pools and pans the supply of water will sometimes last as long as two months. Even after this period water can sometimes be obtained by digging in the river beds or in the pans, but in the latter case care must be taken not to penetrate beyond the clay layer 2 to 4 feet thick.

The quality of the water in pans and wells varies considerably. In the gypsum rock of the Nogal district it is, as a rule, strongly impregnated with sulphuretted hydrogen

and is considered better than untainted water for all animals, but not for man; the unpleasant nature of the sulphuretted hydrogen water disappears to a great extent, if it is exposed to light and air, and does not appear to be unwholesome; in the pans of Ogaden it is fouled by the flocks driven into the pools to water, whereas the tribes farther north water by hand and trough; at the beginning of the rains the surface scum, fouled by the flocks and herds some months before, is washed into wells, and the water is therefore, at first, bad for drinking. In the maritime plain water is always brackish. The water of the interior plateaux is excessively hard, sulphates of magnesium and calcium being present in large quantities, at some places associated with sodium sulphate. When this is the case, as in the Nogal valley, excessive purgation with severe colic is often experienced. In the campaign of 1901–04 as many as 300 to 400 cases of this nature had to be treated in one day in the Nogal valley. On the whole the best water on the interior plateaux is that got from wells in dry river beds.

A Berkefeldt filter or other clarifying and sterilizing method is recommended for use by Europeans throughout all Somaliland.

When crossing a waterless stretch of country, water is usually carried on transport animals, and a daily allowance is issued to men and animals (except transport camels). The usual allowance for men is 1 gallon per man per day, and this cannot be reduced in the case of Europeans and Indians. Somalis, however, can manage in an emergency for one or two days on an allowance of ½ gallon per man per day, but as this is only sufficient for drinking and not for cooking also the ration at such times must consist entirely of dates. For ponies and mules the usual allowance is 3 gallons per animal per day. Arab riding-camels are usually given 4 gallons every second day, if possible.

When the grass is green, Somali camels (if not in work), sheep, and goats seldom require water, and, except when the supply is convenient and close, are not watered more than once a month. Ponies which are kept in the Haud under the same conditions can, if not hard-worked, do on 1 quart of water per diem added to the milk of two camels. The Ogaden during this period, when the milk is

plentiful, provide water for the sick and women only; the remainder of the tribe live on milk.

(*h*) *Fauna and Flora.*

Appendices C. and D. contain descriptions of the fauna and flora of Somaliland.

CHAPTER VIII.

Inhabitants.

Tribes.

Of the early inhabitants little is known. Apparently they were a race of small black men, represented at the present day by a few degenerate autochthons near Cape Gardafui and by the Agaos of Abyssinia.

The original race appears to have been expelled by an Aryan invasion, to which supervened a Hamitic one. This combination produced the Gallas, Wahumas, and Abyssinians, but the Hamitic blood is also retained in greater purity amongst the scattered "outcast" races. Lastly came a Semitic infusion, which produced the hybrid race now called Somal by intermarriage with a Galla element in the north and a Hamitic in the south.

The present day inhabitants show distinct traces of Aryanism in customs and language, and of Hamitic origin in their physique. Signs of the occupation of the Gallas, a more settled and more highly developed race than the Somalis, are to be seen in the ruined graves and villages, and in the abandoned areas of cultivation, more numerous in the west, from which the Gallas were last expelled.

It may be noted that the westward expansion of the Somalis has recently been checked by the superior organisation of the Abyssinians, and, being deflected south, forms with the northern movement of the Masai a wedge which is driving the Gallas inland to the Abyssinian Mountains.

The Somalis divide themselves primarily into two social divisions, viz., the Aji or pure blood (gentle folk), and the Sab or outcast.

The Aji are divided into Ishi or Asha. including the two large and important races called, after their ancestors, Ishak and Darud, and Irir. including the Hawiya, Biyomal, Gadsan, Melug, &c. The Rahanwein are also Aji, but of doubtful origin. The Gadabursi and Isa are also undoubtedly Aji, but their descent cannot be traced. Of the

Gadabursi, one tribe, Rer Nur, are said to be undoubtedly a sub-tribe of the Aidegalla, who are Ishak; while the rest are also supposed to belong to the Habr Yunis, who, with the Aidegalla, form the large tribe called Habr Gerhajis.

The Sab includes the three outcast tribes—Midgan, Tomal, and Yibir. The Tomal, however, are by birth of Darud descent, but have become Sab by intermarriage.

The following table shows the primary divisions of Somali tribes :—

- Aji.
  - Ishi or Asha.
    - Ishak
      - Habr Awal.
      - Habr Gerhajis
        - Habr Yunis.
        - Aidegalla.
        - includes Gadabursi.
      - Arab.
      - Hahr Toljaala.
    - (?) Isa.
    - Darud
      - Ogaden.
      - Bertiri.
      - Abbasgul.
      - Harti.
        - Warsangli.
        - Mijjarten.
        - Dolbahanta.
      - Marehan.
      - Usbeyan.
      - Yahiya, &c.
    - Irir
      - Hawiya.
      - Biyomal.
      - Gadsan.
      - Melug, &c.
  - (?) Rahanwein, &c.
- Sab.
  - Midgan.
  - Tomal.
  - Yibir.

The Asha trace back through some twenty generations, *i.e.*, as far as the twelfth or thirteenth century, to two Arabian proselytisers, Sheikh Ishak-bin-Ahmad and Sheikh Jeberti-bin-Ismael-bin-Akhil. The former came from Hadramaut, settled, and was buried at Meit, and is the founder of the Ishak group; the latter was wrecked on the north-east coast of the Horn, where he settled and died, but was buried in Arabia. He left a son, Darud, the founder of the Darud section.

The Ishak group consists of the Habr Awal, Habr Gerhajis, Arab, and Habr Toljaala tribes, and live nearest to Berbera; the Darud forms a wide semicircle around the Ishak, and embraces, from north-east to south, the Warsangli, Mijjarten, Dolbahanta, Gheri, Usbeyan and Marehan, and from south to north-west the Ogaden, Abbasgul, and Bertiri.

It is impossible within the limits of this précis to enter into all the ramifications of the sub-tribes, clans, and jilibs or families of Somalis. Appendix A. (3) contains, however, a *resumé* of the principal tribes, their sub-divisions, boundaries, and strength; more detailed information will be found in Major Abud's and Captain Cox's Genealogies.

A confusing feature of Somali tribal nomenclature is the frequent repetition of prefixes and names. In the latter case it is due to the paucity of Mussulman appellations known to the Somalis, who have, to a certain extent, remedied the deficiency by the use of nicknames, *e.g.*, Aidegalla and Dolbahanta, or by a reference to the circumstances of birth, *e.g.*, Gedi, "born on the march"; Gadid, "born at noon"; Robleh, "born in wet weather." The usual prefixes are Rer, Habr, Ba, and Ba Habr, and are indicative of the prolificness of the Somalis, amongst whom one man's descendants develop in a few generations from family to clan, and from clan to sub-tribe. Rer or zariba is the temporary village of a wealthy Somali, whose name is given to the rer, and by an easy transition the whole expression, *e.g.*, Rer Ibrahim, is applied to all its occupants and their descendants. The other prefixes refer to female ancestresses, and are necessary in a large family to distinguish the offspring of each of the four wives whom the Shafai sect of Mahommedanism allows to each man. Habr represents generally an original tribe, or else a very large sub-tribe, and is always confined to the descendants of an ancestress of a remote period; while Ba Habr refers, as a rule, to a sub-tribe or clan of more recent origin and smaller numbers than does Ba.

The Outcast Tribes.

The three outcast tribes are the Midgans, Tomals, and Yibirs. These are considered of no account by the Aji, and, under no circumstances, is an Aji of either sex allowed to marry one of them. The Midgans practically

hold the position of serfs; the Tomals are tolerated by reason of their usefulness as blacksmiths; the Yibirs are entirely ignored in so far as fear of their traditional powers of sorcery allows.

The Midgans, the most numerous, are professional hunters and trackers, and are consequently much employed by all the tribes in war. Owing, however, to their filthy habits, as well as to the fact that they are lax in the observance of certain rules of their religion, Somalis are averse to eating with them. They are divided into two clans, the Musa Deria and Madiban, who keep apart. The whole tribe is scattered in small, separate communities amongst the nomad Somalis, for whom they fetch wood, draw water, dig and clean out wells, &c., in return for which they receive from their employers occasional payment, in food or otherwise, and protection.

The Tomals, called also Gomals amongst the Mijjarten. are, like the Midgans, divided into two clans, the Rer Ambar and Rer Osman, and are split up amongst the several Somali tribes, to whom they are indispensable as the only workers in iron in the country. They use a hammer, pincers, anvil, and sheep or goat's-skin bellows, and with them make spear-heads, swords and daggers from old hoop-iron. They only marry among themselves, but follow the customs of the superior race. Tomals are quick to learn more advanced work, and are employed by the local troops as armourers and shoeing smiths.

The Yibirs, comparatively few in number, live mostly amongst the Mijjarten. They are looked on as astrologers and sorcerers by Somalis, who greatly fear a Yibir's curse. They are a begging tribe, and are related to the Doshan of Arabia.

The following practice is still observed:—Whenever a Somali marries, or his wife gives birth to a son, a Yibir may come and demand his fee, called "samanyo," which amounts to two or three rupees or a sheep or goat. If the Somali were to refuse, he would be cursed by the Yibir. The Yibir in return gives a charm, called "makharam," which is tied round the woman's or child's arm or neck. This charm is a small piece of wood from the sacred grove of the Yibirs near Harrar. This grove, a relic of Galla paganism, is supposed to be the tomb of Hanfili, the wife of the Yibirs' ancestor, who became a spirit or goddess and

took the form of a wind. There is a saying that the dead body of a Yibir has never been seen; when they are to die, Yibirs are said to be carried off by Hanfili in a rushing wind or smoke.

Yibirs invariably carry a satchel containing some "makharam" wood, pieces of leather, and the knives and implements of a leather-worker.

Tomals are by birth descended from *Darud*, but lost caste by intermarrying with Midgans and Yibirs. The latter are both workers in leather, tan hides, and also make saddles and shoes. Both also have their own dialects, in addition to the pure Somali; which, however, only differ from Somali in vocabulary, and are probably largely artificial, to be used as a secret code.

All three outcast tribes profess to be strict Mohamedans.

Population.

In the case of many tribes, more particularly the inland negroids of the south, no attempt has been made to form an estimate of their numbers. In the north a rough approximation has been made, but in some case, *e.g.*, the Dolbahanta, Ogaden, and Mijjarten, the figures are based on hearsay, and in other cases computation is rendered difficult by the nomadic habits of the population.

The estimated population and number of fighting men is given in Appendix A 4.

Language.

The language spoken by the Somal is distinct and perfect in almost every form. Its syntax is regular, with but few exceptions. Like the Arabic it has no *p*, and like most eastern tongues, it has cerebral and labial forms of several letters. It possesses the *ain*, the *ghain*, and the *kha* sounds of the Arabic, and all are very much exaggerated in the Somali tongue, especially the former, which is carried into other vowels than the *a*.

This makes the language difficult to hear, and more so as the Somal generally drops his voice at the end of a word, and, in consequence, many of the terminations are apparently lost.

The verbs are perfect in all their tenses, but nouns and adjectives are not declined, though they are inflected in various ways in the plural, and adjectives are also inflected to agree with the definite article.

The weakness of the language consists in the want of a relative, and in consequence of this and the extreme chariness of exertion, which is characteristic of the Somal, causes a conversation to be split up into a number of sentences, but to whom the conversation refers it is difficult to find out unless the commencement is heard. This leads to wearisome repetition.

There are probably 1,500 indigenous word roots, with a great many Arabic words, some, however, altered almost beyond recognition.

The country teems with rhymers. Somalis have a fine ear, and take the greatest pleasure in harmonious sounds and poetical expressions, whereas a false quantity or a prosaic phrase excites their violent indignation.

The grammar written by Colonel Hunter was the first to be published, namely, in 1880. Another very good one, also a fairly complete dictionary, was given to the world in 1897 by the Rev. Father Evangeliste and the Brother Cyprian, both of the Berbera Roman Catholic Mission, who spent three years in compiling them. Another grammar has been published in 1905 by the Cambridge University Press, compiled by Captain J. W. C. Kirk.

Signor Robecchi brings to notice that accents and tones differ in the east and west. Thus in the interior and towards the west, the cerebral *d* is used instead of *e*, while among the Mijjarten the *r* is considerably accented. Towards the Shebeli river a distinct nasal twang strikes the ear, and further south the consonants melt into one another, and there is more frequent elision of the vowels.

There are distinct but slight variations in the speech of the main tribes of the Ishak and Darud Somalis, both in vocabulary and in the inflexions of words.

A comparison of Somali with the Arabic and Galla languages shows considerable and fundamental similarities, suggesting that first Galla and then Arabic has been grafted on to some indigenous stock.

Physique and Character.

(*a*) *Physique.*—The Somalis resemble, but are bigger and better built than, the Gallas. They are in colour light to dark brown, have intelligent features, and naturally wear their crisp wiry hair in ringlets, often stained a reddish-brown, or, in the case of the elderly and wealthy, shave the head; lately, however, the fashion of cutting the hair short has become more frequent. They are tall, but somewhat too long in the body and too narrow in the shoulders for elegance. Their thighs are somewhat short, and their lower limbs generally are poorly developed. Owing to their disinclination to constant work they lack muscle, but though not hardy, and, in consequence of the dryness of their climate, prone to fevers and rheumatism, they are very enduring and excellent marchers. They can do without food for long periods, but have enormous appetites; for example, five men can finish a camel's hind leg at one meal. Being Mohammedans they abstain entirely from intoxicating drinks, and can continue on very little water for days, *e.g.*, for five days on a daily allowance of one quart. Many of them, more particularly the Dolbahanta, are good horsemen. The Isa are unquestionably the finest in physique, averaging 6 feet in height.

The coast tribes are in physique and courage inferior to those of the interior. The more settled negro tribes of the south are more powerfully built, but, although they are less affected by the malarial exhalations of the river valleys, appear to be inferior in endurance.

(*b*) *Character.*—The majority of writers give a favourable account of the Somali character, but there are some exceptions. They are cheery and light-hearted; fond of display; imitative but not inventive; extremely quick to learn up to a certain point; sensitive and excitable to an unusual degree; are cautious, but possess some moral and physical courage—the latter, however, not of a lasting nature. They appear incapable of sustained labour, and are inconstant in their moods and attachments.

They have few real vices, and serious crimes are not of common occurrence. Their chief defects are carelessness and avarice. Although avaricious, yet, when visiting the coast towns and possessed of ready money, they are great spendthrifts, and it becomes a point of honour with them, under such circumstances, to treat and feed their relatives

and fellow tribesmen, who are, as a rule, not slow to take advantage of it. Their avarice is further leavened by their enterprise, which induces them to take employment as firemen on steamers, and accounts for the establishment of their settlement at Aden.

Some of the southern tribes, *e.g.*,the Hawiya, are distrustful of Europeans, less developed, and prone to stealing, to which, as distinguished from raiding, the Northern Somalis are generally averse. The negroid Adoni and inhabitants of the Lower Shebeli are of a more placid disposition, and less energetic than the Asha, and are generally well-disposed to Europeans, although frequently at variance with one another.

Occupations.

The inhabitants of Somaliland may be divided, according to their occupations, into six classes, viz. :—

1. The nomads, bedouins, or barkle (lebarke = without a pillow), who form far the larger number, keep sheep, goats, cattle and camels, and breed ponies, live almost entirely upon milk, meat and ghi, and, following the rain in search of grass, rarely remain for more than two months in the same place, except when they return to their permanent wells in the dry season ;
2. The settled Somalis of the coast, who are comparatively few in number, are principally occupied as *abbans* or brokers (*saladins* amongst the Mijjarten), and in the Warsangli and Mijjarten country also engage in fishing and sailing voyages to Aden and along the coast ;
3. The traders, who between November and March bring large caravans from the interior of the coast ;
4. The settled agricultural inhabitants of the valley of the Webi Shebeli and of the plateau between it and the Juba, whose numbers appear to be increasing ;
5. The outcast tribes, of comparatively few numbers ; and
6. Slaves, all of whom inhabit the banks of the Webi Shebeli and country south of it.

As regards the latter class it is to be noted that the Northern Somali tribes do not recognise slavery, and expel the negroid tribes which bar their southern expansion. But the Hawiya and Rahanwein beyond the Shebeli have not only enslaved these tribes, but also apparently treated them with great severity, for communities of runaway slaves are found at intervals, *e.g.*, at Liba-Webi, three days above Bari on the Shebeli, and Gosha, a most important densely-populated agricultural district, extending for some 150 miles along the right bank of the Lower Juba.

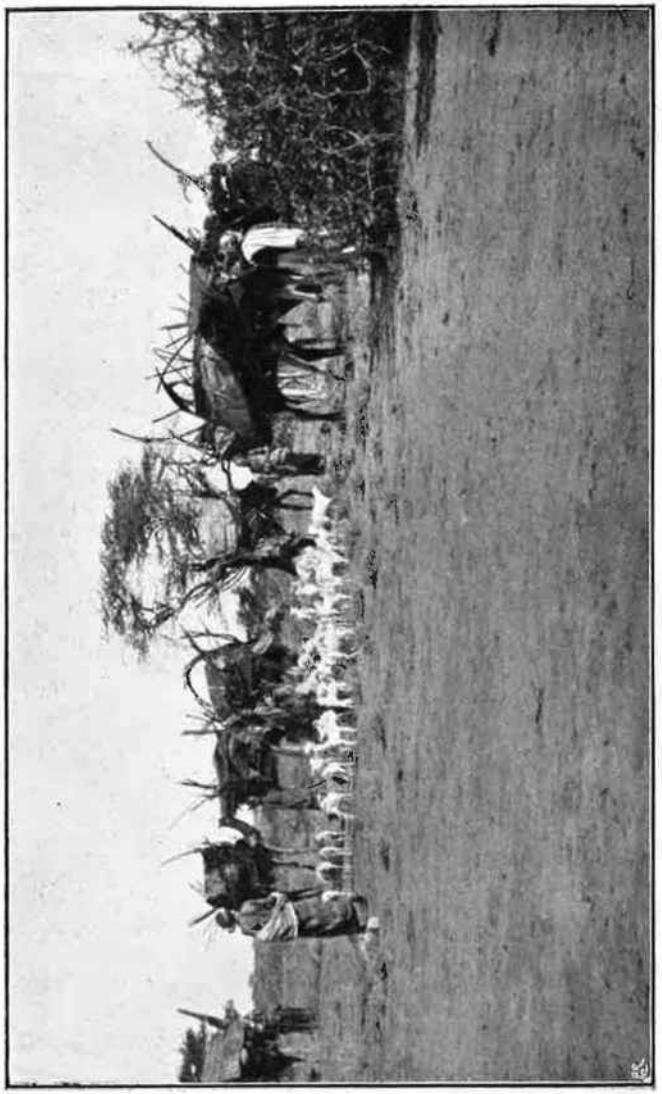
Tribal Government and Relations.

(*a*) *Tribal Government.*—Nominally, the majority of the tribes are each under a chief, styled Bogr or Bohr, Gerad, Ugaz, or Sultan, but the latter title, until recent years, was generally confined to the Mijjarten. The chieftainship does not necessarily descend to the eldest son, but remains, generally, in the same family, subject to the conditions that the chief is sound in wind and limb, without spot or blemish, and the son of a virgin at the time of marriage. He is entitled to certain perquisites, and may impose certain fines, called "hal," for breaches of tribal law, but his power to enforce payment is dependent on the strength of his family.

It is obligatory on him to entertain all his so-called subjects who visit him on business.

In practice the conduct of affairs is in the hands of the wealthiest or most powerful elders, akhils,* or heads of families, who take the leading part in the general tribal assemblies called "shir." The powers of sultans and akhils, as a rule, depend on the character of the individual and on the amount of backing he gets from his family. Among the tribes in British Somaliland it is the exception rather than the rule for the sultan or akhil to have any real influence with his tribe. They are listened to or not as suits the convenience of their tribesmen, who, owing to their independent natures, bred of a nomadic and scattered life, consider themselves every bit as good as their sultans

* The name "akhil" is Arabic, and signifies "wise man." Somalis in their own language call their headman "Odei" (old man), "Wayel" (wise man), or "Gedjog" (he who stands under the tree).



A SOMALI VILLAGE ON THE MOVE.

and akhils, while, in some cases, the lack of dignity and irresponsibility of headmen themselves detracts still further from the respect in which they should be held.

Throughout Somaliland there are two laws, namely, that laid down by their religion, "sharia" law, and that laid down by tribal custom and tradition, called "her." These may be different in certain cases; for instance, a widow by Mohamedan law is free to marry any one she pleases, and so it would be decided by a "sharia" court, which is presided over by a priest or "wadad," but by Somali "her" she belongs to the deceased's tribe, and may not marry any one outside that tribe without permission. Cases to be dealt with according to "her" are laid before the "shir" or committee of akhils, who discuss the movements of the tribes, grazing and watering, and decide civil and criminal cases.

Amongst the Mijjarten the system of administration is definitely prescribed. To each of the ports of 1,000 to 1,500 inhabitants is allotted a cadi or governor, who is assisted by one or two councillors; all minor questions are decided by them, and the more important ones are referred to the royal council, composed mainly of members of the royal family. The authority of the sultan is that of a limited monarchy, and during his minority cannot be exercised by him, but is vested in a regent or prime minister—an office now hereditary in the Nur Osman family. Revenue is obtained from *ashour*, *i.e.*, import and export duties, and a tax on frankincense property; the sultan, however, receives but a small portion of the revenue, which is apparently reserved for the upkeep of forts, war purposes, and expenses of local administration.

(*b*) *Inter-tribal Relations.*—The importance occupied by the family in a patriarchal system of government has led in Somaliland to the disintegration of the original tribes into sub-tribes, clans, and even families, which rarely act in unison, unless threatened by a common danger, and even then self-interest and mutual distrust weaken the combined effort. This complete independence of the tribes is largely the result of the nature of the country and climatic conditions. With a pastoral people like the Somalis, the chief object of existence is to find grazing for their thousands of flocks and herds. In a country where, during certain times of the year at any rate, there is rarely enough

grazing or water in any one place for large numbers of flocks and herds, a concentration of the tribes becomes impossible for any length of time. Moreover, the rains are to a great extent local and variable, and there is a constant competition for the newest and freshest grazing as the old becomes eaten up. Scouts are continually in search of fresh grass and rain pools ("ballis"), and the karia which gets the information first obtains the best water and grazing. In this way the herds are continually being moved from place to place, each little "jilib" or "rer" making its own separate arrangements for its own animals. Thus any big tribal combination could only be made under very exceptional circumstances. Further, the scarcity of water makes the possession of wells a frequent cause of dispute, and the besetting sin of the Somalis, avarice, leads to raids and counter-raids for the capture of camels, which, with the nomad tribes, form the usual measure of wealth. These tribal fights are not, however, very serious, for the proportion of killed is only some dozen per thousand engaged. But they serve to keep alive long-standing feuds, and, even after the cessation of hostilities, the quarrel is kept open by disputes as to *dia*, *hagh*, or *mag* or blood-money. Strictly, *dia* or *mag* is blood-money for murder or manslaughter. If death was purely accidental, only one-third of the full *dia* is paid. *Hagh* is blood-money for wounds or assault; for instance, loss of a limb is compensated for by 50 camels, and minor injuries in proportion. *Hal* is a fine for minor cases, and is usually decided by "shir," while the higher blood-money is decided by "sharia."

According to this custom payment for wounds or death has to be made to the injured man or his relatives by the offending tribe. In case of death 100 she-camels (or in British territory 776 rupees) must be paid for a man, and 50 for a woman. When the death or injury can be traced to any particular individual, he is liable for one-third of the *mag*, in addition to his share of the two-thirds which must be paid by the tribe.

Exactions from caravans were also formerly additional causes of disturbance, but as a result of the more settled state of the country this practice has now almost entirely disappeared in the neighbourhood of the British sphere.

In recent years the tribes within the British sphere have

readily appealed to the British authorities for the settlement of disputes—a practice followed too, sometimes, by tribes as far south as the Shebeli until the appearance of the Mullah. They prefer having their disputes settled by British authority to their own lengthy, tedious, and generally unsatisfactory methods. They would readily respond to a more regular administrative system than that which at present prevails.

Appendix C. (3) contains further remarks on the relations of the more important sub-tribes to one another, and Chapter VIII. describes the attitude of the tribes to the Mullah.

Customs.

Marriage.—Girls and boys are permitted to marry at the age of 12 and 15 years respectively. If overtures, opened on behalf of the latter, prove acceptable to the prospective father-in-law, a payment is made by the lad as security (*gabati*, from *gabad*, a maiden). *Gabati* is only a token and may consist of any small thing; it may even be given before the birth of the girl.

By this act the betrothal is completed and the girl becomes the property of the lad's tribe, but remains until marriage with her father. In the event of the death of either of the contracting parties a substitute has to be found. After betrothal the lad often joins and remains for two or three years with the family into which he marries. Prior to marriage the purchase price of the wife, *yarad*, which varies from 10 dollars to 100 camels, must be paid on behalf of the husband, but apparently a portion of the payment may be deferred until after marriage, provided the husband remains with the wife's family until the debt is paid. The wife brings as dowry the hut and household utensils, called "*bulaus*," to which are sometimes added from a few sheep or one camel up to 10 camels, called "*dibad*." If, as in some cases, the husband pays no *yarad*, he must himself produce the household utensils, &c. Another payment, *mehr*, has to be paid by the husband to the woman on marriage. The woman may claim any amount she thinks fit, but the claim is subject to the decision of the officiating priest. At any time after the marriage a Yibir may demand his *samanyo*.

Not unfrequently marriage is effected by the capture of the bride, after which an offer of payment is tendered. This may be refused, and inter-tribal reprisals follow, which, also, are often the consequences of some breach of the more formal procedure.

The marriage ceremony is a simple affair, and is not attended by the bride, who is represented by her nearest male relative. A widad or priest reads the kutba, and afterwards a more or less elaborate feast, dances, and horse-play (*dibaltig*) take place for a period of seven days.

Marriages are avoided between relations, a term which often embraces the members of the same clan, or even sub-tribe and tribe. In the Mijjarten country this practice is carried so far that the sultan cannot be the son of a Harti woman; on the other hand the Arab custom of the inter-marriage of cousins is being introduced amongst this tribe and also among the Ogaden, Rer Ali. Intermarriage between tribes, even during a period of active hostilities between them, is therefore not uncommon. This custom secures the safety of the husband, if captured, and in more peaceful times allows him to establish a trading connection with another tribe, for which purpose the wife is often left with her own people.

Each man is allowed by the tenets of the Shafai sect of Mohamedanism to have four wives.

Naming and Circumcision.—The naming of a child takes place immediately after birth before a priest or wadad, and is solemnised by the slaughter of a sheep.

Boys are circumcised and girls infibulated when from 4 to 7 years old. Before that time the hair is usually kept shaved, except in a circular ring in a line with the fringe, but after the operation it is completely shaved and then allowed to grow freely. Both operations are usually performed by Midgans.

Divorce.—Divorce has to be repeated three times before it is irrevocable, and may be pronounced by the husband for any cause, *e.g.*, incompatibility of temper, failure to bear children within three years of marriage, or desire to make a more advantageous marriage. Yet in the interior it is not common, for the wife is a piece of property for which a price has been paid, and with divorce the *gabad* is lost and the *mehr* must be repaid. Hence the divorce oath pronounced three times, especially when it affects the favourite wife, is the most binding on all nomad Somalis, except the most devout followers of the Prophet.

Burial.—Burial is carried out according to Mohamedan ritual. The grave is dug with a recess at the bottom to one side, into which the body is placed, lying on its side. This recess is then boarded up and plastered before the hole is filled with earth. Stones are placed round the edge of the grave, and down the centre are placed two upright stones in the case of a man, or three in the case of a woman. The grave of any important "wadad" is surrounded with a palisade of wood, while over a "sheikh's" grave some cloth is often hung.

Family Relations.—Women are of little account, except in so far as they have a commercial value until married, and afterwards are able to do all the manual work, excluding the care of ponies and grazing of camels. Hence it sometimes happens that a woman, too old for work, is left by the nomad tribes to die of privation, or to be killed by wild animals in their wanderings. Children, after being weaned, are left to shift to themselves, and hence mature early.

The Somali woman is, however, not subject to the restrictions of her Arab co-believers, except in the neighbourhood of the Webi Shebeli.

Dress and Property.

(*a*) *Dress.*—Both men and women of all Somali tribes, except the Isa, wear a similar garment, viz., a "tobe," "maro," or double breadth of cotton sheet about 15 feet long, brown, and threadbare in the jungle, but dazzlingly white on the coast. It is draped differently by each sex. As a rule men throw it over one or both shoulders, give it a turn round the waist, and allow it then to fall to the ankles. In cold weather the head is muffled, and at night the whole body is enveloped in it; prior to a fight the arms and breast are left bare, and the portion thrown over the shoulders is wrapped many times round the waist as a protection. Women wear it confined by a sash "*bokhor*" round the waist, with one end passed diagonally across the back and breast. Instead of, or in addition to, the "maro," a waist-cloth is worn; this may either be a half-tobe, "*goa*," or a special cloth with coloured edges, "*mawis*."

The waist-cloth alone is worn when doing manual labour. The nomad Mijjarten wear skins sewn together like a tobe, and the elders, horsemen, and other persons of importance often substitute the "*khaili*," a gorgeous red, white and blue tartan for it. The "*khaili*" is commonly worn instead of a "*mawis*" by most Darud tribes. Formerly elders, akhils, and persons of importance affected the "*khaili*" or red tartan as a distinction; now this dress is worn by all who can afford to buy it.

The Midgans and the Isa generally wear a loin-cloth only.

The remaining articles, carried almost always by a Somali, consist of his shield, sword and spears, a neat grass water-bottle, a small piece of tanned leather which acts as a carpet when praying, and very heavy leather sandals and, if on the road, a native axe, "*qudimo*," and a "*hangol*" or forked stick for dragging and pushing thorn branches. The Midgans substitute a bow and quiver for spear and shield.

Ornaments worn by men are rings, a bead rosary, a leather amulet, or two large round blocks of amber threaded on a leather thong and fastened round the neck. Horsemen usually wear the rawhide hobble round the forehead, and carry a "*jedal*" or native whip. Women wear bracelets, rings, and ear-rings.

(*b*) *Personal Effects.*—The Somali lives in a round mat hut, "*akhal*," consisting of several bent sticks, "*digo*," over which are thrown the "*raro*" or mats, which are two kinds, the "*aus*" made of grass, and the "*kebid*" made of bark. Each man has a hut for each of his wives. A collection of such huts is called a "*guri*," and is enclosed in a zeriba, "*hero*." The inmates of a *guri* are the family or "*rer*." The *hero* is divided into several parts, viz., for the huts, camels, sheep, and ponies respectively. The entrance, "*illin*," is blocked at night by a large branch called the "*okhrei*."

The household utensils consist of the "*gogol*," or bedding, and the "*gurgur*," or furniture and cooking and food utensils.

On the ground are laid the "*dermo*," mats for sleeping on, with a wooden pillow, "*barki*," for the head. For furniture they have a four-legged wooden stool, "*barjin*."

The cooking, food and water utensils are:—"*Ubo*," a gourd for holding ghi, rice, &c.; "*hedo*," a flat wooden or metal dish for eating rice from; "*adhar*," a two-handled earthenware jar for cooking in; "*gumba*," a skin vessel for ghi; "*fandal*," a wooden spoon; "*muda*," a two-pronged fork; "*kalah*," a wooden cup; "*han*" (pl. *hamo*), large grass-plaited vessels for carrying water on camels and holding about six gallons; "*dil*," similar to a *han*, but smaller, for carrying milk; "*hadub*," a dish for drinking milk from; "*agan*" (or "*ajan*"), another similar vessel used as a churn for making butter; various kinds of wooden or skin buckets and ropes for drawing water; "*gembissa*," a vessel used for scenting clothes over a brazier; "*fidin*," a broad comb for the hair; and "*adthei*," a stick of the *adthei* tree for cleaning the teeth.

Religion, &c.

(*a*) *Religion.*—Mohamedanism is professed by all the Somali tribes, including, too, the negroid inhabitants of the south, but the Midgans and Yibirs are pagans.

The predominant sect is the Shafai or Kadariyah, but the less numerous, Muhammed Salih, to which the Mullah belongs, is apparently increasing in numbers.

Religious communities of hajis, wadads or mullahs, drawn from all the tribes without distinction, known as tarigas,* are scattered throughout the country and exercise a considerable influence. They are, as a rule, exempt from the attack of raiders, unless the latter should be hard pressed for food. But in 1899 the Mullah did not spare Upper Sheikh, possibly as the tenets of that community were not his own. A list of the more important tarigas is given in Chapter III.

Pilgrimages to Mecca are only frequently made by those wealthy enough. Although devout observers of some of the outward forms of Mohamedanism, and abstainers from intoxicating drink, the Somalis are neither intolerant nor generally strict followers of the law of the Prophet, but are Pharisaical in those rules which they do observe.

(*b*) *Education.*—Pilgrimages to Mecca, intercourse with Aden, and commercial instincts have brought home to the Somalis, especially those of the coast, the advantages of

* Said to be Masonic lodges.

education. The number of those who can read and write is, therefore, not inconsiderable, and the majority have a fairly accurate knowledge of geographical position.

They are quick to learn, but lack the power of application and continued effort. They pick up foreign languages with ease, and it is no uncommon thing to meet Somalis who can speak three out of the following foreign languages —English, French, Italian, Arabic, and Hindustani.

(*c*) *Amusements and Games.*—The favourite recreation is dancing and singing. Both sexes take part in the dances, which are usually accompanied by part singing, "*hes.*" The dances consist mostly in stamping and clapping the hands, while one or two execute special performances in the centre. The songs are either the "*hes,*" or "*gabei,*" a solo chant, often with a chorus, sung round the fire at night, or in solitude in the jungle, or the "*gerar,*" a song of fighting or raiding and only sung on horseback. Special chants are sung while watering the animals.

The chief games are a kind of draughts, "*shah,*" and cards, "*turub.*"

CHAPTER IX.

History.

Period ending 1860.

Of the early history of Somaliland little is known, and ethnology furnishes the only guide (*vide* Chapter VII.).

The first historical mention of the country is found in ancient Egyptian records, in which it is called "Punt" or the land of myrrh. Further evidence of expeditions to it is afforded by vividly chiselled and highly coloured decorations which still exist on the walls of the stage temple at Thebes. In the days of the Roman Empire, which maintained a considerable commerce with the Red Sea littoral, Somaliland become known as the Regio Thurifera or Aromatifera. Up to this time the Galla race was apparently supreme, and its dominion extended far north into the centre of Ethiopia.

The next noteworthy point is the spread of Christianity southwards from Cairo in the fourth century, when Frumentius penetrated into Abyssinia. Thence the monastic system spread into Somaliland, where its traces are to be found at Auboba, Aik, and Rat. In those day the Horn of Africa must have formed part of the kingdom of Axum, for, according to authentic records, the King of Abyssinia crossed in A.D. 523 from Zeila and other ports to Aden with some 70,000 men and conquered the Yemen. Here the Ayssinians remained for 70 years, when they were expelled by the Arabs and Persians.

A few years later a constant influx of Semitic blood into Somaliland took place, first in the shape of tribes driven out of the Yemen and Hadramaut by Mahomed and his followers, and then of Arab proselytisers, who, establishing themselves on the coast, absorbed the Galla element or else drove it inland. Thus the two main Somali divisions, the Darod and Ishak, were formed on the northern coast, which with the eastern passed entirely under Arab chiefs, who settled and intermarried with the natives.

About the year 1500 the Turks conquered the Yemen and, crossing the sea, established themselves at Zeila, which served as a base for attacks on the commerce to India. But in 1516 Zeila was captured and burnt by a Portuguese fleet. Subsequently it became subject to the Prince of Senna, and after the decay of that kingdom passed under the Sherif of Mocha. The 17th and 18th centuries are barren of incident, but the first year of the 19th drew attention to the fact that the most direct route between England and India lay through Egypt, and soon Waghorn's route viâ Suez was adopted.

From this resulted the capture of Aden in 1839, and with it commences the history of British intercourse with the Somali coast. Aden not only gave Great Britain command of the Gulf of Aden and of the Red Sea, but also afforded a backway into Egypt, as the Kosseir expedition proved. The Government of Louis Philippe was consequently aroused to the importance of securing a naval station in the Gulf of Tajura as a counterpoise. An expedition was organised for this purpose, but was anticipated by the East India Company, which obtained by a treaty dated 19th August 1840 with the Sultan of Tajura, the cession of the Musbah Islands, and also purchased the islands of Rat and Bab. These measures were followed by the conclusion of a treaty on the 3rd of September of the same year with the Governor of Zeila, who undertook not to cede any points on the adjacent coast to any other foreign Power, while in the following year a mission was despatched to the King of Shoa to consolidate relations with him.

In 1848 Zeila was farmed out to a local chief by the Turkish Governor of Mocha and Hodeida, who claimed suzerainty over the coast. Trade from Harrar and the interior to Aden, viâ Zeila and Berbera, began to increase, and would have extended more rapidly but for tribal disputes. These culminated in 1851 in a disturbance between the Habr Awal and Habr Gerhajis, whereby the Berbera route was closed, until the blockade of that port by a schooner of the Indian Navy restored order.

Excellent surveys and various short expeditions into the interior were carried out by Haines, Christopher, Cruttenden, and other officers of the Indian Navy in the forties and early fifties, and also by Captain Guillain, of

the French Navy, in 1847. In 1854 Speke penetrated from Las Khorai to Rat, and Burton starting from Zeila reached Harrar, then ruled by Emir Ahmed Sultan.

In April of the following year a mission under Burton was about to leave Berbera for Zanzibar, when it was attacked and an officer was killed. The coast was therefore once more placed under blockade, which was not raised until the coast tribes had signed a treaty, dated 9th November 1856, in which they undertook to suppress the slave trade and mend their behaviour.

The Egyptians in Somaliland, 1860–1884.

The explorations of Burton, Speke, Grant, and Baker turned the attention of the Egyptian Government to the interior of Northern Africa, the Red Sea littoral, and the Horn of Africa. In pursuance of the Khedive's ambitious policy for the extension of his dominions, Massowah was purchased from the Porte for 16,000*l.* in 1866 by Egypt, which then crept southwards. In 1870 it acquired the coast between Bulhar and Berbera, and established garrisons at those ports as well as at Zeila, purchasing the Sultan's suzerain rights over the latter town for an annual payment of 15,000*l.* In 1874 Raoof Pasha, at the head of 4,000 men, took possession of Harrar. This force, one-quarter Sudanese and the remainder Egyptians, comprised, besides infantry, one to two squadrons of cavalry, and artillery with mountain guns, gatlings and rocket tubes, and was eventually distributed as follows:—3,400 at Harrar and in the four adjacent highland provinces, 600 between Zeila and Berbera, with detachments at Tajura, Sagulla, Gildessa, Sawanak, Bulhar, and Dubar.

In 1877 the British Government signed a convention at Alexandria, which recognised the Khedival annexation of all the East African coast north of Ras Hafun, subject to the conditions, amongst others, that no portion of it should be ceded to any foreign Power, and that British Consular agents should be appointed at places on the coast. The Sultan of Turkey, however, refused his ratification.

Meanwhile considerable improvement had been effected at the ports, *e.g.*, the construction of piers, lighthouses, quarters, blockhouses, and zaribas, and the improvement of the water supply, and many benefits accrued to the country,

with the exception of Harrar. Here Raoof Pasha had been guilty of oppression and illegal trading, and was consequently dismissed by General Gordon, who replaced him by Ali Pasha.

With the exception of a revolt of the tribes around Harrar in 1880, nothing noteworthy happened until 1884, when events in the Soudan led to the evacuation of Somaliland by the Egyptians. An independent Government under the Emir Abdullahi Mahomed, of the old dynasty, was formed at Harrar, and the ports of Zeila and Berbera were occupied by detachments from the Aden garrison.

European Powers in Somaliland, 1884.

In the latter half of 1884 and in January 1885, the British Government, through the Resident at Aden, entered into treaties with all the tribes now under its protection except the Warsangli, who concluded a treaty in 1886, and the Dolbahanta, who have signed no agreement. In February 1885, the establishment of a British protectorate over the Somali coast from Ghubbet Kharab to Ras Galwein was communicated to France, who in June of the previous year had occupied Obok. The evacuation of Massowah by the Egyptians was followed by the Italian occupation of that port, also in February 1885, and by the extension of its protectorate of Erythrea southward to Ras Raheita. In this year, too, the French acquired by purchase from the Sultan of Tajura the northern coast of the Ghubbet Kharab.

Obok was soon afterwards connected by cable with Perim, and provided with barracks, quarters, and a pier. But the insalubrious climate, the exposed nature of the harbour, and the interruptions to which the Danakils subjected the Obok-Harrar trade led in February 1888, to the cession of the Mashah Islands and Ras Jibuti by Great Britain to France. At the same time the boundary between French and British Somaliland was settled.

Meanwhile, but little progress had been made by any Powers in establishing relations with the Mijjarten country. As far back as 1862 a treaty had been signed with Great Britain in which the Mijjarten undertook to protect the lives of passengers wrecked on this somewhat dangerous coast. In 1879, and again on the 1st May 1885, this agreement was renewed with the further stipulation that

360 dollars should be paid annually to the Mijjarten Sultan and to Yusuf Ali of Alula. In 1885 the Germans obtained commercial treaties with the Mijjarten, but were not allowed to fly their flag, and also laid claim to Warsangli territory. Consequently, Great Britain concluded a treaty of protection in 1886 with the latter country, but failed in extending its influence over the Mijjarten. However, in 1889 Italy obtained a protectorate over the coast between 2° 30′ and 8° 15′ N. from the Mijjarten Sultan and from Yusuf Ali, and in 1892 extended its territory southwards to the Juba by a treaty with the Sultan of Zanzibar. The protectorate of Italy over the coast from 8° 15′ N. to Bandar Ziada was recognised by the Anglo-Italian Protocol of 5th May 1894, which defined the respective spheres of influence of the two countries. In 1894 the administration of the Italian Protectorate was entrusted to the Benadir Company, which still retains it, and in 1897 the left bank of the Juba as far as Lugh was occupied.

In 1894 France obtained from Menelik a concession to build a railway from Jibuti to Harrar, a step which gave a great impulse to the development of the former town, for since that year its population has increased from 6,000 to 10,500, including 500 Europeans.

Meanwhile in British Somaliland the development of its trade and the opening up of its hinterland led in 1898 to the transfer of its administration from the Indian Government to the Foreign Office.

The Abyssinians in Somaliland, 1887.

In 1887, shortly after the massacre of an Italian scientific mission near Gildessa, Menelik, the King of Shoa and now of Abyssinia, conquered Harrar with the tacit consent of Italy, and deposed the Emir Abdullahi Mahomed. Then followed the reduction of the semi-independent tribes —mainly Gallas—to the south and south-west of Harrar. Afterwards the Gerhi, Bertiri, Abbasgul, and Malingur Somalis were made subject, and about 1891 the Rer Ali were reduced almost to starvation by the capture of their herds and flocks. From that year regular tribute was paid by the three first-named, and from 1895 by the last two tribes up to 1900, when the Mullah's advance into Western Ogaden led to a revolt of the tribes in it and

south-east of Harrar—a revolt which, however, was soon suppressed. Between 1897 and 1900 Abyssinian authority was extended down the Fafan and the Webi Shebeli to Faf and Bari respectively, but an expedition against Lugh was a failure.

Sultan Yusuf Ali of Alula and Obbia.

An important role in the history of the Mijjarten country has been played in the last 35 years by Yusuf Ali, Sultan of Alula and Obbia. He is described as a tall, thin man, keenly alive to commercial interests, and is now some 66 years of age. In 1878, when Governor of Alula, under his relative the Mijjarten Sultan, Osman (Othman) Mahmud, then a minor, he raised the Egyptian flag and declared himself independent. Having built several three-storied forts, and provided himself with match-lockmen from Arabia and with armed buggalows, he not only repulsed the attacks of a large army collected by the Council of Regency, but also carried the war into the enemy's country and threatened Bandars Maraya and Filuk. Constant fighting ensued throughout 1879 and 1880, and apparently continued until 1884, when peace was concluded by the marriage of Yusuf Ali's daughter to the Mijjarten Sultan. In the same year both Sultans signed the treaty concluded with Great Britain as to wrecks. Then Yusuf Ali turned his attention to Obbia, which he captured by surprise with a force of 50 match-lockmen. In 1885 the Hawiya, owners of this town, endeavoured to expel the intruder, but failing, were forced to conclude peace, and later in the year Yusuf placed his conquest under the protection of the Sultan of Zanzibar, with the approval of Great Britain.

In 1889 he concluded the treaty already referred to with Italy, and later in the year persuaded Osman Mahmud to join him in signing a second at Alula. With the assistance of Italy he extended his power inland over the Hawiya and partly over the Marehan; later he consolidated this extension by the occupation of the Galkayu wells in the Mudug district and by the construction of a small fort, which he garrisoned with troops armed with rifles. His ambitious aims and friendship with Italy brought him, however, into renewed opposition with the Mijjarten Sultan. Eventually he appears to have been recognised by the protecting power as Sultan of Alula, where he had

retained his family. Osman Mahmud consequently entered into negotiations with the Mullah, and not only supplied him with men and arms during the 1901 campaign, but also afforded him a refuge in his subsequent retreat.

When the British Expeditionary Force under Brigadier-General Manning, by arrangement with the Italian Government, landed at Obbia in January 1903, it was hoped that Yusuf Ali would render material assistance by supplying ponies, transport camels, and food supplies to the force. His failure to do so—whether arising from lack of will or of power—resulted in February in his deportation by the Italian Government, first to Aden and thence to Massowah, his son, Ali Yusuf, being left in his place at Obbia. When he was eventually brought back to Obbia at the end of 1904 he was broken down in health, nearly blind, and his intellect had undoubtedly suffered as the result of his captivity.

The Rise of the Mullah Mohamed-bin-Abdullah.

Mohamed-bin-Abdullah Hassan belongs to the Habr Suleiman (or Bagari) sub-tribe of the Southern Ogaden, one of whose watering-places is Galadi. He has, however, spent much of his time amongst the Dolbahanta, with one of whose sub-tribes, the Ali Gheri, he has inter-married. He is in the prime of life, and is described as dark-coloured, tall and thin, with a small goatee beard. He has travelled much, and has made several pilgrimages to Mecca, where he attached himself to the sect of Mohamed Saleh, a rival of the Kadariyah, the most influential and popular sect in Somaliland.

He acquired some notoriety by seditious preaching in Berbera in 1895, after which he returned to his tariga, Kob Faradod, in the Dolbahanta. Here he gradually acquired influence by stopping inter-tribal warfare, and eventually started a religious movement in which the Rer Ibrahim (Mukabil Ogaden), Ba Hawadle (Miyirwalal Ogaden), and the Ali Gheri (Dolbahanta) were the first to join. His emissaries also soon succeeded in winning over the Adan Madoba, notable amongst whom was Haji Sudi, now his trusted lieutenant and formerly an interpreter on one of His Majesty's ships, and the Ahmed Farah and Rer Yusuf, all Habr Toljaala, and the Musa Ismail of the Eastern Habr Yunis, Habr Gerhajis, with Sultan Nur of this tribe. Early

in 1899 the Mullah suddenly appeared at Burao, raided other sub-tribes of the Habr Yunis, and forced the Mahmud Gerad Dolbahanta to join him. He then retired towards his stronghold, Bohotle (Bohoteli), the Ali Gheri permanent watering place, but again suddenly appeared at Burao at the end of August with a force of 5,000 men, of whom 1,500 were horse and 200 had rifles, moved as far west as Odwein, but returned thence to Burao, owing to the unwillingness of the Dolbahanta horse to remain so far inside Ishak territory. He then burnt the Kadariyah tariga at Sheikh, and at the end of September withdrew to Bohotle and thence to Lassader. A month later he murdered the Dolbahanta Gerad, Ali, for refusing to assist in his plans, and thereby estranged the Mahmud Gerad, who had also been disappointed in their hopes of booty. For the latter reason, too, the Adan Madoba, Ararsama, and Ba Arsama made submission to the authorities at Berbera, and consequently by the end of the year the Mullah moved south to Bohotle and thence to Walwal in the country of the Ibrahim Ogaden. Early in 1900 he marched gradually westwards and succeeded in obtaining the submission of the Rer Abdilleh, Rer Harun, and Rer Ali, all Ogaden. The Abyssinians consequently moved two forces of 1,200 men each, mainly mounted infantry, to Dagabur, whence they raided the Rer Ali and Abbasgul. But, failing to find the Mullah, the forces retired, the one to Harrar and the other to Jigjiga. Here, at the end of March, the latter were attacked by some 6,000 Gallas and Harraris, led by the Abbasgul Gerad, Abdi, and urged on by the Mullah, who, however, remained with his Dolbahanta following of 500 rifles and 500 spears at Milmil or Haradiggit. Inspired by an assurance that the Abyssinian bullets had been rendered powerless by the Mullah, the Harraris and Gallas made a determined attack, but were repulsed with a loss of 2,600 killed. The Abyssinians were, however, too shaken to pursue, and the Mullah was left for a time in undisturbed possession of Ogaden. Meanwhile the 2nd Battalion Central African Rifles had arrived in the Protectorate, viz., in February 1900, but were reduced in July by half a battalion. In the following month the Mullah renewed his activity by a sudden raid, which resulted in the capture of 2,000 Aida Galla camels and in causing all the British tribes to abandon the Haud

in confusion. A company of the Central African Rifles was consequently sent to Burao and another to Oadweina, measures which somewhat restored confidence. But the excitement was renewed by a second raid made in the middle of September from Milmil on the Abyssinian Habr Awal at Harrhe. The projected pursuit by the Harrar garrison was countermanded, owing to the malarious condition of Ogaden at this season, and consequently the Habr Awal, both from Hargeisa and Abyssinia, took matters into their own hands and moved south and east against the Mullah, but did not advance far enough to obtain contact; at the same time the half battalion of the Central African Rifles, less the Burao company, was concentrated at Hargeisa.

The Anglo-Abyssinian Expeditions, 1901.

It was now decided to organise expeditions from Harrar and British Somaliland, which were to act through Ogaden and the Dolbahanta respectively.

The Abyssinian Expedition.—In January 1901, the Abyssinians despatched an expedition of some 10,000 men into Ogaden, but owing to defective supply arrangements and want of water the force never got into touch with the Mullah, who retired before it into the Ibrahim country, and it eventually halted at the Gerlogubi Wells.

A fresh force of 10,000, with only a month's supplies, was despatched in May, and arrived on the 24th of that month at Eilki Gabro, on the Fafan, where it was joined by two British officers, Major Hanbury-Tracey and Captain Cobbold. Here contingents, anxious for plunder, raised the numbers to 14,000, and the commander, the Kanyazmatch Abanabro, was desirous of moving viâ the Webi Shebeli on Mudug, in order to replenish his supplies and punish the Adoni on that river, who had shown an inclination to join the Mullah. A rumour of the latter's defeat by the British Expedition, however, encouraged him to proceed direct on Gerlogubi, where he arrived on the 11th June.

In spite of long marches, *e.g.*, 50 miles in two days, and frequent daily marches of 25 miles, the force effected little beyond the severe punishment of the Ibrahim. This was due partly to the natural difficulties of the country,

but largely also to the inefficient transport and supply arrangements of the Abyssinian force. Water was generally scanty and the heat intense, for the rains had not yet begun. In places where water was abundant, *e.g.*, Baligadud, it was impure, being the rain washings from the surrounding country mixed with animal excreta. There was very little fodder for ponies and mules. No supplies were obtainable except meat, to which the Abyssinians, who live mainly on grain, were unaccustomed; and raids on the tribes at Galadi and Bur Wells, 35 to 40 miles east and south of Wardair respectively, proved failures, owing to the defection of guides or to the inadequacy of the system for the transport of water. Consequently, on the 21st June, the force moved south to Faf on the túg Fafan, where it arrived on the 4th July, looting the friendly Rer Ughaz *en route*. It then returned viâ Sassamani to Harrar, reaching the latter town about the end of the month.

The British Expedition, 1901.—In anticipation of the departure of the remaining half-battalion of the 2nd Central African Rifles, the recruitment of a dismounted levy was started on the 22nd November 1900, under Lieut.-Colonel E. J. E. Swayne, who was appointed to the command of the Expeditionary Force. Although the pay was limited to Rs. 12 a month, as compared with Rs. 16 to the Coast Police, recruits came in freely, and in December the authorised strength of the levy was increased to 1,000 men, while at the same time a mounted corps of 500 men was sanctioned. The new force was sent in detachments to Hargeisa and Adadle, the two posts from which the movements of the Mullah, at Haradiggit, were kept under observation. The wells at this place dried up in February, and the Mullah consequently moved to Mersi, whence he retired in the same month to Bohotle, owing to the Abyssinian advance. The levy made a corresponding change in its base to Burao. The lateness of the rains delayed the advance from this post until the 22nd May, when the force, now organised into a mounted and two infantry corps, with 20 out of 50 Punjabi Mahommedans sent earlier in the year from India, moved to Ber, leaving 200 men at Burao. The Mullah in the meantime had concentrated 600 rifles and 4,400 spearmen, mainly mounted, at Yahel. The tribes supporting him could muster probably 20,000 spears, to

A MID-DAY HALT. FILLING WATER VESSELS.

which might be added, in case of a reverse to the British force, 60,000 from doubtful tribes, apart from the Mijjarten, 50,000 to 60,000 strong.

After a three days' halt at Ber, the force, marching by night, reached Eil Dab, 72 miles, in another three days (28th May), and destroyed the Mullah's neighbouring village of Kob Faradod. The mounted corps then raided the Mahmud Gerad, who, with the exception of the Nur Ahmed, consequently made submission. The force was now split up into two columns, the one mobile of some 950 men under the officer commanding the field force, the other of 390 rifles, one ·450 Maxim, and some 90 spearmen remaining in a double zariba at Samala (Somala). The latter body, with which were left surplus transport and stores and 3,500 looted camels, was attacked on the evening of the 2nd June, the day following that on which the first column had started in pursuit of the Mullah. The latter had advanced suddenly with 5,000 men from Ano Hadigle, 80 miles distant, in consequence of the raid on the Mahmud Gerad, and had avoided the main column. The attack, beaten off in the afternoon, was renewed after dark with the same result; on the following day a third attack, made by some 5,000, as compared with 2,000 on the 2nd June, was directed by the Mullah in person, but, though maintained from dawn to dark, again failed. It was followed by a general retreat in scattered detachments, which were harassed by the main column, and were pursued by its mounted portion to a day and a half's journey from Mudug, where the Mullah had found refuge. 180 of the enemy's dead were found outside the Samala zariba, where their total losses were estimated at 500; the attacking force included Kayad, Adan Madoba, Rer Hagar, Ararsama, Ali Gheri, Jama Siad, Nur Ahmed, and Mijjarten.

Owing to an insufficiency of water tanks, the mobile column, after halting at Beretabli, was obliged to return to Lassader, where it was joined by the second column.

Making forced marches, the combined columns raided 14,000 camels, 1,000 cattle, and 30,000 sheep of the offending tribes, and occupied their chief watering places at Bohotle, Kurmis, Heigali, and Kassera by the end of June.

The Mullah had meanwhile succeeded in rallying his following, and, being threatened with an attack by Yusuf

Ali of Obbia, moved back into Dolbahanta territory. The field force, now reduced to 700 rifles, of whom but 75 were mounted, and accompanied by some 400 Mahmud Gerad horse, moved from Bohotle to Kur Garad, leaving 100 rifles to guard the transport at this place; it continued its march by night, and at dawn of the 17th July attacked the Mullah at Ferdidin. The mounted force became at once seriously engaged, and was forced to retire with the loss of one British officer, but the infantry then arrived and, outflanking the enemy's left, drove him into thick bush, through which the pursuit was carried for 5 miles. Want of water and the number of wounded necessitated a return to Kur Garad, and, as the Mullah had fled into Italian territory, the field force withdrew to Burao, where it arrived on 29th and 30th July, and was then broken up. Garrisons were maintained at Burao, Sheikh, and Adadleh. During the operations the enemy suffered an estimated loss of 1,200 in killed and wounded, in addition to 800 prisoners; the casualties of the field force were one officer and 23 other ranks killed, and one officer and 26 other ranks wounded.

The Operations of 1902 (*January to November*).

Shortly after the close of the operations of 1901 and the break up of the field force, the Mullah again entered British territory and carried out a series of raids on our friendly tribes. The tribesmen, armed as they were for the most part with spears only, could make but little stand against the raiding parties, which were largely armed with rifles, and the attacks increased in boldness.

At the end of December a raid on a large scale was made on the Habr Toljaala between Olessan and Oadweina, and early in January 1902 a party of the Mullah's horsemen, advancing to within 25 miles of Burao, raided the Musa Ismail at Baliheeli and Amadleh. Large quantities of stock, both camels and sheep, were looted, and men, women, and children were ruthlessly speared and shot down by the raiders. Three companies of infantry Levies were despatched from Burao on receipt of the news of the raid. This small force marched for two days into the Haud in pursuit of the raiders and finally succeeded in coming up with the enemy's stragglers and in recovering

most of the sheep. More than this, however, they could not effect, and the main body of the enemy got away to Bohotle, with all the looted camels.

It was now decided to undertake another expedition against the Mullah, and the command was again entrusted to Lieut.-Colonel Swayne. A force of local Levies was hurriedly organised, and a start was made in June from Bohotle, where a strong fort and stockade had been constructed and garrisoned by 200 men to serve as an advanced base. The Mullah had meanwhile retired across the Haud to the Mudug district.

From Bohotle the British force, which numbered about 1,200 riflemen, marched south-east in the direction of Mudug, but on arriving at Damot—some 40 miles from Bohotle—turned off north-east and entered the Nogal. From June till September the force remained in the Nogal, and carried out a succession of raids on tribes which were friendly to the Mullah, capturing considerable quantities of stock. During the whole of this time the Mullah himself with his main following was in the Mudug district on the opposite side of the waterless Haud.

Towards the end of September Colonel Swayne, whose force had been reinforced by two companies of the 2nd (Central African) Battalion of the King's African Rifles, and now totalled about 1,500 riflemen, leaving the Nogal by the Jidbaran Pass, advanced across the Haud. The Mullah also advanced, and the two forces encountered each other on October 6th in dense bush at Erigo. Severe fighting ensued, and our troops were roughly handled. The enemy was, however, finally driven off, and Colonel Swayne encamped on the scene of the action. Our troops were, however, too shaken for a further advance to be possible, and after a halt of three days the force returned to Bohotle, the Mullah retiring again to the Mudug district.

The British casualties in this action were two officers and 99 other ranks killed, and two officers and 84 other ranks wounded; the enemy also captured a Maxim. The enemy's losses were about 150 riflemen killed and many wounded.

The Operations of 1902–1903.

The despatch of a fresh expeditionary force having been decided on, troops from other of the East African

Protectorates and from India were made available, and the Somali Levies, whose *moral* and discipline were reported to be somewhat shaken, were broken up. The command of the new expedition was entrusted to Brigadier-General Manning, Colonel Swayne having been invalided.

The Mullah was reported to be still in the Mudug district, and the Galkayu wells were made the objective of the Field Force.

The force, which numbered rather more than 4,000 fighting ranks, was divided into two columns, of which one proceeded by sea down the East Coast to Obbia, with the object of advancing from that place in a north-westerly direction viâ Elaheli, Rakn, and Waragalo to Galkayu, while the other was concentrated at Bohotle.

The Obbia column, which was under the direct command of Brigadier-General Manning, numbered about 2,000 combatants, of which about one-quarter was mounted infantry and camelry. Out of this number, however, troops had to be detailed to hold the line of posts in rear of the column as it advanced from its base.

The Bohotle column numbered about 850 fighting ranks, of whom also about one-quarter were mounted infantry and camelry. Two Indian infantry regiments were allotted to the Berbera-Bohotle line of communication, of which one was a Pioneer Regiment and was employed largely on road-making.

The co-operation of the Abyssinians was again enlisted, and an Abyssinian Force was despatched from the Harrar Province down the Webi Shebeli, with a view to barring the Mullah's retreat to the west, and to denying to him the resources of the fertile districts which lie on the banks of that river.

The troops composing the Obbia column began to arrive at Obbia early in January 1903, but difficulties in connection with the provision of transport delayed the forward move from that place. Towards the end of February a start was made, and Galkayu was occupied without opposition early in March, the Mullah having retired westwards in the direction of Dadub and Galadi.

At Galkayu the Obbia column was joined by 400 men of the Bohotle column, and preparations were at once made for a further advance in the direction of Galadi.

Meanwhile, in accordance with previous arrangements, the Abyssinian Force had occupied Bari on the Webi-Shebeli, and several minor tribal engagements took place between the Mullah's spearmen and tribes friendly to the Abyssinians.

Towards the end of March, Brigadier-General Manning's column advanced from Galkayu, and on the 31st of that month occupied the Galadi wells practically without opposition. The Mullah with his following retired again in a westerly direction towards Walwal and Wardair, and it was believed that his further retreat was barred by the Abyssinian Force.

About the middle of April a column of 500 fighting ranks under Lieutenant-Colonel Cobbe was moved forward from Galadi in the direction of Wardair, and an advance towards the same objective by the Bohotle column under Major Gough was arranged to take place simultaneously.

About 50 miles west of Galadi Lieut.-Colonel Cobbe's column got into touch with the enemy, and, after skirmishes on the 15th and 16th of April, on the 17th a party of 250 fighting ranks (including seven British officers) with two maxims under Lieut.-Colonel Plunkett, having become detached from the remainder of the column, was surrounded by the enemy and cut to pieces at Gumburu. This stopped the further advance of Lieut.-Colonel Cobbe's column, which was at once withdrawn to Galadi.

The Bohotle column, which consisted of between 400 and 500 fighting ranks, advanced on the 18th of April and reached Danop—about 45 miles south-west—two days later. Here a zariba was formed in which transport and stores were left under an infantry detachment, while the mounted men—some 200 in number—pushed forward under Major Gough towards Walwal. At Daratoleh—about 30 miles from Danop—the enemy was met in force and, after several hours' severe fighting at close quarters, the little column was eventually forced to retire to Danop, the retirement being closely followed up for some distance by the enemy. The British losses were two officers and 13 other ranks killed, and four officers and 28 other ranks wounded. The enemy's losses were uncertain, but have been estimated at 150 men. From Danop the column returned to Bohotle.

Major Gough's force at Daratoleh was largely composed of Somalis, whose conduct under fire was described by him

as admirable. They displayed great steadiness throughout the engagement, and there was more than one instance of personal bravery.

After the action of Gumburu, and the withdrawal to Galadi of Lieut.-Colonel Cobbe's column, General Manning's force fell back from Galadi to Galkayu, leaving an advanced post at Galadi. This advanced post was withdrawn to Galkayu at the beginning of June, when the whole of the Obbia force under General Manning moved across the Haud to Bohotle, where it arrived on June 26th.

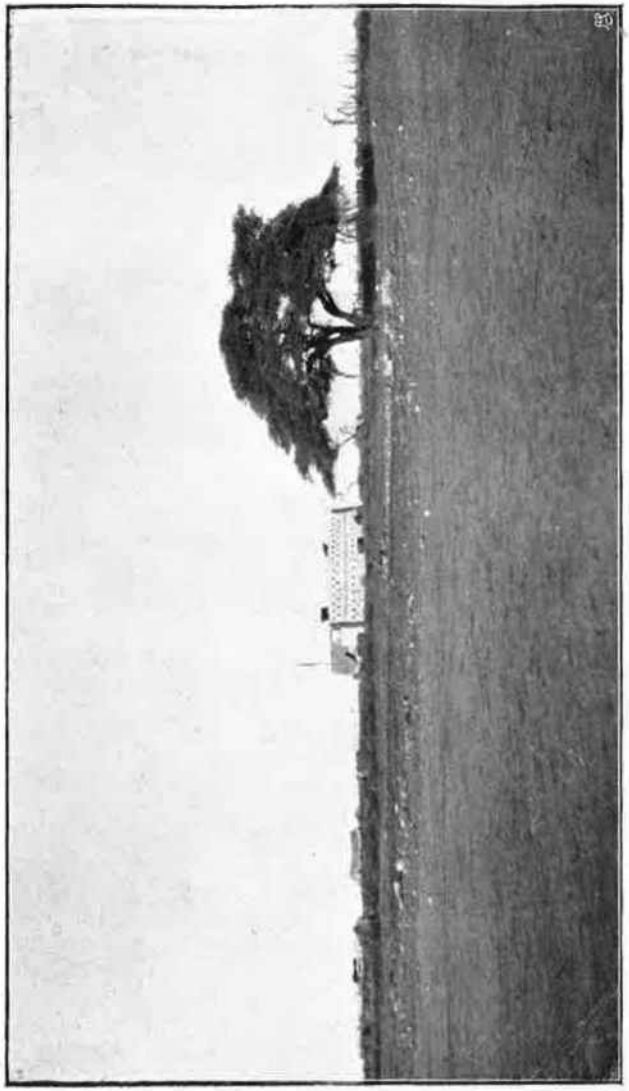
The Mullah meanwhile, unable to move further west on account of the Abyssinian force, and feeling the pressure from the east relieved by the actions of Gumburu and Daratoleh, and by the withdrawal of General Manning's main force from Galadi to Galkayu, made a move eastwards early in June, and, crossing our frontier between Bohotle and Damot, entered the Nogal with the whole of his following and livestock. The movement, which was as rapid as it was unexpected, was covered by horsemen, a party of whom made a feint at Bohotle, and prevented the Bohotle column from moving out.

With the arrival of General Manning's force at Bohotle on June 26th operations were temporarily closed.

The great difficulty which had to be contended with throughout the operations was that of transport, and consequently of supply, owing to the great length of the two lines of communication. That of the Bohotle column, from Berbera to Bohotle, was about 220 miles, and that of Obbia force, from Obbia viâ Galkayu to Galadi, was not less. Thus at the end of April the total length of the communications of both columns, which had to be guarded, was over 400 miles.

There was also a lack of mobile mounted troops and a great deficiency of good spies and of mounted native scouts, which resulted in our information of the enemy being for the most part scanty and unreliable. The enemy's information, on the other hand, appears to have been uniformly good.

The barren and waterless nature of the country through which the Obbia column operated added considerably to difficulties, which cannot fail to attend the movement of a considerable force over such long distances as those traversed.



BOHOTLE FORT.

Operations from June 1903 to June 1904.

The conduct of the operations now passed into the hands of Major-General Sir Charles Egerton, who had been sent from India with reinforcements. The reinforcements consisted of 300 British infantry, an Indian infantry regiment (700 strong), and 300 Indian mounted infantry. A considerable number of transport animals—camels and mules—were also received from India, as well as officers and other ranks, to strengthen the staff and departments. Two corps of local irregular horse—the Gadabursi Horse and the Tribal Horse, each 500 strong—were recruited, as well as a corps of irregular mounted scouts (Illalos).

The first work undertaken was the strengthening and provisioning of the chain of posts which formed the line of communications from Berbera to Bohotle, and the improvement of the existing watering arrangements along the line.

The available troops were divided into two brigades of infantry, with a mounted corps, divisional troops, and line of communication troops.

The co-operation of the Abyssinians was again enlisted, and it was arranged that the Emperor Menelik should despatch a force which would occupy Galadi at once, and the Galkayu wells later, thus barring the retreat of the Mullah from the Nogal to the south. The difficulties of transport and supply at this great distance from their advanced base on the Webi Shebeli were, however, insuperable. The Abyssinian force was unable to carry out the plan, and Galadi was therefore temporarily occupied by a detachment of the British force, while Galkayu was occupied by Yusuf Ali's men.

The initial preparations for an advance occupied a considerable time, and the end of the year was approaching before everything was ready. Meanwhile the Mullah had remained in the Nogal, his headquarters being established at Halin and his advanced posts at Jidbali and Buranod. He was believed to have with him 1,500 to 1,800 riflemen, 4,000 ponies, and a number of spearmen, variously estimated at 7,000 to 20,000.

The headquarters of the field force had, in the meantime, been established at Eildab, which place formed the advanced base.

Early in January a strong reconnaissance was sent out to Jidbali, which disclosed a considerable number of the enemy in occupation of the wells at that place. A sharp fight ensued, and the reconnoitring force withdrew to Eildab. In consequence of the information brought by this reconnaissance, it was decided to make an advance in force on the Jidbali position. A concentration of the two brigades was accordingly made near Jidbali on the 9th of January, and on the 10th the combined force advanced in square formation on the wells, covered by the mounted troops. The Dervishes who held the wells are believed to have numbered about 5,000, including 500 horsemen. They made a determined attack on the square, but could not face the rifle and maxim fire and broke. The pursuit was maintained by the mounted troops for about 10 miles. The enemy's losses in this action were some 1,000 killed, 200 prisoners, and 400 rifles of sorts. The British casualties amounted to 58 all told, including three officers killed. The Mullah himself was not present at the action, which was fought against a strong detached portion of his force only. Nevertheless, the result was a sharp blow to his prestige. Numerous desertions from his ranks ensued, and had it been possible to follow up the victory with greater celerity some far-reaching results might have been attained.

Unfortunately, however, the force was obliged to halt for two days owing to supply and water difficulties, and meanwhile the Mullah with his main force effected a retirement viâ the Anane Pass to the "Sorl" in a northerly direction. Tho two brigades swept through the Nogal in a south-easterly direction, making considerable captures of livestock, but failing to again get touch with the enemy. Large quantities of livestock, which were grazing in the southern Haud, were also rounded up not only by parties of our own mounted men, but also by Yusuf Ali's men.

At this point may be said to have concluded the first stage of General Egerton's operations. Touch with the enemy had been lost, but from the information received it was believed that the Mullah with his main following was either in the neighbourhood of Jid Ali, or had retired to

the Gebi district. The second phase of the operations was based upon the plan of leaving the first brigade in the Nogal as a stop to the south, while the second brigade with the bulk of the mounted troops was concentrated at Las Dureh with the object of making an advance thence in an easterly direction.

This movement was commenced early in March, a mounted column being despatched at the same time from Eildab to unite with the second brigade near El-Afweinah. The junction of the two columns was effected at El-Afweinah on March 16th.

Further operations of the combined columns in the direction of Durdur Jid Ali and towards the Gebi district were barren of decisive result, owing to the failure of the Warsangli and Mijjarten to actively co-operate as had been previously arranged. The Mullah was thus able to move along the skirt of the Mijjarten country, and succeeded in escaping south across the Sorl after suffering great hardships and losing numbers of his following and stock through thirst.

A final movement of the mounted troops from Badan in an easterly direction towards the Italian frontier, and thence again south to Kheman, also led to no result beyond the capture of small quantities of stock.

Simultaneously with this final movement of the mounted men it had been arranged to bring off a descent upon Illig, a small village on the east coast, of which the Mullah had possessed himself in October 1903, and from which an extensive trade in skins was carried on, together with gun-running. The descent was carried out on the 21st April 1904, by landing parties from three cruisers of the East Indies squadron and a detachment of 125 men of the Hampshire Regiment. Some formidable works had been constructed in the vicinity of the village, which were taken and destroyed, with a loss of 3 seamen killed and 11 wounded. The enemy lost 58 killed and 14 wounded, 27 rifles, and two banners.

After the final movement of the mounted troops the northern column returned to the coast; the first brigade was withdrawn from the Nogal, and the operations of the field force concluded.

The Mullah, moving south, then re-entered the Nogal, and established himself in the vicinity of Gerowai on the Anglo-Italian boundary.

Events since the close of the Operations of General Sir Charles Egerton in May 1904.

On the departure of General Sir Charles Egerton's Expeditionary Force, a temporary garrison of some 2,000 Indian troops was left in the country, with a view to giving time for the organisation of tribal defence arrangements and for the formation and training of the local regular battalion. This temporary garrison was withdrawn to India in November 1904, its place being taken by a regiment of Indian infantry, the 33rd Punjab Infantry, 700 strong, whose services were lent by the Indian Government for one year, it being hoped that this year of grace would suffice to place the defence arrangements of the Protectorate on a permanently satisfactory footing.

With the exception of a raid made on a grazing post of a tribal levy near Eildab in November 1904, when 70 ponies were looted, there was no other renewal of hostilities on the part of the Dervishes after the close of General Sir Charles Egerton's operations, and in March 1905 negotiations, which had been for some time past in progress between the representative of the Italian Government, Commendatore Pestalozza, and the Mullah, ended in the signing at Illig on the 5th of March of an agreement by which the Mullah accepted the Italian flag and protection. He was assigned by the Italian Government a permanent location on the Eastern Mijjarten coast with grazing and other rights in the interior, recognised the British boundary, and bound himself to desist from raiding the tribes living under British and Abyssinian protection. This agreement was subsequently recognised by the British Government, and the Commissioner received in April 1905 a deputation sent by the Mullah to discuss details of the settlement in so far as it concerned his relations with the British Administration and tribes living under British protection.

Since the signing of the Illig agreement there has been no breach by the Mullah of the agreement entered into by him, and the general political outlook is on the whole peaceful. In September 1905 the 33rd Punjab Infantry was withdrawn from the Protectorate, and it was decided to reconstitute the local regular battalion, which had been raised in June 1904, by the enlistment of Indians in place of Somalis, and at the same time to expand such tribal defence arrangements as then existed by the formation of

a tribal Militia, under the control of an enlarged staff of Political Officers, who were also to be charged with the supervision of the tribes in the interior. (*See* Chapter XVI.)

General Disposition of the Tribes.

British Somaliland.

The *Isa* and *Gadabursi* have apparently had no intercourse with the Mullah. A corps of 500 irregular horse enlisted from the latter took part in the operations of 1903–04, and was present at the action of Jidbali.

The *Warsangli*, who are ill-disposed towards the Dolbahanta, have so far assisted the Mullah only by selling arms probably with a view to commercial profit rather than from any sympathy with his movement. In the spring of 1904, when a brigade of General Sir Charles Egerton's force was operating in the north-east of the Protectorate, the Warsangli failed to co-operate with us in accordance with an undertaking previously given by their Sultan.

The *Habr Awal*, with the exception of some of the western clans, have never had any dealings with the Mullah.

The *Habr Gerhajis*, with the exception of the Musa Ismail (H. Y.), have always rejected his advances, and the latter can now probably be trusted not to join him.

Of the *Habr Toljaala* the Adan Madoba are not only responsible for supplying him with arms, but have also assisted him on all his raids. The Rer Yusuf and Ahmed Farah, like the Musa Ismail, were with the Mullah in 1900, but do not appear to have acted with him since. A successful advance of the Mullah into our territory would probably coerce a large portion of the Habr Toljaala into joining him.

The *Dolbahanta* were among his first adherents; all except the south-eastern portions made submission to the British force in 1901; but, exposed by their situation to the Mullah's influence and unable to offer any resistance but that of spears to his fanatical following, armed with rifles, they were forced to rejoin him, when, at the end of 1901, he raided the Habr Toljaala from Lassader. The Ali Gheri and Jama Saiad were probably willing followers. Since the conclusion of the operations of General Sir

Charles Egerton in May 1904 a number of Aligheri and Kayat refugees from the Mullah have come in to us. They have been provided by us with the means of livelihood by the issue of a certain quantity of livestock, have been armed with rifles, and have been located in posts on our frontier—the Aligheri at Bohotle and the Kayat at Eildab.

Abyssinian Somaliland.

The *Mukabil Ogaden* originally supported the Mullah, especially the Ibrahim sub-tribe, which, however, made submission to the British force at Bohotle and Kurmiss in 1901. Since the death of the Sultan of the Ibrahim in an engagement with the Dervishes in 1902, this sub-tribe has held aloof from the Mullah.

The *Miyirwalal* or Western Ogaden, embittered against the Abyssinians owing to frequent raids, accepted the Mullah in 1900, but apparently did not actively support him. The Bahawadle, a powerful sub-tride of the Miyirwalal Ogaden, are now bitter enemies of the Dervishes.

The *Abbasgul* and *Harrari* tribes assisted the Mullah in 1900.

The *Adoni* on the Webi Shebeli are a numerous tribe, but are said to be unwarlike. They have, however, on more than one occasion fought in the Dervish ranks and are well disposed towards the Mullah.

Italian Somaliland.

The *Mijjarten*, with the exception of Yusuf Ali's following, formerly supported the Mullah, and many Mijjarten fell in his ranks at Sanala and Firdidin.

The *Hawiya* and *Marehan*, who are under Yusuf Ali, have suffered heavily from the Mullah's raids and have joined him at times under compulsion. They are not warlike though comparatively numerous.

The Future of the Protectorate.

Whether the Protectorate has a future before it, from a commercial point of view, remains to be seen. Financially the present position of the Protectorate is as follows:—The revenue would balance the expenditure and would give a

surplus of some 25,000*l.* per annum were it not for the military expenditure (on the 6th Battalion King's African Rifles and Militia), which amounts to about 65,600*l.* per annum, and necessitates a grant-in-aid being made by the Imperial Government of 40,000*l.* per annum. The maintenance of peace would allow the military expenditure to be considerably reduced, and should trade improve at the same time the revenue will then be about equal to the expenditure.

CHAPTER X.

Internal Administration.

British Somaliland.

The British Protectorate of Somaliland, which was transferred from the Government of India to the Foreign Office in 1898, and from the Foreign Office to the Colonial Office in 1905, is administered by a Commissioner and Commander-in-Chief, who is assisted by a staff of Civil, Political, and Military Officers.

Our administration was originally confined to the coast towns, but it has gradually become necessary to assume a political control over the tribes living in the interior, this necessity arising largely out of the disorders following on the rise of the Mullah Mohamed-bin-Abdulla.

The total staff of British officials—Civil, Political, and Military—numbers about 30.

The coast towns of Berbera, Bulhar, and Zeila are in charge of civil officers, while our authority on the coast line east of Berbera is represented by two small police and customs posts at Karam and Hais, together with the flag ports of Ankor, Raguda Shallow, Mait and Hashow, the headmen of these villages being in receipt of a small monthly subsidy for flying the British flag

The Political Officers are charged with the supervision of the tribes in the interior, and also command the Tribal Militia. The Military Officers are employed with the regular troops—the 6th Battalion King's African Rifles—and the Standing Militia.

At Berbera, which is the headquarters of the Administration, are the offices of the Treasurer, the Senior Medical Officer, the Director of Public Works, the Chief of the Customs, and the Superintendent of Police.

The Commissioner and Commander-in-Chief resides at Berbera during the winter months, October to March, but moves into the interior for the hot weather, April to September.

French Somaliland.

By decree, dated 7th March 1899, the French Protectorate of the Somali Coast was placed under a Governor, with headquarters at Jibuti, who is assisted by an executive council of three official and three non-official members. The branches of the Administration include a Secretariat and Departments for native affairs, police, judicial, prisons, treasury, health, public works, post and telegraphs, and customs.

Abyssinian Somaliland.

Abyssinian Somaliland forms part of the Harrar Province of Abyssinia. The Governor of this province lives at or near Harrar. Ras Makunnan, who had been Governor for some years, died in March 1906, and his son was appointed by Menelik to succeed him.

Italian Somaliland.

Mijjarten Country.—The Italian Government exercises little influence in this portion of its Protectorate. Its relations with the Mijjarten Sultan, Osman Mahmud, and the Sultan of Obbia, Yusuf Ali, are practically limited to the payment of an annual subsidy of some 360*l.* between them, and with the Mullah Mohamed-bin-Abdullah, who accepted the Italian flag in March 1905, its relations are as yet indefinite and uncertain. The usual channel of communication is the Italian Consul of Aden, but until recently Commendatore Pestalozza, C.M.G., who had his headquarters at the same place, had special charge of the conduct of affairs on the Mijjarten coast. He has now, however, vacated the appointment.

Benadir Coast and Hinterland.—The government of the coast line from Elhur to the Juba and of its hinterland is vested in the Benadir Company, which holds a charter from the Italian Government. The Company is a trading concern with a capital of 40,000*l.*, has its head offices in Milan, and receives an annual subsidy from the Italian Government of 16,000*l.* The Governor, whose headquarters are at Mogdishu, is appointed by the Company, which has apparently only opened up a strip of land between the Shebeli and the coast and part of the left bank of the Juba. It has established trading stations at Itala, Warsheikh, Merka, Brava, Giumbo, and Gesira.

The Benadir Company was reconstructed in January, 1905, when the former charter was replaced by a new one. The minimum capital is 80,000*l.* and may be increased to 240,000*l.* The Company to run a monthly postal service of steamers between Aden, Benadir, Zanzibar and *vice versâ*, and to erect slips in the ports of Mogadishu, Merka, Brava, Kismayu and Lamu. The Government detailed the public works which the Company were to execute, including improvements to harbours and piers and the construction of a road from Brava to Gesira. By the terms of the new charter the Government took over the administration of the Colony from the Company.

CHAPTER XI.

FINANCE.

British Somaliland.

The revenue for the year 1904–1905 (April 1st 1904 to March 31st 1905), which was Rs. 69,807 below that of the previous year, was made up as follows :—

Place.	Customs.	Judicial Fees, Fines, &c.	Licences, Dues, &c.	Miscellaneous.	Postal.	Total.
	Rs.	Rs.	R	Rs.	Rs.	Rs.
Berbera and Bulhar	3,76,016	16,177	8,709	590	36,904	4,38,396
Zeila - -	51,823	7,508	233	93	—	59,657
Elsewhere - -	—	—	—	29,773	—	29,773
Totals - -	4,27,839	23,685	8,942	30,456	36,904	5,27,826
						£35,188

The decrease in revenue, as compared with that of the previous year, was due mainly to the fall in value of the imports, which in 1903–1904 were abnormally high.

The expenditure for the year was Rs. 11,05,300, being Rs. 2,18,310 less than the previous year, but Rs. 2,16,503 more than that of 1901–1902. The expenditure included an item of Rs. 2,19,501, which was the balance of the cost of buildings taken over from the Government of India in 1898, and cannot therefore be considered as ordinary or likely to recur.

The balance in hand at March 31st 1905 was Rs. 2,38,027, exclusive of an unexpended balance of the grant-in-aid.

The assets at the same period showed a surplus over liabilities of 22,959*l.*

Prior to the year 1902–1903 no grant-in-aid was made by the Home Government, but consequent upon the disturbed state of the country the Protectorate has since received the following grants-in-aid :—

	£	
1902–1903	25,000	
1903–1904	50,832	
1904–1905	24,600	
,, ,,	55,000	(supplementary)
1905–1906	76,000	
	£231,432	

It is hoped that in the year 1906–1907 a much smaller grant-in-aid will suffice, and provided that the Protectorate remains in an undisturbed state the revenue should shortly more nearly cover the expenditure.*

The Customs Department produces more than four-fifths of the revenue of the Protectorate. (For details of the duties in force at the various ports of British Somaliland, *see* Chapter VII.)

French Somaliland.

The following table shows the revenue and expenditure for the period 1899–1901, exclusive of 1,500*l.* paid annually as subsidy to the Eastern Telegraph Company :—

Year.	Expenditure.	Revenue.	
		Local.	Grant from Home Government.
	Francs.	Francs.	Francs.
1898	—	—	5,77,300
1899	650,000	250,000	400,000
1900	581,500	281,500	300,000
1901	622,500	324,500	250,000

* The grant-in-aid for 1906–1907 is 40,000*l.*

The steady increase in local revenue and consequent decrease in Government grants is noticeable. Later figures have not been obtainable.

Abyssinian Somaliland.

The revenue is partly obtained by tribute from the subject tribes (*e.g.*, 1,000 camels and 1,000 sheep annually from the Rer Ali Ogaden), and partly from a duty on imports and exports (*see* Chapter VII.).

Italian Somaliland.

The revenue of the Benadir Company in 1901, inclusive of the annual subsidy amounted to 26,116*l.*, and the expenditure to 24,736*l.* The balance of 1,350*l.* was divided between the shareholders of the paid-up capital, 12,000*l.*

The local revenue is derived from duties on all imports and exports (*see* Chapter VII.).

The trade and revenue of the Benadir Company for the year 1905–06, taking the Maria Theresa dollar as equivalent to 1*s.* 10*d.*, was—

	Value.	Customs.
	£	£
Imports	110,125	7,838
Exports	83,536	8,464
	193,661	16,302

CHAPTER XII.

Money, Weights and Measures.

Money.

British Somaliland.—The currency is the silver rupee, of which 15 go to the pound sterling. A few currency notes of the Government of India are in circulation, and the British sovereign is occasionally exchanged at the rate of Rs. 15 to £1. The rupee is in circulation throughout the British Protectorate, and is generally accepted throughout other parts of Somaliland, but in places near the middle Webi Shebeli tobes, valued at Rs. 2 each approximately, constitute the only purchasing medium which the natives will accept.

Accounts are kept in the rupee.

The Maria Theresa dollar is still current on the Western or Abyssinian border and on the Zeila-Harrar caravan route, the rate of exchange varying from Rs. 1.4.0 to Rs. 1.6.0 for 1 dollar. The new Abyssinian coinage is occasionally used on the Western border, but it is not generally accepted in Berbera.

French Somaliland.—The standard coin is the 10-franc piece.

Abyssinian Somaliland.—The patakr, *i.e.*, the Maria Theresa dollar of 1780, is current throughout all Abyssinia. It has fallen in value in the last eight years from 2*s.* 10*d.* to about 1*s.* 10*d.* Small change in Abyssinia is represented by *amole* or "salts," *i.e.*, square bars of crystallised salt 10 inches long and $2\frac{1}{4}$ inches square. Their value varies with the distance from the source of supply, Laba Asal, near the Red Sea, five going to the dollar at Addis-Ababa. Large amounts are paid in ingots of gold, weighed by the "wakea" or Abyssinian ounce. (*See Weights.*)

The new dollars with Menelik's head and the lion of Judah did not at first usually pass in the markets, but are now more accepted.

Italian Somaliland.—The Maria Theresa dollar is current in the Mijjarten country.

Weights and Measures.

British Somaliland.—Imperial and Indian measures are in general use in Somaliland. These are supplemented by a few Arabic measures, but the latter are not of much importance, with the exception of the "frazella," which is equal to 35 lbs.

French Somaliland.—The French standards are used.

Abyssinian Somaliland.—The unit of measurement is the Turkish "pic" or "arshen," which equals $27\frac{1}{4}$ inches.

The weights are as follows:—

10 "dirhems" or drachms	= 1 "wakea"	= 400 grains.
12 " " "	= 1 "mocha"	= 1 oz. troy.
12 "wakeas" " "	= 1 "rottolo"	= 10 " "

Grain is weighed by the "ardeb," which contains a varying number of "madegas." On the coast the "ardeb" equals 24 "madegas," 80 of which make an imperial bushel, *i.e.*, one "ardeb" is equivalent to $3\frac{1}{3}$ bushels.

Italian Somaliland.—In the Mijjarten country the following weights are used at Bosaso:—

26 dollars (in weight)	= 1 "rethol"	= 1 lb. approximately.
20 "rethols"	= 1 "frazella"	= 20 lbs.
4 "frazellas"	= 1 "handar"	= 80 lbs.
3 "handars"	= 1 "bohar"	= 240 lbs.

At Maraya 21 dollars weight equals 1 "rethol," and 5 "frazellas" equal 1 "handar."

It may be noted that the Arabian "frazel" equals 30 lbs., and that 1 "bohar" of 15 "frazels" equals 450 lbs.

Grain is sold by the "*goursi*" and "*phalea*" measures of capacity, and ghi by the "rhonda" of 14 "rethols" or pounds.

In the southern part of Italian Somaliland the natives use the Zanzibari weights and measures, viz.:—

"Wakea" of 1 oz.
"Frasali" of 35 to 36 lbs., and
"Karasia" of 1½ pints.

The "frasali" is used for liquid measure when large amounts are concerned.

CHAPTER XIII.

Fortifications and Barracks.

British Somaliland.

(*a*) *On the Coast.*

Berbera has a detached stone fort, constructed for a garrison of 100 men. It contains six good large store-rooms, as well as smaller ones. It is usually occupied by a small gate guard only.

Dubar has defensible lines on a hill commanding the Berbera water supply. They were constructed for the Coast Camel Corps, but have never been occupied.

Bulhar.—Nothing now remains of the old stockade, which formerly contained the military and police quarters, and was flanked by the Residency and defensible jail at opposite corners.

Zeila has a fort in the south-west corner of the town, 700 yards from the base of the pier. It is constructed for a garrison of 100 men, but is at present occupied only by a small gate guard of police.

Ankor has a small stone blockhouse for 12 men, built in 1904. It is at present unoccupied.

(*b*) *On the Berbera-Bohotle Line.*

Sheikh has a small masonry blockhouse, which can be held by a dozen men. It is at present used as the telegraph office. The garrison of Sheikh consists of 100 Indian infantry, who are quartered in roughly constructed huts near to the blockhouse. (It is proposed to enlarge and strengthen this post.)

Burao has a mud fort, constructed for a garrison of 200 men, with emplacements for two 9-pounder guns and two Maxims, and a small stone "look-out" with a command over the walls of 17 feet. It is at present held by 100

Indian infantry. It is proposed to strengthen the fort by the construction of a "keep." The fort contains huts for 100 men, which are, however, unlikely to last much longer.

Elkadalanleh has a small stockaded blockhouse for six men, on a cliff commanding the water supply in the bed of the Tug Der. The blockhouse is surrounded by a thorn zariba and barbed wire entanglements. It is at present unoccupied.

At *Shimber Berris* there is a stone fort with a zariba built for a garrison of ten men. It does not command the water supply. It is at present unoccupied.

At *Kirrit* there is a stone fort at the top of a small hill commanding the water supply, constructed for a garrison of about 100 men. It is at present unoccupied.

Bohotle fort was dismantled in 1905.

(*c*) *On the Western Flank.*

Adadleh has a stone blockhouse, similar to that at Sheikh, and at present used for the same purpose.

Hargeissa has a stone fort constructed for a garrison of 50 men. It is now unoccupied.

(*d*) *On the Eastern Flank.*

Las Dureh has a strong masonry blockhouse constructed for a garrison of 50 men, and now held by a garrison of 12 tribal riflemen.

French Somaliland.

There were no fortified posts in 1902.

Abyssinian Somaliland.

Harrar, in addition to being a walled town, has an old fort at the west end of the town, and another on a spur of a hill one mile to the north. These forts were armed in 1902 with four and six old Egyptian guns respectively.

Gildessa has a stone zariba, 60 yards square and 10 feet high, in the town.

At *Jigjiga* there are two stockaded Posts, situated about 1,000 yards apart. One—the older—is on the southern

side of the Jigjiga nullah, 300 yards from the usual water supply, and commands the Berbera-Harrar road. The other, which is of later construction, is on the opposite side of the nullah, and to the westward. Each of these two posts is a circular earth-work, consisting of a banquette 4 to 5 yards wide, rising in two steps to 7 feet above the outside ground, and topped with a rough stockade some 6 feet higher. Each post encloses a space about 100 yards in diameter. Within the enclosure are a few good huts of stakes with conical thatched roofs, partitioned into an outer circle for cattle and an inner circle for men. The weak point of the older fort is a nullah, about 8 feet deep, which runs around the east side at a distance of 50 to 100 yards.

On the high ground to the north-east of these two posts, at a distance of roughly a mile from the older, lies a small stone tower surrounded by a ditch.

At *Biya Kaboba* there is a small fort, a wretched building, 25 feet by 15 feet, of rubble masonry. It is perched on the top of a rounded stony hill, 90 feet high, which commands two routes from Zeila to Harrar, and also the Biya Kaboba wells, distant 400 yards, but it is itself commanded by hills 800 to 900 yards away.

Italian Somaliland.

There are some double or treble-storied stone, and one-storied pisé forts in the northern Mijjarten ports.

Mogdishu.—On some sand-hills, 1,400 yards west of the town, is Fort Cecchi, built a few years ago. It is formed by a low wall, in the shape of a square, and in the centre has a square "look-out," overtopping the wall by 47 feet.

CHAPTER XIV.

Navy.

British Somaliland.—The nearest naval station is Aden, where there are the Aden Division of one or two third-class cruisers, and one ship of the Indian Marine, which periodically visit the coast of Northern Somaliland with a view to the prevention of the traffic in arms. For the same purpose two to four armed dhows or buggalows are also employed. They are either chartered, or are employed by the Government of the Somali Coast Protectorate, and in this latter case are manned by natives of Aden, and officered by petty officers of the Royal Navy.

Italian Somaliland.—A cruiser of the Italian Navy is generally maintained in the Indian Ocean off the Benadir coast, whence visits are occasionally made to the Mijjarten coast. She coals at Aden.

Dockyards.—There are no dockyards or naval establishments in Somaliland.

Land Forces.

British Somaliland.

Previous to 1898.

(*a*) *Past History.*—During the period in which British Somaliland was under the administration of the Government of India, the forces stationed in the Protectorate were approximately of the following strength :—

——	Number.	Remarks.
Indians : Infantry from the Aden Garrison.	110-120	At Berbera, Bulhar, and Zeila.
Somalis : Camel Corps -	25	At Berbera and Bulhar.
„ Police - -	95	At Berbera, Bulhar and Zeila.

Part of the Aden troop was also for a time in the Protectorate.

In these years four expeditions took place, viz., in 1886 and 1890 against the Isa, in 1893 against the Aidegalla (Habr Gerhajis), and in 1895 against the Rer Hared (Jibril Abuker, Habr Awal) west of Hargeissa. In the latter expedition some 20 to 30 of the Camel Corps took part, and the same number in the Aidegalla expedition, in which were employed also 20 of the police. The most serious of these expeditions was that of 1890, when over 350 men were employed.

1898 to 1900. In 1898 the administration of Somaliland was transferred from the Government of India to the Foreign Office. The Indian detachment, however, continued in the Protectorate until March 1900, when the arrival of the 2nd Battalion Central (now King's) African Rifles allowed of their withdrawal. In the meantime the local land forces had been increased and reorganised, and at the end of 1900 consisted of the following :—

Composition.	Corps.	Number.	Remarks.
Somalis - - -	Camel Corps -	53	
Somalis, a few Indians, Arabs, Soudanese, and Abyssinians.	Civil Police -	110	
Soudanese and Somalis -	Military Police ; Permanent -	78	
	Temporary -	50	
Somalis - - -	Levy - -	470	

The Levy had been raised with a view to undertaking operations against the Mullah, and was intended to replace the 2nd Battalion Central African Rifles which left the Protectorate, partly in July and partly in December of that year.

1901–02. In the course of 1901 the Levy was increased to 100 camelry, 400 mounted infantry, and 1,000 infantry—all Somalis — and, with 50 Punjabi Mohamedan Indian soldiers, a transport corps of 250 Somalis, and some 20 "Special Service" officers, formed the force which operated in that year against the Mullah. Towards the end of the year when operations were closed, the mounted infantry were disbanded and the infantry was reduced, and the strength of the local forces at the end of 1901 stood as follows :—

Composition.	Corps.	Numbers.			
		British Officers.	Native Officers.	Other Ranks.	Camels.
Somalis -	Camel Corps -	—	2	49	53
Somalis, with a few Arabs, Indians, and Soudanese.	Civil Police -	—	4	168	—
Somalis and Soudanese.	Military Police	—	3	114	—
Somalis -	Levy - -	7	5	720	100

In the course of 1901 it was decided to amalgamate the military forces in the East African Protectorate into one body, which was placed under an Inspector-General and was given the name of "King's African Rifles." It was intended that in the Somaliland Protectorate a battalion, to be called the 6th Battalion King's African Rifles, should be formed out of the existing Levies, and it was proposed that it should consist of a camel corps, three companies of regular infantry, with some additional Militia or Levy companies, and a non-combatant transport corps, numbering altogether 10 British and 8 Native officers, and 1,037 other ranks. It was intended to arm the force with ·303 Martini-Enfield rifles, two ·450 and one ·303 Maxims, and five 9-pr. R.M.L. guns.

The reorganisation of the civil and military police into one body, called the Foot Police, was at the same time undertaken.

During the year 1902, in consequence of renewed operations against the Mullah, little was done in the matter of organising the 6th Battalion. Three of the oldest companies of the Levies, which composed the field force, were indeed selected as a nucleus and were called the 6th Battalion King's African Rifles ; but they were in no way regularised, and remained on practically the same footing as the other Levy companies. After the check at Erigo in November 1902, when Colonel Swayne's force returned to its base, they were disbanded with the remainder of the Levy. 1902–03.

At the beginning of 1903, measures were again taken to organise the 6th Battalion. In January a company of mounted infantry and a company of camelry were recruited. These companies were, however, required to join at once in a new advance against the Mullah, which was being undertaken by a field force of outside troops under Brigadier-General Manning, and little therefore could be done in the way of training. Recruiting, too, was carried on under difficulties. The prestige of our armed forces had suffered somewhat by the check at Erigo, and recruits of the right stamp did not come forward readily. The corps, moreover, was raised in Berbera, where it is always difficult to get the best class of men. Each of the two companies was intended to consist of 150 men, but the company of camelry did not actually reach 100. The experiment was made of enlisting a number of men from among the Dolbahanta tribes, who, being adherents of the Mullah, had not previously been enlisted, and one section of 50 men of the mounted infantry was accordingly composed of them. They proved themselves, however, to be unreliable, and a considerable number deserted to the Mullah during the operations. Both of these companies did on the whole good service during the operations conducted by Brigadier-General Manning, and at Daratoleh a detachment which formed part of Major Gough's column particularly distinguished itself by its steadiness. Owing, however, to a breach of discipline, the greater portion of the camelry was disbanded in June 1903. 1903–04.

When Major-General Sir Charles Egerton took over command of the field force in June 1903, a second company of mounted infantry—strength 150—was recruited. Both this company and the company which had been enlisted at the beginning of the year did good service during the operations, which lasted from June 1903 to May 1904.

Subsequent to June 1904.

In June 1904, when General Egerton's operations closed and the field force was broken up, it was decided that our future policy for the defence of the Protectorate should take the form of measures to place the tribesmen in a position to defend themselves against hostile raids, while at the same time a small regular force, composed of men recruited from sources outside the Protectorate, should be maintained in order to supplement the tribal defence in case of necessity.

This regular force was to be the 6th (Somaliland) Battalion of the King's African Rifles, which, it was decided, should be composed of 500 mounted men, organised into five companies of 100 men each, two companies being mounted on ponies and three on camels. A decision as to the outside source from which the battalion had to be eventually recruited had not, however, been come to, and proposals for enlisting Arabs, Indians, Soudanese, and South Africans were made by different authorities. Meanwhile, it was decided to make a start by recruiting Somalis. The existing companies of mounted infantry, raised in January and July 1903, were taken as a nucleus and recruitment was opened. The required numbers were soon obtained; officers were appointed, arrangements for purchasing remounts were made, and the training and administration of the battalion proceeded on regular lines, an endeavour being made to place it on the same footing as the other battalions of the King's African Rifles.

At the same time tribal defence arrangements were initiated, rifles, ammunition, and ponies were issued to the tribesmen, and an arrangement was entered into for paying subsidies to certain sections to assist them in maintaining armed contingents.

On the withdrawal of General Egerton's Expeditionary Force in June 1904, a small temporary garrison of Indian troops had been left in the country. This garrison was

shortly afterwards relieved by a regiment of Indian infantry, which was lent by the Indian Government for a period of one year, it being hoped that this year of grace would be sufficient both to place the tribal defence arrangements on a firm basis and to reconstitute and train the 6th Battalion King's African Rifles.

The year of grace passed, however, without any real progress being made with the tribal defence arrangements, and although the Somalis, who had been enlisted into the 6th Battalion, had under regular training, administration, and discipline, attained a comparatively fair standard of efficiency, yet the future constitution of the battalion was still undecided.

In September 1905 the tour of service of the Indian regiment, which had been lent by India, came to a close. About the same time it was decided that the 6th Battalion King's African Rifles should in future be composed of Indians, and arrangements were made to recruit men in India. It was considered that 400 Indians would be sufficient, and the strength of the reconstituted battalion was accordingly fixed at 400 men, who were organised in four companies, of which two were mounted, one on ponies and one on camels. The five companies of Somalis, which had formed the 6th Battalion, were broken up; one company was placed under civil control for use in aid of the civil power; of the remaining 400 men, it was proposed to discharge 100 and to draft 300 into a Militia which was in process of formation as part of the tribal defence arrangements.

(b) *Present and Future Constitution.*—The military forces of the Protectorate, as at present constituted, are as follows:—

(I) *The Tribal Militia*, now in process of organisation by Political Officers. Up to the present some 20 tribal sections of 25 men each, under selected headmen, have been organised and put through a short musketry course. The men are armed with M.H. carbines. The establishment of the Tribal Militia is to be increased to 1,500 during the ensuing year. Its primary function is the protection of the tribes on their grazing grounds.

(II) *The Standing Militia*, a permanently embodied corps trained and disciplined on regular lines, consisting of six Somali companies, four mounted and two dismounted, under nine Political Officers, and administered by the Commissioner through a Staff Officer. Armament ·303 L.E. rifles and carbines.

(III) *The 6th (Indian) Battalion King's African Rifles*, consisting of four companies of Indian soldiers, two mounted and two dismounted, under seven Military Officers. Armament ·303 L.E. rifles.

Certain modifications of the above constitution are contemplated in the immediate future which will result in the following organisation:—

(I) *The Tribal Militia*, strength 1,500 men, organised in 60 sections of 25 men each, under Political Officers.

(II) (*a*) *Military Staff*, consisting of the Commandant of Troops, Medical Officer, Staff Officer for Supply and Transport, and Paymaster.

(*b*) *Standing Militia*, consisting of 4½ companies (four mounted companies and ½ company Depôt) under five Company Commanders, and five Company Officers.

(*c*) *6th (Indian) Battalion King's African Rifles*, consisting of four companies (one mounted) under seven Officers.

Armed Police.

The Armed Police comprise the following corps:—

(i) Coast Camel Corps, consisting of 52 Somalis and Arabs, armed with ·303 carbines, and stationed at Berbera, Bulhar, and Zeila.

(ii) Civil Foot Police, consisting of 267 men, chiefly Somalis, with a few Arabs and Soudanese, armed with M.H. rifles, and stationed at Berbera, Bulhar, Zeila, Karam, and Hais.

The merits and defects of the Somali as soldier are discussed in Chapter XVII.

French Somaliland.

The armed forces in French Somaliland consist of the rural and town police.

(*a*) The rural police, or native militia, are recruited from Arabs, Gadabursi, Habr Awal, Sudanese, Isa, and Abyssinians. They number some 200, and are distributed between Jibuti and posts on the railway.

(*b*) The town police, recruited from the same races as the rural police, are some 70 in number and are mainly employed in Jibuti and at Loyi Ada on the Ango-French frontier.

The Sudanese and Gadabursi are the best elements, and are preferred to the more numerous Habr Awal; the Isa and Abyssinians are not to exceed one-third of the total of either police.

Abyssinian Somaliland.

Harrar Province.—The troops in the Harrar Province number nearly 25,000 and consist, with one exception, of irregular Abyssinian and Galla mounted infantry and infantry armed with modern rifles and a few small guns.

This force is distributed along the Danakil and Somaliland frontiers.

Harrar has generally a garrison of 7,000 men, inclusive of an infantry regiment of 500 Beni Shangul negroes under a French officer.

Gildessa has a small garrison of 100 men as a rule, and Biya Kaboba perhaps one of 20.

Jigjiga, some 10 years ago, was garrisoned by a force varying from 20 to 100 men, but in 1900, in consequence of the advance of the Mullah into the Ogaden country, 1,200 men were collected at this post. At present the garrison appears to be about 100 men.

Temporary Stations South of Harrar.—In 1890 Melko Daga Medube (Daga Madabu) on the Sullul river, west of Dagabur, was the headquarters of the troops employed for the collection of tribute from the Ogaden between the last-named place and Karanle. In 1897 Imi served as the advanced base to the Amhara operations against Lugh, which was besieged for some four months. In 1900 and 1901 Dagabur and Eilki Gabro were occupied from time to time, and in the latter year the Abyssinian expedition reached Gerlogubi, Wardair, and Faf. A force also visited Bari on the Webi Shebeli in 1900.

Italian Somaliland.

The armed forces number 1,326 natives and 15 officers, divided into 4 companies and an artillery company. The four companies are stationed at Mogadiscis, Merca, Brava, and Giumbo, and the artillery company at the first-named place. Detachments are posted at Itala, Narseck, Cesira, Gelib, Bardera, and Lugh; those at Itala and Gelib are commanded by Italian officers, the remainder by "*jusbasci*."

Arme
Police

CHAPTER XV.

NATIVE WARFARE, THE SOMALI AS SOLDIER, THE STRATEGY AND TACTICS OF BRITISH EXPEDITIONS IN THE PAST.

Native Warfare.

Armament.—During the past 12 or 15 years there has been a very large illicit importation of fire arms into almost every part of Somaliland, the absence of administrative control over the interior of their Protectorates by the Powers concerned rendering it practically impossible to enforce the Arms Regulations. The arms imported are principally rifles of the Gras, Lebel, and Martini-Henri patterns. All tribes now possess rifles in greater or less numbers, and make use of them in inter-tribal warfare, where formerly they only employed native weapons.

The native weapons are three—the sword (*bilawa*), the shield (*gashan*), and spears (*waran*).

The sword has a double-edged pointed blade of soft iron, 2 feet long and two inches in maximum breadth, made for hacking, with a small horn hilt, ornamented with zinc or pewter, and a white leather scabbard attached to the waist by a long white thong.

The shield, of rhinoceros, bullock, or preferably oryx hide cut from the skin over the antelope's withers, is a round disc, 15 to 18 inches in diameter, with a boss in the centre and handle at back. It is proof against spears and arrows only.

The spears are of a dozen different shapes, of which, however, two are most commonly used.

One is a small spear, plain or barbed like a fish-hook, and used for throwing at a distance of 25 to 30 yards on foot, and at a dozen more on horseback.

The other, a ponderous, laurel-leaf shaped spear, is used for close quarters, especially against horses. The Ishak tribes, who are mounted, generally carry one of each of these two kinds of spears, but the Isa, who fight only on

foot, use the long stabbing spear alone. The Mijjarten also use a club (*wegar*), 18 inches long.

The Midgans carry, instead of shield and spears, a bow and a quiver of wood bound with geranook hide. A knife in sheath, a stone for sharpening arrow barbs, and a pointed tool for mending sandals are attached to the quiver, which contains poisoned arrows, iron shod or hardened at the point. The poison, resembling pitch or black glue, is extracted from the roots of the *waba*. Sometimes, *e.g.*, in the Mijjarten country, the Midgans also carry slings.

Tactics.—Light skirmishing, raids, and surprises are the characteristics of Somali tribal warfare. The Isa, who have no horses and fight on foot, are distinguished from the other tribes by their fondness for night attacks and ambuscades, and by the determination which they show in pushing their attacks.

Raids are generally effected at dawn or in the afternoon, when the adult males of the raided tribe are themselves away raiding or are asleep, and have thus left the care of the herds to boys and women. Some days before the raid, scouts are sent forward to watch for a favourable opportunity, and when that presents itself the raiders move in bodies of 20 to 200 men, often by night, and over distances of 70 miles or more to the grazing grounds. Nothing is carried by the riders on their ponies, which are invariably used on raids, beyond a small water bottle and some sun-dried meat. The return march is made in scattered parties as rapidly as the raided camels, sheep, &c. can travel, and is protected by a strong rear-guard.

When a collision does take place the order of battle is generally as follows :—

The spearmen form the first line in single rank at one pace interval, on the flanks are the horsemen who are, as a rule, the tribal-elders, and the slingers and riflemen, if any; in the second line follow the Midgan archers, or additional spearmen. As the hostile forces approach one another, the horsemen, slingers, and riflemen first come into action, then the small spears are thrown until the combatants are within a few yards, when a rush is made, and the long spear and then the sword (and club) are used. In attacking a zaribaed convoy an effort is

PONIES GRAZING.

frequently made to stampede the animals or to utilise them as cover for pressing the attack home, more particularly at night.

But, as has already been noted, night attacks are not favoured by the Ishak and Darod Somalis, except in small raiding parties, mutual distrust probably preventing sub-tribes combining for night attacks on a large scale.

The Somali as a Soldier.

The Somali has many qualities which fit him to be a soldier. He possesses considerable personal bravery and dash. As a scout he is full of resource and unsurpassed in his own country; his marching powers are above the ordinary. He is able to subsist for comparatively long periods on short rations of food and water, cheerfulness under such privations on active service being one of his best characteristics. He is a fair horseman and soon makes a good shot; he is quick to learn, and rapidly picks up elementary drill. He has few vices, and serious crimes are rare; he is on the whole easy to manage, though, as is the case with all natives, much depends on personal influence and handling. Though naturally impatient of restraint, he can learn to recognise the necessity of military discipline, and to appreciate its value.

On the other hand, he has several serious defects. He is vain and sensitive, and does not willingly adopt methods which are foreign to him. He is by nature lazy, is unaccustomed to prolonged hard work, and finds difficulty in making a sustained effort. He suffers from a highly nervous temperament, which results, at times, in such excitement as to make the control of considerable bodies almost impossible.

Excitability and impatience of restraint are the chief faults which must be eradicated before the Somali can be turned into a reliable soldier. There is good reason, however, to believe that under continuous and systematic training and discipline this can be done.

Up till quite recently there was neither time nor opportunity to train and discipline the local troops as regular soldiers. During the operations against the Mullah, which lasted from 1901 to 1904, a succession of levies and irregular corps were raised from time to time and disbanded again

after comparatively short periods of service, most of which was spent in the field. Their training was of the most rudimentary description, and the conditions under which they were enlisted did not admit of their being subjected to any but the loosest description of military discipline.

Nevertheless, at the actions of Erigo, Daratoleh, and Jidbali, they behaved with credit, though at the first and last-named actions their fault of excitability was also conspicuous. If they have failed on occasions to display steadiness and staunchness in the face of the enemy, it is rather because they have failed to grasp the idea of co-ordinate and combined action than from any lack of personal courage.

It must be remembered that Somalis amongst themselves have practically no organisation or inter-dependence. Combined action is unknown, and every man acts independently as he thinks fit. It is for this reason that when combined—to them artificially—into units, under British or Native Officers, they find a difficulty in learning that confidence in their leader, or in co-ordinate action, which is essential to success in the field.

During the period which has elapsed since the close of the operations against the Mullah, an effort has been made to train and discipline a Somali battalion on regular lines, and the degree of success which has been attained affords good hope that, under strict discipline, applied gradually and with tact, and with progressive and systematic military training, the Somali may become as reliable a soldier as any other African native.

The Strategy and Tactics of British Expeditionary Forces in Past Years.

Strategy.—In considering the strategy to be adopted in local warfare, a distinction must be drawn between expeditions of the nature of those despatched during the last few years against the Mullah Mohamed-bin-Abdulla Hassan, and petty punitive or coercive measures undertaken against single tribes, such as the Expedition of 1893 against the Aidegalla and against the Rer Hared (H.A., Jibril Abukir) in 1895.

The operations against the Mullah, though commenced

on a small scale against an apparently insignificant foe, were, in their later stages, carried out against a strong force of well-armed fanatics, combined and controlled by a single individual, whose prestige, following, and resources had increased with his successes to such an extent that in the final phase of the operations we were obliged to place in the field a force of 5,000 to 6,000 regulars and 1,000 to 1,500 irregulars. Here our object was the destruction of the enemy's fighting force, and our strategy was aimed at bringing it to battle. Owing, however, to the disinclination of Somalis to come to close quarters, unless they can attack by surprise, and to their great mobility (70 miles being covered in a day by mounted and 40 to 50 occasionally by dismounted bodies), it was found to be difficult, even with mounted troops, to inflict serious losses on them in men. Small formed bodies were sometimes surprised by our patrols and advanced parties, but such surprises were exceptional, owing to the enemy's system of spies and scouts, the latter being often 50 to 70 miles ahead of the main body.

For petty punitive and coercive operations against single tribes, or against a number of disconnected sub-tribes, comparatively small forces have been found to suffice, and the strategy adopted has been aimed at the capture of the enemy's material resources, his flocks and herds, on which Somalis are almost entirely dependent for their food, meat, and milk, as well as at the occupation of their permanent wells, on which, during the dry season, the existence of their camels, cattle, and sheep, as well as of their ponies, depends. The usual mode of action in such cases is to send ahead the mounted troops, who may be required to march some 90 to 120 miles in 48 hours, in order to effect the capture. The transport in the mean time is left with the dismounted portion of the force, which, protected by a strong zariba, occupies some important source of water supply. As there is little union between the various sub-tribes and clans, the measures indicated above are generally followed by the submission of the sub-tribe concerned, and, if continued from one sub-tribe to another, result in the subjugation of a wide area.

Information and Security.—Spies and scouts can easily be found, for the Somali is avaricious and enterprising. The native system of spies and scouts is admirable.

The measures for security on the march are indicated under the heading "Marches and March Formations."

Camps should always be surrounded by zaribas, especially when there are a quantity of transport animals, the capture of which is often made the main object of a night attack. As a rule material for zaribas is plentiful, either mimosa or other bush, or, in the open country, stones. Zaribas should be surrounded by barbed wire. Even in the dense bush a clear field of fire of at least 200 yards can generally be obtained in the open belts and patches which occur at intervals.

Marches and March Formations.—In the operations of 1901, the Levies covered 1,170 miles, and detached sections and companies 1,700 miles in three months, giving average daily marches of 13 and 19 miles respectively. Marches of 30 miles a day were frequent, and on several occasions 40 miles were covered in 24 hours, *e.g.*, 34 miles in 21 hours by the infantry, and 120 miles in 48 hours by the mounted troops in the pursuit after Samala on the 12th and 13th June, 1901, and again 40 miles by the infantry on the days on which the actions of Odergoey, Kurmiss, and Firdidin were fought. The above may be taken as an example of what can ordinarily be expected of Somali troops.

When not in touch with the enemy the ordinary march formations may be adhered to. When in touch with the enemy the usual march formation is that of an elastic square with the transport in the centre, the mounted troops, preceded by spies and scouts, being pushed ahead, as much as half a day's march, and kept well out to the flanks and rear. The transport men, being usually armed with spears, afford a certain amount of protection to the transport animals, but when action is imminent the bulk of the transport is usually zaribaed and left in rear under a small guard, the fighting column moving forward accompanied only by such animals as are necessary to carry reserve ammunition, Maxim guns, and other essential loads.

Fighting Formations.—The chief characteristics of Somali fighting have usually been light skirmishing, wide fronts, and a dissolution into small bodies when pursued; but the actions of Erigo, Gumburu, Daratoleh, and Jidbali

afford instances of determined charges in the face of rifle fire at close and medium ranges. In thick bush, and when opposed to a strong force, formations should be very compact to guard against sudden rushes of large bodies of men. Ambushes and outflanking movements must be specially guarded against. In pursuit greater latitude may be allowed, as Somalis retire long distances before rallying. The mobility of the force should be ensured by placing the baggage and transport in a zariba before attacking.

Equipment.—A few notes as to equipment are given in Appendix H., p. 268.

The scarcity of water and the difficulty of drawing it from wells make the carriage of pumps necessary. The best pattern has been found to be the "lift and force pump." Explosives are also required for widening the mouth of wells, both in order to aerate the water and to enable a greater quantity to be drawn at one time. Care should be taken not to crack the lower stratum of the well, or the water will gain access to a porous stratum. This happened on several occasions during the recent operations.

As is usual in bushy countries, a plentiful supply of axes is required for maxing zaribas. The native Somali axe, "gudimo," is a most useful tool for this purpose. These axes, which can be made by local workmen, should be of the best steel, or they will quickly wear out. A supply of hatchets, bill-hooks, and a few felling axes should also be carried.

Barbed wire for entanglements round zaribas should be carried by all units.

Owing to the flat nature of the country signalling equipment is only required in small quantities; the dust storms during the kharif* seriously interfere with helio work.

For the carriage of sick, camel litters and riding pads are most suitable. Where dhoolies are employed for long marches, strong relays of carriers are required.

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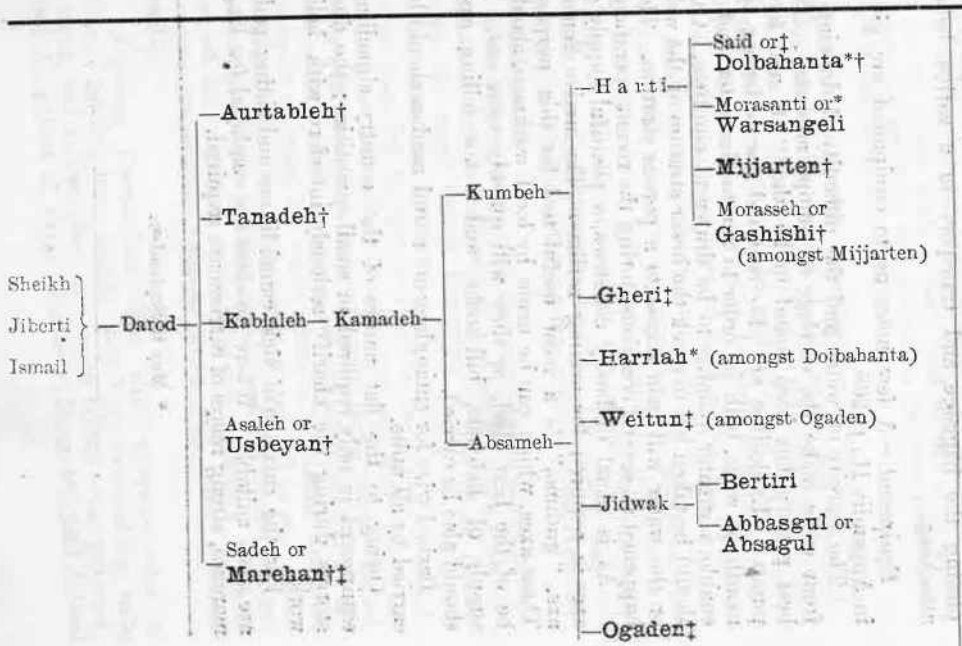
* May to September.

APPENDIX A. (1.)

TABLE OF THE DAROD SECTION.

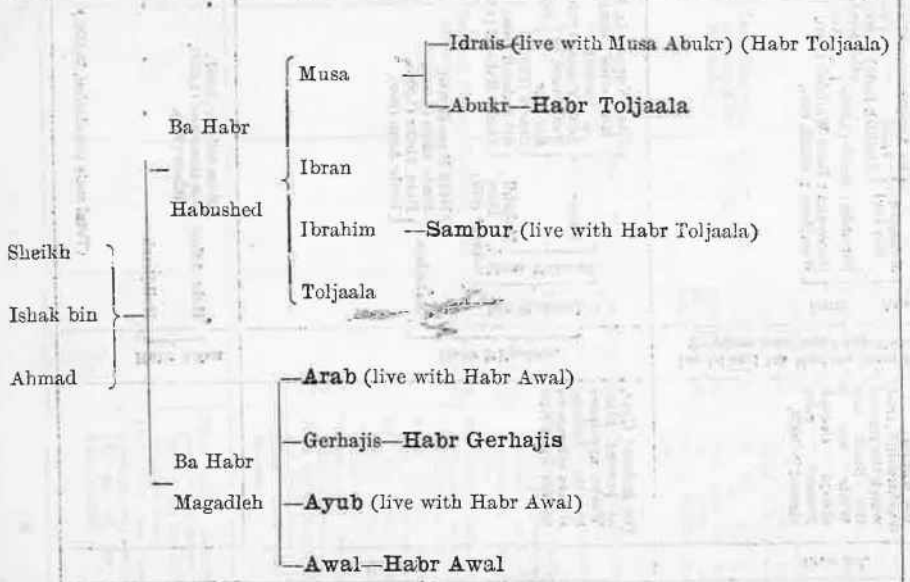


NOTES.

1. Heavy type shows existing tribes.
2. *In British territory.
† In Italian territory.
‡ In Abyssinian territory.

APPENDIX A. (2.)

TABLE OF THE ISHAK SECTION.



NOTES.

Heavy type shows existing tribes.

All are in British territory only, except the Habr Awal and Dolbahanta, who extend into Abyssinian, and the latter also into Italian, Somaliland.

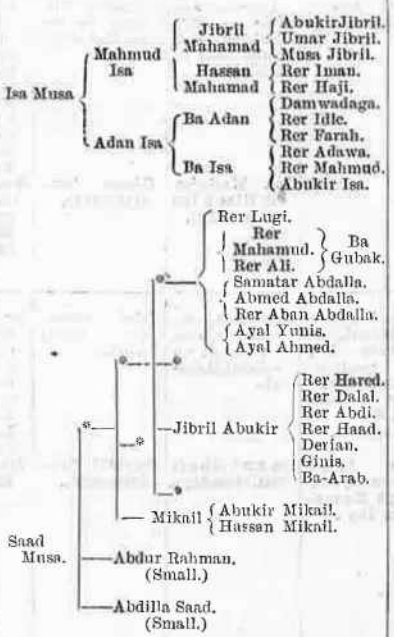
APPENDIX A. (3.)

TRIBES OF BRITISH SOMALILAND.

Section.	Tribe.	Ruler.	Chief Sub-tribes and Clans. No.	Chief Sub-tribes and Clans. Names.	Dates of Treaties.	Boundaries and adjacent Tribes. Northern.	Western.	Southern.	Eastern.	Remarks.
Darod.	Isa—Ad.	The Ugaz is Wais Umar, now 24 to 25 years of age, of the Warlik. Wakhteshileh, from which the ruler of the Black and White Isa is always elected. Present ruler elected in 1960.	Isa Ad and Isa Madoba form 3 main divisions totalling 8 sub-divisions.	Dalol Abgat: Musa { Rer **Yunus** Musa: Rer Ugar Ali (part). Rer **S'ad** Musa: Rer Yerun (part). Mamasan Rer Owl { Ba Abdurrahman (550) { Ali Ada. Farah. Abdilleh Sadil (2,800). Forlabba: Saeeb (1,500) { Rer Nebi summa. " Nur. Harrowna: Habr Wallaleh (800). Walaldone: Eidleh (50).	31-12-84.	Gulf of Aden. Loyi Ada — Dongarita.	Loyi Ada—Ambos—Jallelo — Biya Kaboba — 3 miles west of Gildessa. **Isa Madoba or Black Isa (friendly).**	Two miles south of Gildessa to Jebel Makanis. **Gheri (unfriendly).**	Dongarita to Gumbur Kohi, thence round foot of maritime mountains to Hemal and Aruweina exclusive, thence via Joji to Jebel Makanis. **Gadabursi (unfriendly, except to Mamasan Isa).**	Part of the Isa Ad are in Abyssinian and part also in French territory. The distinction Ad and Madoba refers to domicile. Those west of the range from Jibuti to Harrar are Madoba, those east of it are Ad. Figures in brackets = male population, giving a total of 5,690 without the Rer Yunus Musa and the Rer **Yerun**, 8,500 and 500 respectively, most of whom are in British Somaliland.
	Gadabursi.	The Makahil Ugaz, at present Elmi Worfa, appointed by the British, always belongs to the Rer Ugaz Nur.	Habr Mikadore: Rer Makahil. Musa Makahil. Yunus: Jibril Yunus, viz.:— Rer Yunus Usman (2,750). " Duddub. Adan Yunus (1,250). Nur Yunus, or Rer Nur (5,000). Others (730). Makahil Dera: Ali Makahil (900). Abukr Makahil (2,000). Others* (875). Mahadasa: **Habr Musa (3,000). Bhabr Elich (1,000). Habr Abukr (1,020). Bhabr Adan (600).**	11-12-84.	From Aruweina to Hemal, then around foot of maritime hills to Gumbur Kohi, S.S.W. of Dongarita. **Isa (unfriendly, except Mamasan Isa).**	Aruweina inclusive—Joji exclusive—Jebel Makanis. **Isa and Gheri (unfriendly).**	Jebel Makanis — Subul Nirik. **Bertiri (unfriendly).**	From Gumbur Kohi S.S.W. of Dongarita to Kabri Bahr, thence up tug Arrowein to Jifa Mellir and Subul Nirik. **Jibril Abukr, Habr Awal.**	Figures in brackets = male population. Extend into Abyssinian territory. Rer Duddub, a powerful sub-tribe about Auboba, Aruweina, and Hemal (population taken at 5,300). Rer Yunus Usman, Hemal—Harrowa valley along Zeila-Harrar route. Adan Yunus, southern part of Harrowa valley. Rer Nur (very troublesome), along eastern Gadabursi border. *Hassan and Abdulla Makahil live with the Isa. Habr Musa about Abassa and Hallimalle; Bhabr Eileh with the Isa Mamasan.
			Habr Affan: Habr Affan { Musa Subehr (3,800). Isa Samarone (1,000). Others (800). Haibjirreh - - - - - - -	-	- - -	- - -	- - -	- - -	Habr Affan proper are scattered amongst Jibril Abukr and Rer Dalal of the Habr Awal. Haibjirreh are counted amongst, but are originally not of, the Habr Affan proper.

(Total male population, 30,000.)

TRIBES OF

Section.	Tribe.	Ruler.	Chief Sub-tribes and Clans. No.	Chief Sub-tribes and Clans. Names.	Dates of Treaties.
Ishak Ba Habr Magadleh.	Habr Awal.			 *Note.*—Names of branches which have dropped out of usage have been omitted and marked *.	14.7.84 and 15.3.86.
	Ayun.			A small tribe only - - - - - -	-

A. (3)—*continued.*

BRITISH SOMALILAND—*continued.*

Boundaries and adjacent Tribes. Northern.	Western.	Southern.	Eastern.	Remarks.
Gulf of Aden, Dongarita to Siyara inclusive.	Dongarita to the northern end of the Gadabursi eastern boundary, thence along it to Subul Nirik, thence to Jebel Makanis, Harrhe, and Dubbur Isa, Gadabursi, Bertiri, and Abbasgul (two latter said to be **unfriendly**).	Dubbur, Kheidub Ayeyu, Gos, Hargeissa, Assa Range, Mirsa Ridge, Lower Sheikh, Goigodan Plain, Goiti. Abbasgul, Rer Ali Ogaden, and Habr Gerhajis (Rer Ali unfriendly).	Siyara, Rerad, Dohnug, then **along northern boundary** of Negegr plateau to Goiti. Habr Toljaala.	The Habr Awal extend into Abyssinian country. The Eastern Makhail own Siyara. The Rer Hared were formerly notorious raiders on the Harrar and Berbera-Bulhar routes. The Ayal Ahmed live at Berbera. The Ayal Yunis live at **Bulhar (Sheikh Madar of Hargeissa belongs to the Rer Hosh Yunis clan of this sub-tribe).** **The Mahmud Isa used to levy toll on the Sheikh** Pass and the coast roads from the east. The Adan Isa used to levy toll on the Jerato Pass and all roads westwards.
- - - - - -	- - - - - -	- - - - - -	- - - - - -	The Ayun live with the Habr Awal.

APPENDIX

TRIBES OF

Section.	Tribe.	Ruler.	Chief Sub-tribes and Clans. No.	Chief Sub-tribes and Clans. Names.	Dates of Treaties.
Ishak. Ba Habr Magadleh.	Arab.			Hashim: Ahmed Abdalla; Adan Abdalla; Ali Abdalla.	
				Ba Habr Abdulla: Gulan Abdalla; Samana Abdalla; Afira Musa; Mohamad Musa; Abdalla Musa; Gelgunuf Musa; Mikail Musa.	
				Suber Eli: Hamut Suber; Samakar Suber; Mohamad Suber.	
				Musa Eli: Sayen Musa; Ahmed Musa; Ali Musa.	
				Abdalla Arab: Ali Abdalla; Musa Abdalla.	
	Habr Gerhajis.	Sultan Deria, appointed in 1899, vice Nuh, who joined the Mullah. His authority is nominal only.		Habr Yunis (20,000 males). Eri Said: Haji Sala; Logi; Bali.	13.1.85 and 1.1.86.
				Musa Arreh: Musa Adan; Jibril Adan; Mahamud Adan; Ali Adan; Hussein Musa; Samara Fike; Damalmuse.	
				Ishak Arreh: Kashim Ishak; Abdalla Ishak; Kalil Ishak.	
				Abdalla Ismail: Rer Ainasha; Rer Saguleh; Ba Dolbahanta; Hirsi Bari; Rer Hassein; Ogar Umar; Rer Abokir; Rer Elmi; Fitara; Musa Abdalla; Arabella; Idris.	
				Musa Ismail: Mahomed Musa: Adan Mahomed; Awad Mahomed. Turwa Musa: Osman Turwa; Jibril Turwa; Musa Turwa. Yunis Musa: Ali Yunis; Farah Yuis.	
				Saad Yunis: Idris; Rer Barkhat; Rer Mahmud.	

A. (3)—*continued.*

BRITISH SOMALILAND—*continued.*

Boundaries and adjacent Tribes. Northern	Western.	Southern.	Eastern.	Remarks.
				The Arab live with the Habr Awal and Habr Gerhajis.
Hargeissa (exclusive) via Assa Range, N. of Mandere, Golis, N. of Lower Sheikh. Habr Awal.	Hargeissa (exclusive), Gos. Habr Awal.	Gos, Daror, Gonda Liba. Ogaden, Rer Ali and Rer Harun.	A point N. of Lower Sheikh, Goiti, Yurrowa, Ber, curving from S. to S.W. to Gonda Liba. Habr Awal and Habr Toljaala.	The Musa Ismail, Habr Yunis, are better disposed to the Habr Toljaala and Dolbahanta than to their own tribe. There are standing feuds with the Habr Yunis and Aidegalla.

TRIBES OF

Section.	Tribe.	Ruler.	Chief Sub-tribes and Clans. No.	Chief Sub-tribes and Clans. Names.	Dates of Treaties.
Ishak. Ba Habr Magadleh.	Habr Gerhajis—*continued.*			Aidegalla (8,000 males): **Rer** Guled. Rer Adan. Abdi Bari. Rer Gubdon. Liban Isa. Hussein Isa. Gashambur. Abokir Musa. Yunis. Bahdelo. Rer Idle. Abdidera. Rer Bari. Guyebi.	
				Rer Isa. Rer Amatura.	
Ishak. Ba Habr Habusheo.	Habr Toljala.			Mohamad Abokir — Yesaf: Rer **Sahal**. Rer **Robile**. Rer **Abdurrahman**. — Adan Madoba: **Ismail Adan**. **Hussein Adan**. **Ahmed Ali**. **Rer Haji**. **Ba-Sambur**. — Nuh: Diah Farah: Rer Yusuf. Gashambur. — Ahmed Farah: **Abdidon Ahmed**. **Had Ahmed**. **Mohamad Ahmed**. **Benin Ahmed**. **Abokir Ahmed**.	26.12.84 and 1.2.86.
				Musa Abokir — **Abdurrahman Musa**: **Rer Yunis**. **Yunis Bari**. **Ali Bari**. — **Abdurrahim Musa**: **Said Ali**. **Umar Ali**. — **Idris Musa**	
				Umar Abokir — Issak Umar: Unarsagai Ishak: **Ali Unarsagai**. **Mohamad Unarsagai**. **Adan Unarsagai**. — Ayun Issak: **Samatar Ayun**. **Wais Ayun**. — **Ali Afweina** — **Beida Umar**.	

A. (3)—*continued.*

BRITISH SOMALILAND—*continued.*

Boundaries and adjacent Tribes. Northern.	Western.	Southern.	Eastern.	Remarks.
Gulf of Aden Heis — Bandar Jedid.	Nil.	Hais. Hanfallal. **Dolbahanta.**	Bandar Jedid, Hanfallal. **Warsangli (unfriendly).**	
Gulf of Aden, Ras Walhun, point halfway between Ras Shullab and Heis.	Ras Walhun, Bohuldunti, northern edge of Negegr Plateau, Goiti, Ber, Gonda Liba. Habr Awal and Habr **Gerhajis**.	Gonda Liba, Dcendli. Dolbahanta and Ogaden.	Heis, Pyramid Peak, Duss Pass, S.E. end of Miriya Pass, Laba Gardai, Kirrit Deendli. Dolbahanta (raid Habr Toljala and Habr Awal).	The Ahmed Farah in 1900 caused much trouble by blocking the Miriya Pass. The Ibran and Ibrahim (Sambur) live amongst the Habr Toljala.

TRIBES OF

A. (3)—*continued.*

BRITISH SOMALILAND—*continued.*

Section.	Tribe.	Ruler.	Chief Sub-tribes and Clans. No.	Chief Sub-tribes and Clans. Names.	Dates of Treaties.	Boundaries and adjacent Tribes. Northern.	Western.	Southern.	Eastern.	Remarks.
Harti Branch of Darod.	Warsangli.	A hereditary Gerad with little power, except in deciding disputes in council and levying forces, aged 87 or upwards. Chief residence at Laskhorai, but he wanders to the south of Eyransib Peak also.		Toljaala Umar. Gerad Abdalla (The Sultan's clan.) Gerad Yusuf Gerad Umar Gerad Liban Gerad Mohamad Rer Haji Ba Habr Hussein. Ba Habr Isman. Ba Suliman Ba Guled Nuh Said Jibril Said Adan Said Adan Yakub Hussein Isa. Ba Ugaslabeh: Rer Ali Mahamud. Rer Ahmed Jibril. Rer Ogarihan. Ba Idur: Fgal Isman. Fareh Isman. Amir Adan. Araleh Adan. Wais Adan. Abukir Adan. Rer Gerad. Ba Mijjarten: Rer Fateh. Rer Abdalla. Ararch Ali. Samakakali. Samatar Gerad. Amir Ali. Adan Ali. Nuh Umar: Abdurrahman. Abukir Madoba. Ali Abdi Rahim. Baida. *Note.*—Above information received from Dost Mohamad, Ugaslabeh, of Laskhorai, 1.5.06.	All tribes did not sign treaty.	The Gulf of Aden from Bandar Jedid to Bandar Ziada.	Bandar Jedid, Hanfallal.	Hantallai, Yube; thence via tugs Yube and Gebi to junction with the Darror, thence to Jiji. They claim also part of the Nogal Plateau. Dolbahanta constantly at feud.	Jiji, lagoon and stream east of Bandar Ziada. The Mijjarten and Warsangli are descendants of brothers by the same mother. They coalesce in general war, but often raid one another.	
	Dolbahanta.	The Gerad belongs to the Ba Ararsama. Present is the 13th Gerad, named Gerad Ali Muhamud.		Mahmud Gerad: Jama Siad. Ogarian: Rer Muhamud. Rer Nalaya Ahmed. Rer Nur Ahmed. Barkat Gerad. Gerad Farah: Ahmed Gerad: Rer Ali Geri. Ararsama. Muhamad Gerad, or Ba Arasama. Abdi Gerad (or Khayat).	No treaty.	Pyramid Peak—Jebel Saruf—Hanfallal; and along Warsangli southern boundary. Habr Gerhajis (coast section) and Warsangli (former friendly, latter apparently not).	Pyramid Peak, along Habr Toljaala Eastern Boundary to Deendli, thence to Hodayuwein. Habr Toljaala.	Hodayuwein—Darodful—Garadera—Elad — Badwein. Ogaden, viz., Bahawadle, Rer Ugaz Magan and Ibrahim, Habr Ali, and Marehan (all well-disposed to Dolbahanta).	Jiji—Bur Teyl—Bardidur—Gaisariyu—Kalwehud—Hill—Badwein. Mijjarten, Ugaz Selibun, Isa and Omar Mahmud, Rer Omat, and Rer Egale.	Elad is 50 miles N.W. of Degarir tank, and Badwein 20 miles N. of Amai wells of Mudug. Jama Siad have given considerable trouble in the past by raids on to Berbera Plain, but are now quiet. Rer Hussan Ugaz live with the Mijjarten, and the other Ugaz tribes between the latter, Ogaden, and Marehan. The Harrlah (Darod) live with the Dolbahanta, as do, too, an aboriginal tribe the Hayag.

APPENDIX.

TRIBES IN

Section.	Tribe.	Ruler.	Chief Sub-tribes and Clans. No.	Chief Sub-tribes and Clans. Names.	Dates of Treaties.
?	Isa Ad and Madoba.			Abgal { Musa { Rer Yunus Musa. Rer Hobleh (1,000). „ Ugar Ali (part). „ Jilal (800). „ Hagar (1,500). Rer S'ad Musa. Rer Gadidsha (8,300). Mamasan { Bah Abdurrahman. 10 small sub-tribes (910). 1 small sub tribe (100). Dalol : Forlabba { 3 small sub-tribes (900). Amhadleh (3,500). Walaldone (3 sub-tribes) (800). Wardik { Wahtehshileh (2,500). Rumawok (2,000).	
	Gadabursi.			*Vide* British	
Ishak, Ba Habr Magadleh.	Habr Awal.			*Vide* British	
Darod.	Gheri.			Bahawiya. Abo Yunis. Rer Ibrahim. Jibril. Bakasiya. Rer Mahmud. Musa Dar.	
	Bertiri.			Ba Ambaro. Sheikhashed. Doyo. Gurgura.	
	Abbasgul.	Abdi Girad.		Juma. Said. Barch. Gedi. Guled.	

A. (3)—*continued.*

ABYSSINIAN SOMALILAND.

Boundaries and adjacent Tribes. Northern.	Western.	Southern.	Eastern.	Remarks.
				Figures in brackets = male population totalling, without Rer Ugar Ali, 20,100.
Vide British and French Somaliland.				
Somaliland.				
Somaliland.				
2 m. S. of Gildessa—Abosa. **Isa Ad and Gadabursi. (Gheri raid latter.)**	42° E. **Gallas and Abyssinians.**	Harrar — Bale Pass. **Bersuk and Gallas.**	Abosa — Bale Pass. **Bertiri.**	Bersuk, possibly a Somali tribe, now live with the Gallas. Weitun live with the Gheri, as do the Asaleh or Usbeyan, of whom part also live with the Bertiri.
Abosa — J. Makanis. **Isa Ad.**	Abosa—Kabel Gabet. **Gheri, Bersuk, and Babilli.**	Kabel Gabet—Harrhe. **Abbasgul.**	Harrhe — J. Makanis. **Habr Awal.**	Bersuk, *vide* Gheri. Babilli, possibly a Somali tribe, are now emerged in the Gallas. *Vide* Gheri (Asaleh).
Harrhe—Kabel Gabet. **Bertiri and Babilli.**	Kabel Gabet J. Mogor. **Rer Abdulla, Ogaden.**	J. Mogor — G. Wedel — Kheidub Ayeyu. **Malingur and Rer Ali.**	Kheidub Ayeyu Dubbur —Harrhe. **Habr Awal.**	Suffered severely at hands of Abyssinians.

APPENDIX

TRIBES IN ABYSSINIAN

Section.	Tribe.	Ruler.	Chief Sub-tribes and Clans. No.	Chief Sub-tribes and Clans. Names.	Date of Treaties.
Sab or Impure.	Malingur.			Rer Guled. Ugaz Samantar. Ibraham. Rer Hamar (along the Sullul). Ogo (near Segag).	
	Ogaden.			Mukabil { Habr Ali. Ibrahim. Miyirwalal { Rer Ishak { Rer Harun (8,000). Rer Ali (5,000). Rer Abdulla (10,000) { Rer Amaden. Ba Hawadle.	
	Giiimiss (Ogaden ?).				
	Afgab (Aulihan)			Adan khair. Dagodi.	

A. (3)—*continued.*

SOMALILAND—*continued.*

Boundaries and adjacent Tribes. Northern.	Western.	Southern.	Eastern.	Remarks.
East and west line from junctions of Tugs Dakhato and Wallensi to the Tug Fafan. **Abbasgul.**	Tug Dakhato from junction of Wallensi to junction with Burka. **Ennia Gallas.**	From junction of the Dakhato with the Burka to Balballad. **Rer Amaden, Ogaden.**	Balballad to En, then Tug Fafan to N. of Eilki-Gabro. **Rer Ali Ogaden.**	
G. Wedel—Kheidub Aycyu—Gos—Daror Gonda Liba—Deendli—Hodayn—Wein—Darodful—Garadera—Elad. **Abbasgul, Habr Awal, Habr Toljaala, Dolbahanta.**	From Gumber Wedel along the Tug Fafan to En, thence via Balballad to Tug Burka, thence the Webi Shebeli to Habir. **Malingur and Gallas.**	Habir—Dek Merode—Dud Harik—junction of Ainli and Shebeli—Burdale. **Gilimiss (Ogaden ?) and Aulihan.**	Burdale—Hiran of the Fafan—Gerlogubi—Elad. **Hawiya and Marehan.**	(1) The Ibrahim is a very large tribe, having a sultan, and living south of the Haud and east of the other Ogaden. Figures in brackets = spears.
From Habir on the Shebeli to Dud Harik. **Rer Amaden Ogaden.**	Habir to Audo Mountains. **Gallas.**	Audo Mts.—B. Funshau—Burka on Webi Shebeli—Tug Ainli. **Gallas and Aulihan (frequent warfare with the Aulihan).**	Tug Ainli from junction with the Webi Shebeli to Dud Harik. **Abdulla Ogaden and Rer Hamar Hawiya.**	Mixed with the Adoni. They appear to be subject to, but semi-independent of the Ogaden.
Extend along the right bank of Webi Shebeli from Burka to Geledir southwards into the mountains.				
A line westwards from Berdari. **Auliban.**	? 42° E. **Gallas.**	Juba River. **Garra Marra Somalis.**	Adalli—Berdali. **Rahanwein ?**	The Afgab combine Ogaden and Galla blood, and look down on the Dagodi, who have more Galla than Ogaden blood. Both are Mohammedans.

Section.	Tribe.	Ruler.	Chief Sub-tribes and Clans. No.	Chief Sub-tribes and Clans. Names.	Dates of Treaties.
Harti branch of Darod.	Mijjarten.	Sultan (the 14th) Osman Mahmud, aged 45, lives in the interior about Mieh and Adua, but spends two months at Maraya, Allula, and other ports.	20	Noleis { **Osman Mahmud (Royal Family) inhabit Northern Coast; Isa Mahmud inhabit Illig, Nogal, and Hunda; Omar Mahmud inhabit South-Western corner.** Benaia. 18 other sub-tribes.	April, May, and November 1889.
Darod.	Deshisli.	—		—	None.
	Aurtableh.	—		—	None.
	Tanadeh.	—		Lel Kusi. Haer. Malismoghe.	None.
	Sadeh or Marehan.	Yusuf Ali of Obbia claims their allegiance.		Rer Nehmala (near Obbia. Rer Ayanleh (2,000 spears), Rer Yalaf. Rer Egale. Ibrahim Jibrail. Rer Said Ugaz. Shirmakay.	None.
Sab or Impure.	Hawiya.	—		Rer Hamar (Bari). Rer Hussan Mukof). Ghamdig Yusuf (Doghr). Hawadle (North of the above). Rer Abukr Ulaz. Habt Ghidit. Wa Esleh? El Erli? Gurgati.	None.

A. (3)—*continued.*

ITALIAN SOMALILAND.

Boundaries and adjacent Tribes. Northern.	Western.	Southern.	Eastern.	Remarks.
Gulf of Aden; Bardar Ziada (exclusive) to Cape Gardafui.	3 miles east of Bandar Ziada-Bur Teyi-Gaisariyu-Badwein — intersection of 6° 10′ N. and 48° E. **Warsangli, Dolbahanta, and Marehan.**	Intersection of 6° 10′ N. and 48° E. to Cape Awad. **Hawiya.**	Indian Ocean, Cape Gardafui to Cape Awad (inclusive).	(1) Badwein is 20 miles N. of the Amal Wells of Mudug.
Inhabit Bandars Bad and Kasim in the Mijjarten country.				
Live in the south-western corner of the Mijjarten country, and partly at **Illig**. At war always with the Hawiya, and at times with the **Mijjarten**.				2,000 spears.
?—Obbia. **Hawiya.**	? ? **Rahanwein.**	?	Indian Ocean: Obbia—?	Included in Hawiya.
Gerlogubi—Klad-Badwein. **Ogaden and Dolbahanta.**	Gerlogubi-Dabari Tank. **Ogaden.**	Dabari Tank—Dhul. **Hawiya.**	Dhul — intersection of 6° 10′ N. and 48° E.—Badwein. **Hawiya and Mijjarten.**	
Bari—Hiran on tug Fafan—Dabari Tank—Dhul—intersection of 6·10° N. and 48° E.—Cape Awad. **Ogaden, Marehan, Mijjarten.**	The Webi Shebeli from Bari to Burfule (?). **Adoni and Rahanwein.**	Burfule (?)—Mereg (?). **Rahanwein.** (?)	Indian Ocean from Mereg (?) to Cape Awad.	(1) *Cf.*, also Adoni. (3) The Southern and Western limits are not definitely known.

APPENDIX

TRIBES OF

Section.	Tribe.	Ruler.	Chief Sub-tribes and Clans. No.	Chief Sub-tribes and Clans. Names.	Dates of Treaties.
Sab.	Adoni.	—	?	?	None.
	Rahanwein.	—	?	**Tuni (about Brava).** **Gubahin** } **(Along the Juba, S. of Lugh to** **Gasar Gudda** } **Bardera).** **Hiroleh, Jideh, and Hajuran (on the plateau).** **Asrat and Rer Hamr at Mogdishu.** Wadan and Bio Mal S. of Mogdishu.	Benadir Coast, 8.2.89 and 26.3.92.

SOMALI TRIBES IN

Section.	Tribe.	Ruler.	Chief Sub-tribes and Clans. No.	Chief Sub-tribes and Clans. Names.
Probably Darod.	Isa Madoba, or Black Isa.	*Vide* British Somaliland.	**Isa Ad and Isa Madoba form three main divisions, having a total of eight sub-divisions.**	**Abigal.** **Musa.** **Rer Yunus Musa, viz. :—** **Part of Rer Ugar Ali (total 8,000).** **Rer S'ad Musa, viz. :—** **Rer Makahil (1,000).** **" Gulaneh (4,000).** **" Harlah (2,000).** **" Hussein (1,500).** **Mamasan (two small tribes) (80).** **Urweina** { **Abdulla (2,000).** **Fakih (1,500).** **Foriabba ; Saceb ; Rer Saleh (1,700).** Harrowna { Biya Sirr (600). Adan (600). Walaldone (three small tribes) (600).

A. (3)—*continued.*

ITALIAN SOMALILAND—*continued.*

Boundaries and adjacent Tribes. Northern.	Western.	Southern.	Eastern.	Remarks.
A line drawn from Geledi on the W. Shebeli in a S.W. direction. **Afghab.**	*Vide* Northern.	A line due east from Jidli. **? Rahanwein.**	The Webi Shebeli from Jidli up to Geledi. **Hawiya.**	*Vide* also Gilimiss of Abyssinian Somaliland. Strong Negrotic element. The Hawiya are the ruling race, but in very few numbers.
From Adaili, on the Juba to Jidli on the Shebeli. **Dagodi, Afgab, and Aulihan.**	The Juba from Adaili N. of Lugh to the mouth. **Boran and Ogaden.**	From the mouth of the Juba river to Mereg (?).	Mereg (?). Barfule (?). Jidli on the Shebeli. **Hawiya.**	The North-Eastern limits are not known definitely.

FRENCH SOMALILAND.

Boundaries and adjacent Tribes. Northern.	Western.	Southern.	Eastern.	Remarks.
Gulf of Aden from Parrot Island in Ghubbet Kharab to Loyi Ada.	A S.W. line from Parrot Island. **Danakil.**	Undefined. **Harrari, Abyssinians, and Gallas.**	*Vide* western frontier of the Isa Ad under British Somaliland. **Isa Ad.**	Some of the sub-tribes are in British and Abyssinian Somaliland. Figures in brackets, male population, totalling, without Rer Yunus, 15,000. The Isa made many attacks on the French during the first stages of the construction of the Jibuti-Harrar Railway.

APPENDIX A. (4.)

TABLE SHOWING POPULATION AND FIGHTING MEN.

—	Population.			Number of Fighting Men.			Remarks.
	Hunter. 1884.	Swayne, 1898.	Male Population: Cox, 1896.	Hunter, 1884.	Swayne,‡ 1898.	Various Estimates 1902.	
Isa	80,000*	35,000†	12,000	40,000*	10,000†	6,00 §	* Includes Black Isa.
Gadabursi	46,000	46,000	—	23,000	15,000	12,000–15,000	† Excludes Black Isa, which he puts at 15,000–20,000 spears, and rejects estimate of 11,300.
Habr Awal	—	80,000	—	40,000	21,000	21,000	‡ Based on Swayne's approximate proportion of spears to population, viz.: $\frac{1}{3}$–$\frac{1}{4}$.
" Gerhajis	—	30,000	—	15,000	10,000	10,000	§ Half of male population given by Cox in 1896: latter's figures are here separated, according to distribution of tribe, between British, French, and Abyssinian Somaliland. The total Isa in this column = 25,000, which corresponds with Swayne's total.
" Toljaala	—	(21,000)‡	—	—	7,000	7,000	‖ 15,000 horse.
Dolbahanta	—	(70,000)‡	—	—	20,000‖	26,000¶	¶ Based on Abud's Genealogies.
Warsangli	—	30,100	—	—	6,000**	6,000	** Rejects estimate of 10,000.
Total	—	315,100	—	—	89,000	88,000–91,000 say 90,000	
French Somaliland— Black Isa	—	—	16,000	—	15,000	8,000††	†† *Vide* above §.
Abyssinian Somaliland— Black and White Isa	—	—	22,700	—	—	11,000††	†† *Vide* above §.
Bertiri	364,700	—	—	3,000	110,000		
Bersuk				4,000			
Other Harrar tribes				?			
Ogaden	—	—	—	—	40,000–50,000		
Mijjarten	—	—	—	—	—	50,000–60,000‡‡	‡‡ Extremes, 40,000–70,000.
Aurtableh	—	—	—	—	—	2,000	

APPENDIX B.

SOMALI NAMES OF NATURAL FEATURES, &c.

IN describing the coast and inland features of Somaliland, certain terms and expressions, drawn from the Arabic and Somali languages, will be of constant occurrence. A list of the most common ones is given below.

The names have been spelt phonetically in accordance with the Royal Geographical Society's system.

The following names of natural features, animals, &c., are much used in describing topographical features, and will be found in the maps :—

Ad and ado	White.
Anod	Milk.
Assor	Treeless, open plain.
Ass	Red.
Bad	Sea.
Balli	Pan, rain pool.
Ban	Grass plain.
Bahr*	Sea.
Beir	Fertile or cultivated ground.
Bir	Bad gypsum water.
Biyo	Water.
Boho	Large open piece of country.
Bur	Hill, mountain.
Dab	Big rock.
Daba	Hillock.
Dagah	Rock.
Darei	Fig tree.
Dayer	Monkey.
Deh	River bed, watercourse.
Der	Long, high.
Dud	Forest.
Durdur	Perennial stream.

* After a word signifies that it is Arabic, and not Somal.

Duss	Pass.
El or eil	Well.
Gad	Headland or bluff.
Gando	A small prickly plant eaten by camels.
Ged	Tree.
Gharar	Bitter.
Ghori	Wood, stick.
God	Cave.
Golagot	Peak.
Goreyo	Ostriches.
Gumbur	Small hill.
Guri	Hut.
Habr (refers to ancestress of a tribe)	Old woman.
Hassadan	Euphorbia tree.
Hed	Thick bush.
Hidig	Star.
Jebel*	Mountain.
Kabr*	Grave.
Karia*	Village.

An Arabic word meaning a collection of huts not used by Somalis among themselves, but only when speaking to Europeans.

Karin	Hill.
Kedi	An all-green leafless tree.
Las	Waterhole scraped in the sand.
Leh or Li	Possessed of.

A termination constantly occurring in geographical names and meaning "locality," thus: Armo leh, the place of armo creepers; libahleh, place of lions; shabeleh, place of leopards.

Libah	Lion.
Mado, madu, or madoda	Black.
Magalo	Town.
Megag	A small tree very dark green.
Nas	Breast of a woman, a hillock.

* After a word signifies that it is Arabic, and not Somal.

Nasya	Resting place.
Od	Bush, trees.
Rer	Family.

(A tribal prefix meaning a village or family.

Rob	Rain.
Sahil*	Coast.
Sarar	Spur of a hill.
Shabel	Leopard.
Suryo	Gap.
Tug	Nullah or torrent bed.
Wada, or Wadada	Route or road.
Wadi*	Nullah.
Warren	Place where water is always obtained.
Webi	River.
Wein	Large.
Yer	Small.

The following are illustrations of names given by Somalis to topographical features:—

Alola jifen	**Sloping plateau.**
Bad wein	**Large tank or sea.**
Balli Megag	**Megag Pan.**
Ban ado	**White plain.**
Ban yero	**Little plain.**
Biya-ha-Godleh	**Caves with water.**
Biyo ado	**White water.**
Biyo Frinji	**Frank's watering place.**
Bohodleh	**Place of large open areas.**
Bur ad	**White hill.**
Bur anod	**Milky hill.**
Bur dab	**Rocky hill.**
Bur ta	**The hill** (ta = the).
Dab dera	**High rock.**
Dar ass	**Red clay.**
Daba ado	**White hillock.**
Dabado jialeh	**Hill of jia tree.**
Daba Shabeleh	**Leopard hill.**
Dagaha dayer	**Monkey rock.**
Dagaha madoba	**Black rock.**
Dagahbür	**Rocky hill.**

* After a word signifies that it is Arabic, and not Somal.

Darei ka Syk	The Syk fig tree.
Deimo leh	Place of deima tree.
Daragodleh	Ravine of cave place.
Deringalolo	Ravine of galol tree.
Digirinleh	Place of guinea fowl.
Degowein	Big ears.
Dih bauna	Valley of rock rabbits.
Eil anod	Milky well.
El armo	Well of the armo creeper.
El birdaleh	Well of the fig tree.
El midgan	Midgan's well.
Gal hidigaleh	Star pool.
Gan libah	Lion's paw.
Garasleh	Place of garas bush.
Ghararo (Garero)	Bitter wells.
Ghorijab	Brushwood place.
Ghorialeh	Place of tree stumps.
Gol aderyu	Peak of kudu.
Gudaweina	Place of large guda tree.
Gumburdug	Hillock of gad flies.
Gumburta jifta	Sloping hillock.
Hassadanleh	Place of Hassadan tree.
Hedd godir	Kudu forest.
Hagebo	Ground broken by water-courses.
Issutugan	Two parallel rivers.
Kabri bahar	Graves by the sea.
Kabr ogaden	Ogaden graves.
Karin dagah	Rocky way.
Laba gumbur mado	Two black hillocks.
Las anod	Milky pan.
Lasa dowao	Jackal pan.
Libaleh	Place of lions.
Magala yer	Little town.
Marodileh	Place of elephants.
Naso Hablod	Virgin's breast.
Nasiya	Resting place.
Odweina	Big trees.
Ras Alola	Headland of Alola.
Sarar Awr	Camel spur.
Sarar ki adada	White spur.
Shimbiraleh	Place of birds.
Uduweina	Big dirty waterholes.

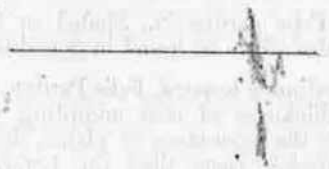
Wadamagoa	Place which cuts the buckets (wadan).
Walda	Junction of rivers.
Webi Shabeli	Leopard river.

-ka, -ki, -ku, -ga, -gi, -gu, -ha, -hi, -hu, -ta, -ti, -tu, -da, -di, -du, are definite articles suffixed to nouns according to gender and termination. (*Vide* Grammar.)

The points of the compass are:—

Sahh	North star.
Bari	East.
Galbed	West.

(There is no Somali word for South.)



APPENDIX C.

Fauna.

Owing to lack of space the following notes on the fauna of Somaliland must necessarily be short. For further information the reader is recommended to consult Swayne's "Seventeen Trips through Somaliland."

Lion, Felis Leo (S., Libah).—Three varieties are often described, namely, the black and brown maned and the maneless, but they can hardly be regarded as distinct. The total length of a Somali lion before skinning seldom runs higher than 9 feet 6 inches, although one 10 feet 4 inches has been recorded. The weight of an adult specimen is between 400 and 500 lbs.

A skull with a basal length of 14 inches and 10 inches width across the zygomatic arches is a good specimen. On the plain they are often seen three, four, or more together, but those inhabiting the hills usually hunt singly or in pairs. They hunt singly when game is scarce, but when the latter is plentiful they move about in company.

Leopard, Felis pardus (S., Shabel or Shebel).—Three distinct varieties are to be found in Somaliland.

(1.) *The ordinary leopard*, Felis Pardus, which varies in colour and thickness of coat according to whether the animals live in the mountains or plains, the former having longer and darker coats than the latter. A specimen recently shot near Hargeisa measured, after skinning, 8 feet 8 inches length. Skull, basal length $9\frac{1}{4}$ inches, width 6 inches.

It is common all along the Golis Range and at Hargeisa, in point of fact wherever Somali sheep karias happen to be. They will spring over a zareba 6 to 8 feet in height.

To protect their sheep and goats the Somali often completely cover in a small zareba with thorn bushes, thus converting it into a large thorn hut. They assert that the leopard, when unable to enter this thorn hut from below, jumps on to the top and drops his tail perpendicularly,

and as soon as he finds his tail will pass through into the interior he chooses that spot to break an entrance, and with great rapidity seizes his victim and springs out.

(2.) *The pigmy leopard*, Felis Pardus Nanopardus (S., Shebel).

This is a leopard of the ordinary African desert type, but conspicuously smaller than the ordinary one, Felis pardus. Length after skinning of male, about 5 feet 10 inches. Skull, basal length $5\frac{5}{8}$ inches, width $4\frac{1}{8}$ inches.

(3.) *The hunting leopard* or cheetah, Cynælurus Jubatus, (S., Harim'ad or Arim'ad). The hunting leopard is comparatively common, as many as four or five being sometimes seen together. Standing about 2 feet 6 inches to 3 feet at the shoulder, and possessing longer limbs and more slender body, it is not difficult to recognise. Its claws being only partially retractile renders it distinct from the true leopard.

The measurements of an average adult female in the flesh were :—Total length 5 feet 3 inches, girth $21\frac{1}{2}$ inches, and weight 55 lbs.

Serval Cat, Felis Serval (S., Shebel Adari).—Is said to be found in the highlands towards Harrar. It usually lurks about in long grass.

It is not unlike a diminutive cheetah in appearance, being of a similar colour and spotted in very much the same way. It has long slender limbs and a comparatively short tail.

Lynx or Caracal, Felis Caracal (S., Gududonna).—The caracal is by no means common. It is said to be destructive to sheep and goats. Of a uniform rufous colour, with a long tail, it is easily distinguished by a tuft of long dark hairs at the points of the ears. It chiefly feeds on small mammals and birds, climbing trees after the latter.

Civet Cat, Viverra Civetta (S., Sabad).—Is said to be found in the hills west of Hargeisa. It is of a brownish grey colour marked with interrupted dark streaks and blotches over the whole body with a crest of erectile hairs on the back. 3 to 4 feet in length and standing about 12 inches high at the shoulder, it secretes a powerful perfume in two glands situated in the region of the generative organs.

Genet, Genetta (S., Sabad).—The Somalis do not appear to have a distinctive name for this animal, calling it Sabad with the above. Not common. Found in the maritime plain and the Golis Range. Closely allied to the civet, it secretes the same perfume.

Spotted Hyæna, Hyæna Crocuta (S., Waraba.)—The fur varies in colour from a tawny red to dark brown and is marked all over with dark spots or blotches which are clearer on the sides and legs than on the back. The skin is generally mangey and covered with flies (Hippoboscidæ). The jaws are exceedingly powerful, the strongest and thickest bones being cracked by them for the marrow.

During the past few years, owing to the number of destitute women and children wandering about the country, the inevitable result of a long campaign, hyænas have become very daring. They have been known to enter zarebas and even the huts of the Somalis, carrying off the children or inflicting the most hideous injuries. They usually seize their victim by the face—presumably to prevent him from calling out. If, however, he is lying partly on his face and belly, the buttocks are usually attacked. As many as seven have been seen together, but this only occurs when food is scarce and they start hunting in packs.

Their unearthly cry and weird laugh may be heard round any camp at night. They only seem to give vent to the latter after a good meal, or when excited.

Striped Hyæna (S., Didar).—This hyæna is not nearly so common as its relative. Its fur is grey and its body is transversely marked with black stripes which are continued on to the legs. The paws are of a dull or dirty brown colour. The throat is black, as also is the muzzle, the ears being almost hairless. The most noticeable feature, however, is the long mane extending all along the back and terminating in a bushy tail. The hairs of the mane and tail are grey tipped with black.

It is comparatively common throughout northern Somaliland, especially near Mandeira.

Wild Dog, Lycaon pictus Somalicus (S., Yei).—Does not stand so high as a hyæna, and is seldom seen alone. They sometimes hunt in pairs, more often in packs. The skin is of a darkish colour, covered with blotches of reddish

brown and black and is always mangey. The tail is long and has a white tip. The fur of the Somaliland specimen, unlike those found farther south, is excessively sparse and short.

At times they are very pugnacious and at other times very cowardly.

Jackal (S., Dawa).—There are two varieties:—

(1.) Common jackal, Canis mesomelas, sometimes called by the Somalis dawa dulmadowah, is very common all over the country.

The skin is very pretty and the fur thick. The general colour is rufous with a broad black band down the back. The hairs in this band are black tipped with grey.

(2.) The second variety is equally common in places and is not so prettily marked as the above, the fur being of a uniform silver-grey colour all over.

Fox.—There are two varieties:—

(1) The first variety is distinctly rare, only being found on the isolated hills or stony kopjes scattered over the maritime plain. It is of a light grey colour all over, with a white tip to the end of its tail. It stands lower than a jackal. Its ears appear to be larger, in comparison with the size of the head, than the jackal's ears.

(2) The second variety (otocyon megalotis) is known to the Somalis as gol waraba or golli warabais. It is quite dark in colour and has a brindled appearance. It is always seen in small packs four or five or more in number and lives in the thick bush, sleeping under trees and not in holes. It is found on the Golis Range and in the khansa bush country.

There is another animal which is known to the Somalis by the name of "shambel." In appearance it is not unlike a fox or jackal, but appears to stand higher at the shoulder than either. It is of a greyish brown colour and boldly striped transversely with black stripes like a tiger. It seems to be a rare animal and very shy.

Elephant (S., Marodi).—Distinguished from the Indian variety by its more rounded head and its very large ears. The tusks of those killed in Somaliland seldom exceed 30 to 40 lbs. in weight. They are killed from time to time as close as 30 miles from the coast, but they are gradually retreating further into the interior. They cause great damage to the trees, breaking huge branches, which they merely nibble at and pass over.

Rhinoceros, R. bicornis (S., Wiyil). — The common African variety.

Has two horns, one immediately behind the other, the front one being invariably longer by several inches. The horns, like the tusks in the elephant, seldom seem to attain to any great length in Somaliland, a 20-inch front horn being a remarkably good specimen. The most noticeable features are the prehensile upper lip, the small eyes and the diminutive head when compared with the size of the body.

It is found as far towards the coast as the open grass plains of Toyo, 100 miles south of Berbera. Common in the southern parts of the Haud, in the valleys of the tug Jerer, Fafan, then southward in the valley of the Webi Shebeli. They are usually seen alone, but sometimes go two and three together. As many as seven have been seen together in British East Africa.

They are generally seen in broken country, in which they can travel at an incredible speed. Their favourite food is the young and tender shoots of the stunted acacias, although they eat grass and other small plants. The flesh is coarse, but the tail makes excellent soup. The skin, which is about $\frac{1}{2}$ to $\frac{3}{4}$ inch in thickness, is used by the Somalis in the manufacture of their shields and the shafts or handles of their whips.

Hippopotamus (S., Jer).—Once plentiful, they are now scarce on the Webi Shebeli, having been decimated for their flesh during a famine some years ago. They are said to be found in abundance in the Ganale Gudda, Dana, and Juba rivers.

There were comparatively few in the Juba river below Bardera two or three years ago.

Buffalo, Bos Caffer (S., Jamus).—It is doubtful whether the species found on the banks of the Webi Shebeli is the

usual central African variety or that known as Bos Caffer æquinoctialis.

It is only found on the banks of the Webi Shebeli and in the Galla hills beyond. They are said to be plentiful on the Webi Web (Swayne).

Grevy's Zebra (S., Faro).—Found inland 300 miles from Berbera, very common in the territory of the Rer Amaden and Malingur tribes. Seen in large herds near the Webi Shebeli and in the country between that river and the Juba. Beautifully marked in black and light yellow stripes, running to white under the belly. The meat is better than that of most of the antelopes.

Bray similar to that of a mule.—(Swayne, Ffinch, James, Smith.)

Wild Ass (S., Gumburi).—Found in sterile parts of Guban, to the east of Berbera. It is very much larger and of a lighter colour than the ordinary ass. The flesh is said to be excellent eating. When hunted they often take to the hills, near to which they are generally found grazing.

Hartaebeeste (Bubalis Swaynei) (S., Sik).—Stands nearly 5 feet high at the shoulders and is somewhat ungainly in form owing to the disproportionate development of its fore and hind quarters, a difference which gives to the posterior limbs, when in motion, an appearance of weakness. The head is long and narrow, and is crowned in both sexes by a pair of massive cylindrical horns, ringed and about 20 inches on the curve. The hair of the hide is short, soft, and recumbent; in colour, a dark chestnut, which looks almost black at a distance, merging into nearly white beneath. Inhabits the bans or prairies south of the Golis range, moves about sometimes in enormous herds, sometimes in twos and threes. Is very wary and difficult of approach, though the favourite food of lions.—(Swayne, Ffinch.)

Rock Rabbit or *Coney* (S., Baune).—Looks like a diminutive hare, clothed with a thick short fur and finds its retreat among rocks. Twenty-one ribs, four toes in front, and three behind. Upper part of body of a brownish grey, the lower part white. About a foot long and stands 10 inches high. Very numerous in rocks near Dago.—(Swayne, Burton.)

Giraffe (S., Giri or Halgiri).—It is doubtful whether it can be reckoned among the fauna of Somaliland.

It is said not to be found nearer than in the Aulihan. Donaldson Smith came across it beyond the Webi Dana on the borders of the Boran country.

Warthog (Phacochœrus œthiopicus (S., Dofar).—The most hideous of all the fauna.

Differs from the wild boar or "pig" of India in having the upper tusks considerably thicker and longer than the lower and in the presence of three warty protuberances on each cheek. The upper tusks have no enamel except at the tips, and this is soon worn off by use. They vary somewhat in size, according to both Swayne and Melliss, the wild animal from Harrar being larger than those met with on the plains to the eastward. The average height at shoulder is 2 feet 6 inches and length about 4 feet.

The hide is darkish grey in colour and is sparsely covered all over with short white hairs except about the mouth, nose, and eyes where they are black, and along the whole length of the back where there is a thick long mane of coarse hairs 8–12 inches in length. These hairs are black at their base, fading to a dull reddish brown for the last three-quarters of their length.

It is generally found in the neighbourhood of water in thickish bush throughout the country.

The Antelope.

Kudu. Two varieties :—

(1) Greater kudu (Strepsiceros kudu).

(2) Lesser kudu (Strepsiceros imberbis).

As regards the distinctive Somali names for these two species there seems to be a great deal of confusion. Both kudus, greater and lesser of the male sex, are commonly known as "Godir," while the females of both species are known as "aderiyo." The male of the greater kudu is known as "Gorialeh," while the male of the lesser kudu is known as Dar'ad.

The general name for lesser kudu of both sexes is "Arreh."

(1) *The Greater Kudu* (Strepsiceros kudu) is the largest of the Somaliland antelopes, the height at the shoulder being from 4 feet 6 inches to 5 feet. It is a magnificent

animal, carrying long massive spiral horns, with a striped coat, and having a fringe of long hair down the throat. The horns are only in the males.

They are always found in hilly country and are adepts at concealing themselves, their striped coat giving them every assistance. They are found all along the Golis range and among the Gadabursi hills. One male together with two or three females are usually seen together.

(2) *The Lesser Kudu* (Strepsiceros imberbis).—This is perhaps the most beautiful antelope in Somaliland. Besides being smaller than its relative, only standing about 3½ feet at the shoulder, it differs from it in lacking the fringe of hair on the throat and possessing shorter and more slender horns and a longer and more bushy tail.

It lives in flat, thick bush country and requires careful stalking. It most gracefully jumps bushes 6 or more feet in height when suddenly startled. They are usually met singly or in small herds, and inhabit the thick bush country all along the base of the Golis Range and the dense thickets skirting some of the river beds. They are also found in the Khansa bush country and in the Gadabursi country.

The specimens from the Webi Shebeli are said to be smaller, to have shorter horns, be still more brilliantly marked, and have hoofs nearly twice as long.

Bushbuck (Fragslaphus scriptus) (S., Dol.).—In the bushbuck, as in the kudus, the females are without horns. The males are usually darker in colour than the females, the coats of the former varying in colour from a chestnut to a very dark brown according to their age. The coats are striped and spotted with white. They inhabit the dense jungles on the banks of the Webi Shebeli and Juba rivers.

Hartebeeste (Bubalis Swaynei) (S. Si'g).—This antelope, owing to its peculiar shape, standing higher at the shoulder (about 4 feet) than elsewhere, is easily recognised at a long distance. When running it has a peculiar lumbering action. It has an abnormally long face, with a naked muzzle, and is of a pale chocolate brown colour. It is found in northern Somaliland on the plains lying to the south of the Golis Range, where it is generally seen in herds varying from six or seven to many hundreds.

Oryx (Oryx beisa) (S. bi'id or baïd).—This powerful antelope stands about 4 feet at the shoulder. The horns, which are longer in the females than the males, are curved slightly backwards, ribbed for about half their length and slightly divergent from each other. The colour is rusty grey above and white below on the belly—a black band on each side separating the two and uniting on the chest. The black eye stripes are separated from the black nose stripe by the white of face.

It is found on the coast near Bulhar, in small herds of five or six, sometimes more, but farther inland in the Haud and the Ogaden country they are often found in large herds.

The skin on the withers in the male is two-thirds of an inch in thickness, and is used by the Somalis in the manufacture of their shields when the hide of the rhinoceros is unobtainable.

Waterbuck (Cobus ellipsiprymnus) (S., Balengo).—Height at shoulder about 4 feet. The horns, which are only found in the males, are smaller in the Somaliland specimens than in those found further south. They are curved backwards and upwards, and towards their termination tilted forwards and sometimes slightly inwards, are ridged deeply for more than half their length, and terminate in a smooth point. The colour of the skin is brownish grey to a very dark brown, and there is a white elliptical ring on the buttocks.

They are found singly or in small herds, and live in the dense forests bordering the Webi Shebeli and Juba rivers.

Plateau Gazelle (Gazella Spekei) (S., Dhero). Stands about 2 feet at the shoulder. The general colour of the upper parts is brownish grey, and the under parts white, the latter being separated from the former, on the sides, by a stripe of dark brown or black. It differs from the lowland gazelle (G. Pelzselni) in having a ridged protuberance situated over the nasal cartilage and capable of being distended owing to its communicating with the nasal cavity.

They are sparsely distributed over Ogo-Guban, but are found in larger herds on some of the plains in the interior. The horns, which are present in both males and females, are more curved backwards than in Pelzeln's gazelle. The horns in the females are thinner, straighter, and only slightly ridged.

Lowland Gazelle (Gazella Pelzelni) (S., Dhero).—Very similar to G. Spekei, from which it differs in not possessing the protuberance on the nose and in the general colour of its coat, which is distinctly rufous, with the side stripe of a reddish brown colour instead of dark brown or black, as is the case in G. Spekei. It stands about the same height at the shoulder as the above.

They are only sparsely distributed on the maritime plain around Berbera, but more plentiful around Bulhar, and are only found within 20 miles of the coast.

Sœmmerring's Gazelle (G. Sœmmerringi) (S., 'Aul).—Stands about 3 feet high at the shoulder. The general colour is fawn and white below, and there is no dark streak on the sides. The markings on the face are dark brown. The horns, which are ribbed for the greater part of their length, are curved first backwards, then forwards and inwards, and are about 18 inches in length.

It is common on most of the plains in northern Somaliland, starting near the coast at Bulhar, and extending into the Haud and Ogaden.

Clarke's Gazelle (Ammodorcas Clarkei) (S., dibatag, or dabatag).—This peculiar antelope constitutes a genus by itself. Standing about 2½ to 3 feet at the shoulder, the general colour of the upper parts in an adult specimen is french grey, very glossy and shiny, with white on the under parts. The hair along the middle line of the back is very much darker than on the sides.

Its most characteristic features are a long neck like the gerenuk, and a long thin tail which, when the animal is running, is raised over the back and inclined towards the head and neck, which is also thrown right back. Horns, measuring 10 inches in length, are good. They curve directly upwards, slightly backwards, and then abruptly forwards, are ridged for about half their length, and are only present in the males. Found in the country about 100 miles south-east of Berbera and in the Nogal Valley.

Waller's Gazelle (Lithocranius Walleri) (S., Gerenuk).—Height at shoulder about 3½ feet.

The general colour of this peculiar antelope, in which the neck is more elongated than in Clarke's gazelle, is

reddish fawn, with a broad dull chestnut coloured band down the middle of the back. The horns, only present in the males, are rather stout compared with the size and slender appearance of the skull, which is rather flattened.

Commonly seen in small herds of five or six together in most parts of Somaliland where the bush is fairly thick. When running it differs from Clarke's gazelle in keeping its head and neck well extended forwards and its tail curled down.

Beira (Dorcatragus Melanotis) (S., Beira).—Standing about 2 feet at the shoulder this little antelope possesses an exceedingly pretty skin, the colour of the upper parts being French grey, which fades into a pinkish fawn on the sides and white underneath. The head is of a reddish brown colour. The horns, only found in the males, are short and straight with a slight inclination forwards, and are about 3 or 4 inches in length.

The most noticeable features about it are the comparatively large ears and hoofs, the latter being especially adapted for running over the rocky hillsides on which they are usually found. It is found on the table-lands near the coast, but is very shy and hard to approach. When hunted it invariably takes to the steep sides of the tablelands, running and leaping from rock to rock and not returning to the top until all danger is passed.

Klipspringer (Oreotragus Saltator) (S., Alikūt or Alakūt).—Stands usually 3 or 4 inches lower at the shoulder than the Beira.

Its chief peculiarities are the coarse and almost brittle hair, the large cylindrical hoofs, a rudimentary tail, and the fact that the horns, which are only found in the males and are about 4 inches in length, rise almost vertically up from the head. They are common on Waggar Mountain and on the Ragar Hills, and are not at all difficult to shoot.

Dik-Diks (S., Sagaro or Sakaro).—There are three varieties:—

(i) Madoqua Phillipsi (S., Gol-ass).
(ii) Madoqua Swaynei (S., Guyu).
(iii) Madoqua Guentheri (S., Gussuli).

They are the smallest antelopes known—

(i) Phillips' Dik-dik is slightly larger than Swayne's and has the upper parts grey and the sides reddish brown.

(ii) Swayne's Dik-dik is not only smaller but has the sides much paler in colour with a yellowish tinge.
(iii) Guenther's Dik-dik is entirely different from either of them in having a trunk-like development of the muzzle.

The horns in all three may reach $3\frac{1}{2}$ inches in length but are usually only 2 inches; they are very similar, being deeply grooved for the lower two-thirds of their length. Phillips' and Swayne's Dik-diks are both found in northern Somaliland, whereas Guenther's is only found in the southern and western parts.

Baboons.—Found in troops along most of the mountain ranges, especially the Dubar and Golis.

They are never very far from water and are common on the banks of the Webi Shebeli and Juba rivers.

When the Somali sheep karias leave for the Haud during the hot weather, the leopards on the Dubar and Golis ranges prey chiefly upon the baboons.

Ant-Eater (S., Girondir).—This animal is rarely seen, as it usually feeds at night. It possesses hands and feet like those of a human being, with a long thin tongue, four grinders in the lower jaw and none in the upper, black eyes, and a long flat tail tapering to a point. It is not common, but is found in the Khansa country on the edge of the Haud, where white ants abound.

Porcupine (S., Ana khub).

Hedgehog (S., Hedig).

These two animals are too common to require any description.

Hare (Lepus) (S., Bakaila).—Common in suitable localities.

The smaller mammals include mongooses (S., Shūg-Shūg) of which there are several varieties, a ground squirrel (S., Dabagalli), a hyrax or rock rabbit, and Speke's pectinator (the Somali name for both being Baune), gerbilles, and numerous rats and mice. Among the rats is a peculiar species commonly known as the kangaroo rat, owing to its fore legs being quite diminutive, while the hind legs are very long, and when it moves it does so by making small jumps (S., Thig). There are two peculiar species of mice—one a spinous mouse, and the other a naked mouse.

Birds.—The birds of Somaliland comprise several hundreds of species, out of which only those of interest to the sportsman need be mentioned here.

Ostrich (S., Gorayo).—This bird does not require description. It is found in the Ogaden country and the Nogal Valley.

Marabou Stork.—This stork is found everywhere. When they cannot get carrion to feed on they live on locusts, of which there is always a plentiful supply.

Bustard:—

(i) Greater bustard (S., Salalmodleh).
(ii) Lesser bustard (S., Gelow).

Of the former there are four varieties (Peel):—

(*a*) *Arabian Bustard.* E. Arabs. Ogaden country.
(*b*) *Large Bustard.* N. Heuglini. Lehello.
(*c*) *Bustard.* Lissotis Hartlaubi. Lilo plain.
(*d*) Greater Bustard. Trachelotis canicollis. Near Togo plain.

Of the latter there are two varieties (Peel):—

(*a*) Small bustard. Lophotis Gindiana. Guban.
(*b*) Small bustard. Heterotetrax humilis. Upper Sheik.

Guinea Fowl (S., Digirin).—There are two varieties:—

(1) *The Vulturine Guinea Fowl* (Acryllium vultierinum).—Found in the Khansa country. The largest of the three.

(2) *The Abyssinian Guinea Fowl* (Numida ptilorhyncha).—Distinguished by a bunch of horny bristles at the base of the upper mandible. Found in the Buska country.

(3) *The Common Guinea Fowl.*—This guinea fowl is found in thousands near the wells at Sassamani (Swayne) and in the country immediately south of the Golis Range.

Francolins.—There are four varieties:—

(i) *Large francolin* (Pternistes infuscatus) (S., Gorass).—This is common on Ogo Guban and Ogo.

(ii) *Kirk's francolin* (Fran. Kirki) (S., Sarratakder).—Common on Ogo Guban and Ogo.

(iii) *Lort Phillips' francolin* (Fran. Lorti).—Only found on Waggar Mountain.
(iv) *Francolin* (Fran. Castamencollis).—Found at Sheik Mahomed.

Sand Grouse.—There are three varieties (Peel):—

(i) *Pterocles decoratus.*—Found near the Abyssinian border at Okoto.
(ii) *Pterocles exustus.*—Commonly seen at Berbera, and breeds on Ogo Guban.
(iii) *Pterocles lichtensteini.*

Quail.—*The common quail* (Coturnix delagorgei).—This is found on Guban and Ogo Guban.

Pigeons.—*The green pigeon* (Vinago waalia).—This is found in nearly every fig tree, especially when the figs are ripening.

Snakes.—These appear to be divided up into three classes by the Somalis:—

(1) *Abeso.*—This group comprises several venomous snakes, when small. These as soon as they grow to any size are known as Abgúri.

(2) *Mass.*—All the snakes in this group are venomous. The different varieties are known as follows:—

(i) Gilbis.—A venomous snake about 2 feet long. Of this variety there are several species.
(ii) Lubbia Logonmadoba.—A snake, as its name signifies, with black sides to its neck or just behind the head.
(iii) Halluk.—A venomous snake, larger than the foregoing, with a red head.
(iv) Abbriss.—A venomous snake.

(3) *Sub'amyo.*—This group comprises all snakes that are not venomous.

Insects.—These comprise the mosquitoes (Kane'o), among which at the coast stegomyia fasciata, the yellow fever carrier, and culex fatigans are the commonest. At Bihendula and Burao anopheles are found, and also on the Webi Shebeli and Juba rivers. Numerous ticks (S., Shillin) and bloodsucking flies such as the tabanidæ or horse flies (S., general name Tŭkka), hippoboscidæ, or camel and

dog flies, and others such as haematopota and stomoxys (S., Hammas) are found throughout the country, but the tsetse fly (probably S., ganin) as far as is known only exists on the banks of the Webi Shebeli and Juba rivers.

Locusts (S., Ayah).—These are the curse of the country, sweeping across it in their myriads and leaving desolation in their wake.

Among *Spiders* (S., Aro) there are some very large varieties.

APPENDIX D.

Flora.

Notes on vegetation in Somaliland taken from Burton, Swayne, Wellby, Cruttenden, Robecchi, &c. Flora.

For easy reference these have been classified under the headings of—I. Trees; II. Bushes; III. Plants; IV. Grasses; V. Creepers. B., S., W., &c., refer to the authors above mentioned.

Trees.

Abertyai (W.).—Found in the Haud. Small tree with crimson flower, which the Midgans boil in water and then dip their arrows in to poison them.

Abol (B.).—A tree furnishing an edible gum.

Anhokib.—The acacia vera.

Arman (B.).—An acacia with thorns 2 inches long and tipped with a wooden point as sharp as a needle.

Barda (S.).—Variety of fig tree, found in river beds. At Gajee there are specimens 25 feet in girth and 80 feet high. (*Vide* also the *Darre* and *Deiu* varieties.)

Billeyl (S.).—Thorn tree with small yellow leaves found at Duburro. Grows to a height of 10 feet and is covered with small curved hooks of great strength. Known commonly as the "Wait-a-bit thorn."

Birbisa (B.).—Huge tree found in the Abyssinian hills, with a girth of from 20 to 25 feet.

Darkein.—Grows in dark groves; bole has a reddish bark that peels off in diamond-shaped flakes; branches and appearance like the *Hassâdan;* very shady; found in Nogal (S.). Gigantic cactus (B.).

Darré.—Very large fig tree, favours river beds; whitish thick bole and branches, very shady. Roots stand high out of ground. Very large specimens seen at Huguf,

Laskal, and Sik. One of the largest trees found in Guban and Ogo Guban (S.).

Deerd.—Large shady tree found in Waggar (S.).

Deiyib.—The mountain cedar, twisted branches, soft red wood, grows to a height of over 100 feet and from 12 to 15 feet in girth; specially fine on Tawáwur peak, Wagger, and Darāss on Golis; called by Burton the Somali pine; makes excellent firewood and valuable as an export for pencil manufactory (S., B.).

Deiu.—A variety of the fig tree (S.).

Deybi.—Small thorn tree, yellowish stem, very hard wood; grows in stony places in Jibril Abukr country, Dirinlibi, &c.; used for spear shafts and bows, frames of water vessels, &c. (S.).

Diddun.—A variety of the *Dunsesso* tree found in the Dolbahanta country. Somalis make sham amber from the gum (W.).

Didhin.—The myrrh tree.

Digdahe.—Thorn tree, used for horizontal side poles of huts (S.).

Dohr.—Large tree, 50 feet high, same appearance as the grass of that name; found in Hawiya country (W.).

Dúm.—Large palm tree found on banks of tug Firfir (R.).

Dunsesso.—Small tree in the Dolbahanta country with spiky branches; smells of turpentine, eaten by camels (W.).

Eyri.—A small tree with a creeper, having a blossom like an orchid (S.).

Falafala or *Luban Meyti.*—Frankincense tree found in the limestone ranges on the eastern coast. Known also under the name of "habak droun" (Révoil and Speke).

Galangol.—Thorn tree about 20 feet high, rough stem, round compact leafy crown; small, hard, fleshy leaves; colour light green (S.).

Galol.—Tree from 15 to 25 feet high, stringy bark and branches, bulb-like thorns with spikes. The bark of the root, known as "Thi," is used to make vessels watertight. The thorn bulb when young is soft and is eaten by Somalis.

Gum knobs, called "habag," are found on this tree, but they are never as large as those found on the adäd tree (S.).

Gamboderer.—Small tree found in the Dolbahanta country, with outstretching branches, black and spiky (W.).

Garrari.—Large tree, thick stem, dark mauve colour, getting bulbous towards the root; has red fringes at end of twigs like bird seed. Rope is made from the soft fibre of inner bark (S.).

Geba-geba.—Tall thorn tree, some 60 feet high, whose branches do not spread until quite close to the top.

Gob.—Very large gnarled tree, grows in river beds; orange edible berries, stringy bark, leafy, gives excellent shade; grows to 70 feet, small thorns. Upright stakes for huts are made of this wood (S.).

Gorra Moghor.—Large gnarled thorn tree, flat top, stringy bark, dark brown colour (S.).

Gorra Yer.—Small thorn tree, stringy bark, long white thorns; found in the Haud (S.).

Gúb.—The jujube or *Sisyphus vulgaris*, a high tree armed with sharp, straight or hooked spines, fruit green; grows in great luxuriance in the ravines south of Bulhar (B.).

Gúda or *Gúrha.*—Large thorn tree; grows to a height of from 30 to 50 feet, spreading out to an umbrella top and giving excellent shade. Bark black, foliage of star-shaped leaves, massed together and very green; eaten by camels. Somalis use a black paste from it, called "Malayo," to heal any open sore (S., W.).

Gummur.—An acacia, thin bush tree, slender stems spreading from ground, with small greyish-blue leaves. Found in Haud (S.).

Gúwa.—A small spreading thorn tree in Haud (S.).

Haggar.—Large tree, thick stem, smooth bark, whitish-green, twisted branches. Found at Milmil (S.).

Hakab.—Thorn tree used for hut stakes.

Hassâdan.—Trees with quadrangular fleshy branches of emerald green; sometimes 40 feet high; support on their summits large round bunches of a crimson berry. When

the plantation is close, domes of great beauty appear scattered over the surface of the country. It abounds in burning milk (B.). A giant cactus, with long green fleshy stems radiating from a central stem. The bole, from 1 to 3 feet diameter, is coated by a rough bark and exudes a fiery milk. Grows to a height of 60 feet and affords deep shade. Is usually found in groves at an elevation of 4,500 feet; abounds in Golis and in Harrasawa valley. The milky juice can be manufactured into a kind of india-rubber (S.).

Hodoi.—Small tree like *Haggar*, but has a dark bark (W.).

Jeya.—Thorn tree, gnarled stem 26 feet long, fringed twigs, bluish leaves (S.).

Jirma.—A tree, the bark of which is used for dyeing purposes (B., R.).

Kaider.—Cream-coloured bark and branches, spreading out like a Japanese umbrella after 7 feet height, red top twigs and white fringe blossoms (S.).

Karir.—Thorn tree with berries, which in colour and flavour resemble red currants. Leaves used for dressing ulcers (B.).

Keydi.—Thorn tree with with light green leaves, yellow stem 30 feet long, clump-like top, yellow branches and long yellow thorns; small hard green leaves (S.).

Keydi Wein.—Big variety of above (S.).

Kúa.—Thorn tree, gnarled stem, yellow hard wood; bark affords fibre for ropes (S.).

Kúd.—A bright leaved thorn tree, with balls of golden gum clinging to its boughs, dry berries scattered in its shade (B.).

Kullan.—A thorn tree with an edible berry, not unlike the jujube. 6 to 12 feet high, with spikes and green leaves, eaten by camels (W.).

Leybi.—Large gnarled thorn tree found in the Haud (S.); has fern-like leaves (W.).

Magari.—Small thorn tree used for bows (S.).

Maiguk.—Small slate-coloured tree, with very small leaves growing along the branches like moss (W.).

Mandarug.—Large shady tree found in Hawiya country with yellow fruit size of a plum; tastes like a mango (W.).

Marer.—A tree bearing yellowish red berries full of viscous juice like green gum, edible but not nice (B.).

Marra.—A thorn tree, growing to a height of about 25 feet, with a reddish rough bark found in Ogo and the Haud. The bark is often used with "watta" in the tanning of skins; it imparts to the leather a reddish colour, but it is doubtful whether it possesses any tanning properties of its own.

Mera or *Mero.*—Large thorn tree, with fern foliage (S., W.). Found in Haud.

Meygal.—A thorn tree, 30 feet high, with whitish stem, clumpy head, dark green foliage.

Mohur.—Tree with a rugged bark, smooth epidermis of a reddish tinge, pleasant aromatic odour, and strong astringent flavour. Used for tanning skins. Powdered and sprinkled dry on a wound, it acts as a styptic (Speke).

Morette.—Tree found in Ogaden, 20 feet high, red fruit larger than a pea, good eating, ripe in July (W.).

Nakhal.—Found in Hawiya territory, dateless palm with juice called "kambri," and a white nut called "gorna" (W.).

Rahenrat.—Tree with a black bark found in Haud. The root is good eating (W.).

Rheydab.—Medium sized thorn tree found in Haud (S.).

Saj.—Teak tree found in the Gureys hills (B.).

Udub.—Small thorn tree found in the Jibril Abokr country. Used for camel loading sticks.

Wadi.—High, shady, flat-topped thorn tree; light, smooth round stem; has brown spiky nuts; found in Albasa and Milmil; gum used for dyeing cloth (S.).

Wumba.—Lofty palm tree; considered after the *Dum* palm to be the best material for mats (B.).

Yeuo.—Small tree, 10 feet high, found in Dolbahanta. The branches grow from below. Root used for water (W.).

NOTE.—This is probably the *Tomayau.* (*Vide* Plants.)

Yeúb.—Tree 30 feet high, found in Haud, something like a bay tree. Much liked by camels (W.).

Bushes.

Adād.—Short thorn bush, with white branches; gum knobs at forks of branches about size of a pigeon's egg, known as "habag," and eaten by the Somalis.

Adai.—Small bush; whitish, soft, green twigs, sour taste, light greyish leaves; found in Gadleh, Harawa valley, &c. Twigs used by Somalis as tooth brushes (S.).

Athei.—It grows to a height of 10 to 12 feet, and is called in Arabic "rakh." It is a very favourite food of camels, and grows most in Guban. The leaves are long, bright, and green, and grow generally three together on a twig (Abud).

Aftaholi.—Found in Dolbahanta. Small green leaves and mauve flower (W.).

Aleya.—Al ong green reed, growing thickly in nullahs. These reed clumps are favourite resorts of elephants and lions. It grows thickly at Hambawein and Aleyalaleh. It is used by Somalis for roofing their reed houses in the towns, and is made into mats, then called "jowli" (A.).

Bared.—A shrub in the Milmil valley, having a yellow berry like a slow; edible, but rather acid (S.).

Ballanbol.—A bush with large yellow blossoms (S.).

Beni.—A small greyish-coloured bush, very dry; grows on trap rock (S.).

Bissuk.—Large shrub, found in the Marehan country, with flat red flowers, eaten by sheep and goats. Wood is used for making spoons (W.).

Boli.—A bush growing near water, having large green leaves; found at Takusha (S.).

Darderei.—Small bush in Marehan country, eaten by camels, but is always full of ticks (W.).

Dart.—Small aloe, 2 to 3 feet high, filled with bitter green juice, used for dyeing camel mats (W.).

Denn.—Found at Hawiya. Small green bushy tree, eaten by camels.

Dohr.—Wavy bush, common, no thorns; used for making mats; eaten by camels (W.).

Dufferue.—Bush with small green leaf and red sweet berry; common (W.).

Dundusso.—Found in Hawiya. A gum tree used for medicinal purposes by Somalis (W.).

Digei.—A bush growing near river beds; small, like a black currant bush; found at Midda (S.).

Ellan.—The indigo bush (Révoil), with odoriferous leaves; found in the plateau above the Webi Shebeli (Robecchi).

Eynger.—Green shrub, with stalks full of milky juice, found in the Mijjarten country (W.).

Fendal.—Bush, good for firewood.

Garass.—A thick green shrub, with hard round leaves and edible berries; found in the Abbasgul country; holds water in the roots (S.).

Gédad.—A bush with a white flannel-like leaf, similar to edelweiss (S.).

Gésereea.—A bush with thin and light green twigs (S.).

Gehard.—Bush, eaten by camels and goats in Dolbahanta (W.).

Gerhamer.—Bush, tastes like peppermint (W.).

Goderi.—A bush, with short yellow tufts at the end of the stems, which are light green and straight, like "irjin"; found in Abbasgul country (S.).

Gololo.—Bush, used for firewood (W.).

Gumuk.—Small thorn bush in Haud, eaten by camels (W.).

Gumursher.—Small thorn bush in Haud, with berries (W.).

Guraato.—A cactus bush, the mandrake of Somaliland (B.).

Haddie.—A shrub with bright yellow leaves; Somali women boil it and make scent (W.); probably same as *Athei* (Ed.).

Harrawalis.—Small bush, white twigs, round leaf (S.).

Harun.—Kind of fir bush, excellent for camels (W.).

Hemuh.—Bush with small red and yellow, sticky, sweet berries with large pip: good to eat; found in Haud (W.).

Irgin.—Bush with masses of long, thin, fleshy green stems, radiating from a common centre and curving

upwards from the ground; haunt of lesser kúdú; found in great quantities near Hargeisa; about 9 feet high, of a light green colour, the separate clumps looking like bunches of asparagus and having the appearance of a well-brushed-up head of hair (S.); poisonous.

Jeberdik.—Bush in the Mijjarten country, bright green-leaved, eaten by flocks (W.).

Jibbo.—Bush in the Mijjarten country, full of red juice, good for goats (W.).

Jirin.—Low, very thorny bush, eaten by camels; has a green fruit of half-moon shape called "ullel." Somalis open and eat the white pulp that encloses the pips (W.).

Kabhan —Small green bush in Hawiya country, eaten by camels (W.).

Khansa.—A very large and thick mimosa bush, 10 feet high, branches closely spreading from ground, umbrella-like top, gives excellent shade; found in the Haud (S.).

Kerin.—Small bush with brown twigs (S).

Kittar.—Thorny bush found on the Haud. Thorns very strong and fish-hook like (James).

Labba-Alolyali.—Found in Hawiya country. Small bush with small close green leaves. Most poisonous for camels, making them purge. Name means two bellies (W.).

Libbu.—Found in Haud. A bush with green leaves that turn salmon colour. Stalks taste and smell of sweet turpentine (W.).

Madeyr.—Bush with small green leaves, dark French grey bark; found in the Milmil valley; leaves good food for camels (S.).

Man or *Himbah.*—A shrub resembling the potato. It bears a gay yellow apple, full of brown seeds (B.).

Mar or *Dehjeuner.*—Big-leaved shrub with green fruit larger than an apple, with pith inside, used by Midgans for poison. Arabs call this "Shunishuni," and make a medicine from it for tooth-ache.

Măntărr.—A bush with hard dark brown stem and twigs used for producing fire by friction (S.).

Marasso or *Marer.*—Small bush with light green leaves, orange colour, edible berries, full of viscous juice-like green gum (S.), (B,).

Mero Maddu.—A thorn bush with black edible berries (S.).

Moh.—Bush covered with small round yellow balls, like miniature oranges; poisonous (S.).

Mroro Geyli.—Bush with soft long white stems. The stems have a bitter taste like cinchona. Twigs chewed by Somalis (S.).

Ohob.—Bush with green berries; good when ripe and red (W.).

Oumaten.—Found in Marehan; sweet-scented bush with sticky stalks, eaten by goats (W.).

Rahanrep.—Found in Hawiya. Very thorny bush, and should be avoided as the thorn pricks are most painful. The best bush for making fire (W.).

Salama.—Found in the Mijjarten country, Somali boys make shields from the fibre (W.).

Sirman.—Low thorn bush, found everywhere; eaten by camels (W.).

Sockso.—Straggling thorn bush, 5 to 10 feet high, fish-hook thorns (S.).

Tuggul.—Bush with gnarled stem, large green round fleshy leaves; good food for camels (S.).

Wabi.—The poison bush; thick green hard round leaves grows generally on stony ground; very opaque shade; used as a virulent poison to tip arrows.*

Watta (Osyris Abyssinica).—The leaves of this bush are used by the Somalis to tan leather. It grows 10 to 12 feet in height, has stiff leaves and minute yellowish green flowers.

Yeb.—Found in Hawiya. Small thick-leaved bush, always green, with a fruit nut enclosed in a thin crisp shell, eaten stewed. If the green leaves are rubbed in the hands, they are stained red (W.).

Plants.

Aladyale.—Small plant with round leaf, smells like sage; found in Haud (S.).

* The poison is called *wabaya*. For experiments made with this poison by Dr. Arnott, Bombay Medical Service, *vide* Burton, pp. 198, 199, and Cruttenden.

Alaree.—Small plant used as a condiment with mutton (S.).

Argaige.—Found in Mijjarten; a thorny cactus plant, 18 inches high, used for making háns (W.).

Askar.—Found in Dolbahanta. Plant with small green fruit 2 inches long, oval-shaped, and covered with soft green thorns, white kernel (W.).

Aus Waraba.—This is not a grass, though its name signifies—"hyaena grass." It is in all probability so called because no animals will eat it. Grows everywhere in Ogo-Guban and Ogo to a height of 1 to 2 feet, and has small white flowers.

Aya.—Found in Dolbahanta. Grows near water, a green stalky weed with small thick leaves; a good vegetable, and ostriches are fond of it (W.).

Boa, or *Bo Mado.*—Plant growing in river beds, large green leaves, poisonous in the green state, but eaten by camels as the leaves turn whitish, leaf shape of fig leaf, exudes a milky fluid; a sort of castor oil plant (S.).

Bulumbul.—Small plant about 18 inches high, with a yellow flower and dull green leaf; eaten by camels (W.).

Där.—An aloe, red and orange varieties; broad spiked fleshy leaves spreading out from the ground, 3 feet high; favourite food of elephants. The variety, *Där Main*, or *Buduh*, is useful. It is chewed when water is wanting, and allays thirst (S.).

Damu.—A plant favouring alluvial valleys; grows to a height of 12 feet; stalks close together, long soft green leaf; good food for camels. Found in Harawa valley, Sattawa, &c. (S.).

Dumbir.—Very juicy kind of turnip found in Dolbahanta; grows underneath the ground. Is used by Somalis when making a raid as a substitute for water (W.) (Refer to *Tomayau.*)

Durja.—Small green-leaved plant found in Haud; good vegetable (W.).

Ghai.—Plant with small round velvet burrs at end of twigs (S.).

Goain.—A root with small edible berries; dark red, found by digging (S.).

Gobbo.—Found in Mijjarten: thorny cactus plant 18 inches high, useful for making háns (W.).

Gomandera.—Plant growing in river beds, fern-like leaf, and yellow foxglove blossom.

Gudur.—Plant with small cactus-like leaves, which are full of water; good food for sheep and goats (W.).

Habbo.—Found in Wagger. Small plant, bright orange bud, blood-red flower, eaten by camels (W.).

Hamako.—Like cactus, with white juice (W.).

Hárúr, or *jowari.*—Much cultivated on banks of Webi Shebeli (W.)

Haskúl.—Variety of aloe in eastern part of Somaliland (Speke).

Hig.—The Sansaviera Ehrenbergii, an aloe growing to a height of 7 or 8 feet, distinguished from the common aloe by its leaves, which are not open but curled up to the centre of the leaf, ending in a sharp spike; common everywhere in Somaliland, but especially at elevations of from 3,000 to 4,000 feet. From the fibre a very strong rope is manufactured. Favourite food of elephants.

Jalielo.—Found in Ogaden. Shrub with pods like green peas (W.).

Jamari.—Small shrub in Ogaden with water roots (W.).

Jhillub.—Grows like heather; eaten by camels (W.).

Kariri.—Heather, with mauve flower and yellow bitter berries (W.).

Khadeed.—Succulent green plant growing to a height of 15 feet at the border of streams; rank poison to camels; found in Sattawa, Ergan, &c.

Méchro.—Plant with long green pliant stems; small thorns at right angles to the stems (S.).

Nagar.—Stiff, crisp, close heather, eaten by camels (W.).

Rheyro.—Small plant smelling like lavender (S.).

Roho.—A yellow vegetable, looks like a chili but is not hot. Found in Marehan (W.).

Soneh Ragar.—Small plant, 18 inches high, with a white flower, eaten by camels, sheep, &c. (W.).

Sar.—Found in Dolbahanta. Slate-coloured stalky plant, which Somalis put on their fires like peat (W.).

Tomayau.—A root like a knotted swede, grows 3 inches below the surface in soft red soil. Some are 12 inches diameter, green and purple outside. Inside are seeds in white pulp, has a sour taste. The locality is indicated by a number of cracks radiating from a point on the surface of the ground immediately above the root; found in the Abbasgul country and elsewhere, and much eaten by Somalis. Is said to stave off thirst, and is agreeable to the taste when cooked (S.).

Ubbah.—A gourd resembling the water melon. When shaped, dried, and smoked, it becomes the wicker-work of the Somal and the pottery of more civilised people (Burton).

Unun.—Creeping plant; with fruit like a small melon: dark olive green with yellow seams, very bitter taste, white pips inside. Used by the Somalis as a purgative. They cut the fruit in slices and put one slice in a pint of milk, leaving it in for 12 hours, after which they drink the milk.

Wanad.—Resembles mignonette. Much liked by camels (W.).

Grasses and Reeds.

Grasses and Reeds.

Afrug.—Very coarse grass growing in Guban, generally only eaten by donkeys. Camels do not like it.

Aggarr.—Grows to a height of 1 foot. Common in the Guban and the Khansa bush country: rarer in the Haud. Has a spindle-shaped feathery flowering top.

Aibarli.—A pretty grass growing 1 foot or more in height, generally in the vicinity of water. Found on Guban.

Alalo.—A tall reed growing on margin of river beds, and only used for thatching.

Arabjeb.—Only grows on the banks of rivers, and is only eaten by cattle—other animals do not care about it. It is a long coarse grass growing from 1 to 2 feet in height. Found in Ogo.

Aus ad.—Grows to a height of 2 feet or more, and is common in Ogo. It is sometimes used for making "herios."

Aus dameir.—This is a fine curly grass, which grows is clumps among rocks and on poor soil. It has a nice aromatic smell and taste. It grows everywhere in suitable localities. The Somalis often mix it, chopped up, with tea, and when the latter commodity, of which they are very fond, is not to be obtained they make an infusion of this grass and drink it. This custom originated during the 1901 expedition.

Aus gorof.—Grows to about 1 foot in height. It is common in Guban, and is used for making "herios."

Aus gŭdūd.—A short grass a few inches in height, found growing in Guban.

Aus gūrūn.—Grows from 2 to 3 feet in height, and is used for making "herios."

Baldoli or Baldorli.—A grass growing near water, and possessing long broad delicate blades about ¼ to ½ inch in breadth. Cattle are very fond of it.

Balharri.—Grows about 1 foot in height, and found sparsely scattered through the Khansa country after the rains.

Birri.—A short grass, a few inches high, found in Guban.

Dād.—This is a small grass or water weed, found growing in swampy ground. It seldom grows higher than a few inches and is eaten by cattle and sheep.

Dailan.—A tall straggling grass growing to a height of 3 feet, found near water at Sheikh.

Daremo.—The best grass in Somaliland. It grows in suitable localities to a height of 1 foot or more, and is common throughout Ogo and the Haud.

Dariff.—Coarse grass, eaten by camels, mules, and donkeys. Grows in Guban.

Dihe.—Found only in the Haud. After daremo Somalis consider this the best grass in their country.

Dōmarrh.—A coarse straggling grass, generally found growing in old zarebas and on the sites of deserted

"karias," also on the margin of river beds. Usually found growing where it is likely to get water.

Dungarr.—A pretty grass growing as high as 3 feet, and generally in places where it is likely to get water.

Durr.—A coarse grass growing in clumps usually 4 or 5 feet in height, sometimes higher. The clumps generally grow close together, often covering large areas. Common in the Khansa bush country and the Haud.

Entilleh.—A short dark green grass, found growing in Guban.

Garragarro.—A very coarse, dark green grass, seldom exceeding 12 inches in height, and only eaten by cattle, mules, and donkeys; camels do not care about it. It grows in clumps at the sides of streams, and is extensively used by Somalis in the manufacture of their "herios."

Garrgoer.—Grows about 2 feet in height, in clumps, has a long slender stem and a delicate flowering top. It is used by the Somalis to make "herios."

Goul billowi.—A coarse grass growing several feet in height. It looks more like a reed. It is eaten by both cattle and camels.

Gūbangūb.—Short scrub grass, found growing on sandy hills. Only donkeys eat it. Grows on Guban.

Gūdōmad.—Grows 1 foot in height. Common in the Haud.

Hammashleh.—A coarse grass growing to a height of 2 or 3 feet. Found on the Golis Range.

Harfo.—Grows sparsely on good soil, and seldom exceeds 6 inches in height. Found in the Khansa bush country.

Horrajar.—A coarse straggling grass growing at the roots of bushes, and possessing short broad blades of a spear-head shape. It may grow to a height of several feet. Found at Sheikh, but by no means common.

Iya mākārai.—A peculiar grass by no means common, found near Jerrato and along the Golis Range.

Mardweidleh.—Sometimes called "Mard," is a pretty grass growing from 1 to 1½ ft. in height. Generally grows near water. Found at Sheikh and in the Khansa bush country—rarer in the Haud. After "garrgorr," the best "herios" are made from it.

Marjen.—Coarse grass, grows 1 foot in height. Found in Guban. Eaten by camels.

Naggard.—A tall grass, 2½ feet in height. Found at foot of Golis Range.*

Rammad gurri.—A grass growing 2 feet or more in height, and found along river margin.

Sadehho.—A very fine grass, found growing in small tufts, sparsely distributed throughout the Khansa bush country.

Saddeh 'eli.—A tall grass, growing 2 or 3 feet in height, used for making "herios." It is found on the Golis Range and in Guban.

Sarren.—A delicate grass a few inches in height, found in Guban.

Sifar.—Grows about 1 foot in height, with long trailers or feelers. Common in Khansa and the Haud.

Waila Siddeh.—A short grass, 6 inches in height, found on the Golis Range and Guban.

Werriss.—A grass, 2 feet or more in height, found on the margins of rivers in Guban. Cattle are very fond of it.

Myrrh, which the natives call "malmal," is obtained from a tree called "didhin." The tree grows to a height of 9 to 10 feet, and has a trunk about 1½ feet in diameter, has large spiky branches, very small leaves, and rather long roots. It grows naturally on open ground, in deep valleys, on hills and terraces, and abounds on the high plateaux in the interior. The natives collect the myrrh in its natural state on the slopes of the Warsangli mountains, making incisions in the trees to facilitate exudation. The crop is obtained during the months June to August.

Creepers.

Creepers.

Aiya.—A ground creeper, with small soft round green leaves; excellent vegetable when cooked; found in Ogo Guban (S.).

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* The name *naggard* is also given to a number of small plants.

Armo.—A creeper clinging to thorn trees, having a green fleshy leaf; has a red berry. Good food for elephants; abounds about the Gebili and Harawa valleys (S.).

Cowtung.—Ground creeper found in Mijjarten, with small kind of cucumber; good eating (W.).

Gad.—A creeper which completely envelops trees from top to bottom, hiding them entirely as with a drooping mantle; found in the Harawa valley, Gadleh, &c. (S.).

Gusangus.—Found in Haud; eaten by goats and camels. Somali use the root as soap to wash their clothes and shields (S.).

Harik-harik.—Green creeping plant found in Dolbahanta; eaten by camels (W.).

Marroro.—A creeper generally found on the Meygat tree; tastes like a vine tendril; edible (S.).

Onereho.—Found in Haud; a ground creeper with a small cucumber 2 inches long. Good eating, ripe or unripe. If too many are eaten a sore throat is the result (W.).

Sagsug.—Creeper with thick twisted stem; bark made into mats; found in the Gadabursi country (S.).

Saubka.—It has a yellow edible pod; tastes faintly like a fig (S.).

Ushr.—The Asclepias gigas.

APPENDIX E.

Notes on "Duffa," or Somali Horse-sickness.

These notes are compiled from the reports of Major Hannyngton, Commandant 6th Battalion King's African Rifles; of Captain Smitheman, D.S.O., Assistant Political Officer; and of Lieutenant Dansey, Lancashire Fusiliers, Assistant District Officer.

1. *Nature and Prevalence of the Disease.*

"Duffa" is the Somali name for a form of horse-sickness which resembles closely, if it is not actually the same disease as, the horse-sickness of South Africa. It appears, however, to be considerably less severe in Somaliland than in South Africa.

Lieutenant Dansey says: "In my opinion 'duffa' is "the same form of horse-sickness as is known in South "Africa as 'Dikkaop' (thick-head), and, as in that country "it would seem to be most prevalent after heavy rain, "though it is to be seen at all seasons in this country "(Somaliland)."

Captain Smitheman says: "Horse-sickness in Somali-"land is undoubtedly not so severe as in South Africa. I "do not consider Somaliland a bad country for horse-"sickness; as in most places in Rhodesia, if you allow "your animals to graze night and day, you would in the "rainy season lose probably 95 per cent. . . . The "great difficulty here (in Somaliland) is to define a period "when it is not prevalent; the period in South Africa is "well defined—it is quite safe to allow your horses to run "both night and day from ten days after the first frost "and until ten days after the first heavy rain."

Major Hannyngton says: "It would appear that "'Duffa' is the Somali word for the horse-sickness of the "Cape and East Africa, the 'Surra' of Burmah and India. "The symptoms and causes appear much the same, though "death does not always take the same form."

2. *Its Causes.*

Major Hannyngton remarks: "The causes do not seem "fully known. Certain points, however, are evident. It "comes after the rainy season and the green grass, or even "places where, from water being close to the surface, "green grass and dew may be found at any time . . . "The 'Duffa' ceased with the cessation of the rain and "the commencement of the 'kharif' wind, which, blow-"ing at night, prevented the dew and dried the grass. "It would seem that locality enters largely into the "question."

Lieut. Dansey says: "After seven seasons' experience "in South Africa, one of which was spent in the Valley "of the Limpopo where horse-sickness is rampant, I have "come to the conclusion that the disease is taken into the "system either when grazing when the grass is wet from "dew or rain, or by watering from stagnant pools which "are not fully exposed to the sun's rays."

Captain Smitheman says: "A bad fever season always "means bad horse-sickness. The microbe is to be found "in the dew on the grass."

3. *Its Prevention.*

Lieut. Dansey's opinion is that "it is best not to let "horses graze by night, or until sun has been up some "hours and so has removed all dew from the grass, nor "until some time after rainfall. Animals in infected "districts should only be watered at mid-day or before the "sun goes down."

Major Hannyngton says that it is best "to stop ponies "from grazing until the dew has left the grass," and he adds, "I intend in future, when rain commences and green "grass springs up, to order all animals to be kept in "zaribas from mid-night until 8 a.m."

Captain Smitheman says: "The following precautions "should be taken:—

"(1) Never allow horses to graze when the dew is on "the grass.

"(2) In passing through swampy places put nose-bags "on your horses.

"(3) A small dose of arsenic administered daily is also "a preventative.

"(4) Tar rubbed in the nostrils daily is a preventative.

"(5) Always be careful when you notice mosquitoes.

"In picking a camp, if you use the same precautions as are usual in a fever country, you will find you do not lose so many horses. Swamps and mosquitoes should be avoided, and in swampy places horses should not be allowed to graze until the dew is off the grass; of course, in thick bush it is difficult to say when the dew is quite dried up."

4. *Its Symptoms.*

Lieut. Dansey says: "The symptoms are firstly dis-"inclination to feed and general dulness, followed by slight "swelling of the cavity above the eyes, and of the glands "under the throat and under the lower jaw; these swell-"ings may increase until the whole head is distended; "high fever sets in, and in some cases slight bleeding "from the eyes and nostrils; the breath becomes more "and more laboured, and death generally follows through "suffocation and congestion of blood vessels. At death "or just before, a copious discharge of a white frothy "nature from the nostrils is sometimes though not always "present."

Captain Smitheman says: "Horse sickness shows itself "in two forms—the *thick-head* and the *thin-head*. In the "thick-head the head swells to an enormous size, and the "flanks heave. In the thin-head a slight swelling "appears above the eyes, and the flanks heave rapidly."

Major Hannyngton says: "The symptoms vary, com-"mencing in most cases with listlessness, refusal to eat, "and puffiness of the hollows over the eyes, which spreads "to the cheek and neck. The final stages are sometimes "sheer weakness, the pony dying quietly, in others "identical with colic, that is to say, spasms and pain. "Death results sometimes in a few hours after the pony is "observed ill, sometimes not till nearly a week, generally "in 48 to 72 hours."

5. *Its Treatment.*

Lieut. Dansey says: "I know of no satisfactory treat-"ment for this disease, though specifics are advertised "and inoculation has been practised. I have seen slight "cases where bleeding has been successful, but this should

" be done as soon as it is ascertained that the animal is " suffering from horse-sickness."

Captain Smitheman says: "Up to the present in South " Africa they have not been able to cure. Thirty grains " of quinine administered every six hours and one bottle " of gin sometimes bring relief. The patient should be " blanketed and put under shelter; water should be given " sparingly. If exposed to the rain it means certain " death."

6. *Spread of the Disease.*

Lieut. Dansey says: "I think the only fear of infection " is from the discharge which breaks out from the nostrils " generally just before death. All carcases of horses " which die from horse-sickness should be buried or " burned, and care should be taken that, pending removal " of the dead animal, none of the discharge gets blown " about by the wind. A good plan is to put the head " into a damp sack directly the animal dies."

Major Hannyngton says: "The only method of pre- " venting the spread of the disease seems to be to " segregate the sick animals and separate the companies " (Major Hannyngton refers to his companies of Mounted " Infantry), each section grazing, watering, and feeding " separately and at fixed places, so that they do not come " on to each other's ground in any way."

7. *Period of Incubation.*

Captain Smitheman says: "The disease takes eight " days to show from the date of infection."

Major Hannyngton says: "The period of incubation " of the parasite is a question that requires expert investi- " gation and is beyond ordinary observation."

Lieut. Dansey says: "I think 21 days is the period of " incubation of the parasite; this is generally admitted in " South Africa."

8. *General.*

Captain Smitheman says: "The horse should not be " ridden until at least a month after the attack. A salted " horse will probably have a relapse in the following year " in the same month that he was attacked, and it is

" therefore necessary to watch him closely at that time. " If he is ridden during the relapse he will probably die. " Mules are not so liable to sickness as horses."

Lieut. Dansey says: "Horses that are weak or in low " condition seem to contract the disease in a much slighter " form than those which are fat and well-conditioned and " are more likely to recover."

APPENDIX F.

NOTES ON MILITARY TRANSPORT IN SOMALILAND.

(A) EXTRACTS from a REPORT on the TRANSPORT DEPARTMENT made at the close of the phase of OPERATIONS which lasted from NOVEMBER 1902 to JUNE 1903.

I.

Some remarks as to the main difficulties which are encountered in connection with the working of Transport in Somaliland.

The provision and maintenance of transport for a large expedition into the interior of Somaliland is an undertaking of considerable difficulties.

The first and greatest difficulty is that of the water supply, and this practically governs the selection of a suitable transport animal.

It is to be noted that there are no permanent running streams in Somaliland. The only water supply is contained in wells. In the rainy season, it is true, water is frequently to be found in "ballis" or depressions in the ground where it would not be found in the dry seasons. But these "ballis" often quickly dry up, and cannot be relied on. For all practical purposes therefore the wells form the sole water of the country.

These wells, or rather groups of wells, for they are as a rule found in groups, are usually situated at a considerable distance from one another—constantly 40 or 50 miles apart, sometimes as much as 70 or 80 miles apart, and even more.

For transport work under such conditions as these the camel is the most suitable animal, mules requiring water every day or at least every other day, while other animals require it still oftener. Much has been written of the tolerance of thirst of the camel, and it is sometimes supposed that camels of all kinds possess equal powers in this respect.

Such, however, is not the case. It is largely a question of custom and habit, which are the result of local conditions as to water supply. The native Somali camel, bred in a country where, as above described, the supply of water is difficult to reach, can continue 4 to 7 days (or at a pinch more) without water when working in the dry seasons; and in and immediately after the wet seasons, when the grass is green and full of moisture, he requires water only once in 20 or 30 days. But foreign camels imported into the country have not the same capacity as the native Somali camel for continuing without water for long periods, and although they can be trained to endure thirst for longer periods than they have been accustomed to in their own country, and indeed after some months' work in Somaliland have been found to acquire something of the qualities of the Somali camel in this respect, yet they can never be relied on to face long waterless marches without fear of breaking down in the same way as can the Somali camel.

On routes which are held by us—such as the Berbera-Bohotle line, or any other line of communications which might be established—it is possible by improving the existing wells, by digging new ones, by making use of pumps, and by erecting tanks for the storage of water, to very much simplify the question of watering animals, so much so as to make it possible to use, on the majority of stages at any rate, camels of any description, as well as mules.

On routes which are not held by us, but which are well known, owing to previous expeditions having passed along them, where the distance between the different watering-places and the amount of water which they can produce are known, it is possible to use imported camels in many cases, but not always. The possibility of doing so depends on the actual distance between the different points where the animals could be watered and on the time which it would probably take to cover these distances. There is another point which must be borne in mind, viz., that on arrival at the watering-places, even if pumps and portable troughs are ready for immediate erection, the (sometimes) small number of wells in which the water is contained, their depth, and the fact that they may (and probably will) require cleaning out is likely to cause delay in the watering of a large number of men and animals.

On routes which are only slightly known, where the distance from one watering-place to another is uncertain, and where the supply of water cannot be accurately estimated, it is impracticable to use any transport animal but the Somali camel—the carriage of water for transport animals being out of the question.

Now, if a force is to operate in this country on the offensive with any degree of activity against a mobile enemy, it must be prepared to leave the lines of established posts and the well-known routes. Its transport therefore—off the lines of communication—must consist mainly of Somali camels, while on the lines of communication, if complete watering arrangements are made, imported camels and mules may be largely used.

Another difficulty is that of procuring the Somali camel. It is a matter of difficulty to purchase a large number of Somali camels under any circumstances, and to do so quickly is almost impossible. The main reason of this is the disinclination of the Somali to part with livestock in any form. To the Somali, stock represents wealth and position. He has few wants, therefore money has little value in his eyes, except as a means of purchasing more stock. Colonel Swayne states that the "Akhils" (the Elders of the Tribes) informed him at Berbera on one occasion that if Rs. 80 per camel were offered it would take ten months to collect 10,000 burden camels (*i.e.*, that not more than 1,000 per month could be collected) even with the assistance of Police Sowars to collect them (*i.e.*, practically, by commandeering). During the 7½ months that have elapsed from the date that purchasing for the present expedition began (15th of November 1902) till this date (27th of June 1903), some 5,300 burden camels, or an average of about 700 per mensem, have been obtained in British Somaliland, partly by purchase and partly by exchange for milch camels raided during the operations. This latter means of procuring burden camels is always more successful than purchasing. It is not considered that this monthly average can be expected to be exceeded, unless a large number of milch camels were to be offered in exchange for burden camels.

The price offered would probably not materially affect the rate at which purchases could be made. But, if a large number of animals were required to be bought at one time

A HERD OF CAMELS.

or in any one place, prices would certainly rise, and would continue to increase as long as the demand for camels lasted.

Another difficulty which transport officers in this country encounter is to keep their animals fit for work. The grazing during the dry season in Somaliland is *very poor indeed.* This, it is to be noted, affects the Somali camel more than other transport animals, for he is *grass*-fed, not *grain*-fed. When in the hands of his tribal owner he subsists entirely on trees, shrubs, and grass. But his owner does not work him continuously, and it is customary, after a comparatively short spell of work (during which, however, the importance of good grazing is never lost sight of), to throw animals out of work to rest and recover their strength. On active military service, however, it is not possible to throw large numbers of animals out of work to rest for any appreciable length of time; continuous and hard work is the rule, and this the grass-fed Somali camel cannot stand. He rapidly loses condition and becomes unfit. This is more especially the case during the dry months, when the leaves of the shrubs and trees have died and fallen and the grass has either completely died or been eaten down, or is so dry as to afford little nourishment. On active service, too, work, more usually than not, clashes with grazing; tactical considerations prohibit night marching, and the greater part of the day must therefore be spent on the road, leaving only a few hours available for grazing. The Somali camel will quickly take to eating grain, and a ration of 4 lbs. a day is ample. But it takes a long time to get him into really good condition for continuous hard work. It must also be borne in mind that, even when a liberal grain ration is issued, a plentiful supply of grass cannot be dispensed with.

II.

General Review of the Work done by the Transport Department during the Operations.

The following extracts are published with a view to emphasising the difficulties of transport work in this country *in the dry season:*—

"All available camels, as well as mules, were during this time constantly at work. . . . . *The difficulties*

of grazing between Obbia and Dibet were very great. Grazing was procurable only in one or two places along the road, and even in those places was scanty and dry. This state of affairs was already beginning to tell on both mules and camels. *The camels, being entirely dependent on the grazing, suffered most.* Moreover, owing to the want of discipline amongst the newly enlisted camel attendants, and the difficulty of getting them to carry out orders as regards grazing, the camels did not get the full benefit of what little grazing there was."

* * * * *

"The march from Dibet to Galkayu was a great strain on the animals.

"The rate of marching was high, *the heat was intense, grazing scanty, and the time available for grazing limited.*

"On arrival at Galkayu on the 4th of March the camels *had been seven days without water.* There was a large supply of water at Galkayu, but owing to its inaccessibility (the main supply being contained in two deep wells) it took nearly two days to water all the camels. (This is a typical case of the difficulty, to which allusion has already been made, of watering a large number of animals quickly, unless water has been stored beforehand.) The grazing being situated about two miles from the wells, it was most difficult to combine both watering and grazing."

* * * * *

"The march from Obbia to Dibet again tried the animals severely, *the grazing being very scanty and dry* and the *heat intense.* On arrival at Dibet there was practically not a camel able to carry its full load."

* * * * *

"On the arrival of the force at Galadi, on the 31st of March, the transport was given a few days to water, rest, and graze. *The grazing here was situated 2½ to 3 miles distant from camp and was poor.*"

* * * * *

"A statement of the Camel Transport of the force made up on this date (the middle of April) showed that during the past month 38 per cent. of the camels on charge had died, or were on the sick list and unlikely to recover, while the greater portion of the remainder were in poor condition.

"These heavy losses and the condition of the camels generally is not surprising, in view of the very hard work that had been done, and *the practical impossibility of feeding the camels sufficiently, grazing at this time being almost non-existent.* Reports from the Lines of Communication below Galkayu received at this time spoke of the camels as '*slowly dying of starvation in spite of all endeavours* of Transport Officers to keep them alive'."

* * * * *

"The camels were at this time (the end of April) at their worst, and the mortality during the next month was enormous, amounting to between 45 per cent. and 50 per cent. *This mortality was greater during the first half of the month than during the second half, because during the early part of May the rains fell, and by the middle of May there was an abundance of green grass everywhere, and from this time forward the camels commenced to somewhat improve.* Their condition had, however, got so low that it was impossible for them to pick up much."

* * * * *

"During the later part of May a consignment of some 400 camels had been received from Bohotle, and early in June a further consignment of 600 was received. Both these batches arrived in far better condition than any of the previous consignments. *This was due to the great difference in temperature since the commencement of the rains and to the wonderful improvement in the grazing everywhere.*"

III.

Strength and Organisation of Transport Units.

Camels were formed into corps of 200 animals each with drivers at the rate of one to every three camels plus 12 per cent. spare, viz., 75 drivers per corps. These drivers were formed into three squads of 25 men each—each squad being under a headman. The command of the corps was vested in a British Officer or British N.C.O., who was assisted by one Indian Transport Assistant (a selected N.C.O. detached from one of the units composing the force)

and two Somali Transport Assistants, speaking English or Hindustani, who not only acted as interpreters, but performed general transport duties.

(*a*) *General Remarks on the Somali as a Camel Attendant.*

The Somali is a first-rate camel attendant. He is accustomed from boyhood to do with camels, is very fond of them, and thoroughly understands them. When properly treated he is cheery, willing and hard-working. His marching capabilities and powers of endurance are above the average. Though he does not always understand loading before enlistment (amongst Somalis women do most of the loading), he soon becomes an adept loader. He is easy to feed, being able to subsist, if necessary, for weeks together on meat only. He requires little water compared with Indians or Europeans. He will be content with the roughest fare and will do hard work cheerfully on it, as long as he knows that the best possible under the circumstances is being done for him; he is honest, according to his own lights. Though, perhaps, ready enough, if opportunity occurs, to pilfer from loads not committed to his charge, he is most careful of loads which have been properly handed over to him.

At the beginning of the expedition there were certainly many complaints from transport officers and others as to the laziness and unruliness of the Somalis. These complaints were sometimes justifiable, sometimes the result of misunderstandings. As the officers got to know the Somalis, and the latter got to know their officers, such complaints became less and less frequent.

(*b*) *Special Remarks as to Somali Headmen.*

There has not been much difficulty in obtaining a sufficiency of capable headmen—men of sufficient intelligence and influence to manage their squads and supervise the animals told off to the squads. Men of this class, however, as a rule, speak no language but Somali, and transport officers and N.C.O.'s have only been able to communicate with them through the medium of the Somali transport assistants. This has been a difficulty. Transport officers have been given the power of summarily reducing Somali headmen and of promoting others in their place.

(*c*) *Special Remarks as to Somali Transport Assistants.*

The duties of Somali transport assistants have been to act as interpreters and to generally assist British officers and N.C.O.'s in command of corps and depots, supervising headmen, taking charge of equipment, drawing and issuing rations, &c.

Practically the only qualification required for a Somali transport assistant on enlistment was a knowledge of English or Hindustani. At the beginning of the expedition, when a large number of British officers were requiring not only official interpreters but also private servants with a knowledge of English or Hindustani, the services of good men were hard to obtain.

The total number of Somali transport assistants enlisted or received on transfer from the Intelligence Branch, has been between 40 and 50. Of this number seven have proved themselves incapable and useless, and have been or are being discharged. The remainder have given satisfaction as interpreters, while some of them have also proved themselves capable and reliable transport assistants.

IV.

Remarks on Camels, their Equipment and General Management.

(*a*) *General Remarks.*

The most striking points of the Somali camel are—

(i) That he can go comparatively very long periods without water, and

(ii) That he usually lives entirely by grazing.

It is on account of these qualities that for military transport work in Somaliland—off the line of communications at any rate—the Somali camel is superior to any other transport animal.

The Somali camel is particularly quiet and docile.

(*b*) *Saddlery and Equipment.*

The local Somali camel saddle (called "*herio*") consists of three mats, which are placed on the camel's back one on the top of another, and tied on by means of the saddle rope or herio rope. These three mats are called respectively "*Kibet*," "*Ous*," and "*Abjid*." The "*Kibet*" is a soft mat and is put on first, the "*Ous*" is a stiffer mat and is put on next, the "*Abjid*" is stiffer and thicker and is put

on the top. The herio rope is then passed round the mats in such a manner that it not only forms a crupper and girth, but also binds the mats into a stiff pad which protects the back and hump. Instead of the "*Abjid*" a second "*Ous*" is frequently used.

This herio is an excellent form of saddle *for Somali camels in Somaliland with Somali attendants.** The Indian "Palan" has also been tried with success.

The advantages of the herio are :—

(i) The Somali is used to it. (He is not used to the "*Palan*," but soon gets used to it.)

(ii) In Somaliland it is very easily repaired or replaced. (This the "*Palan*" is not, without special arrangements.)

(iii) It requires no fitting of any kind. (The "*Palan*" requires to be fitted with great care, and its padding must be altered as the camel's hump increases or decreases.)

Its disadvantages are :—

(i) That it is very heavy—about 80 lbs. (The "*Palan*" is about 40 lbs.)

(ii) That when it gets wet it increases 25 per cent. in weight. (This is not the case with the "*Palan.*")

The herio, like every form of saddle, requires very careful attention, if sore-backs are to be avoided. The main points to see are :—

(i) That the "*Kibet*" should be without rents, holes, or thread-bare spots, should be clean, and free from thorns.

(ii) That the "*Abjid*" should be really stiff and thick.

N.B.—Herios when not in use should on no account be allowed to be used for making huts ; they should be kept rolled up, the three mats of each herio being rolled up together, the "*Kibet*" being inside and the "*Ous*" outside. In wet weather herios should be piled and, if possible, covered with waterproof sheets.

* This opinion is not in agreement with that of the veterinary and transport officers from India, who generally condemned the herio (*vide* p. 248).

The full epuipment of each camel is—

1 herio (set of three mats).
1 saddle rope—30 feet by 1½ inches - } (Hemp—
1 loading rope—35 feet by 1½ inches } brown—
1 leading rope—15 feet by 1 inch - } tarred.)

The following percentage of spare rope should be with each unit :—

Saddle ropes - - } 20 per cent. (in uncut lengths).
Loading ropes - } 20 per cent. (in uncut lengths).
Leading ropes - - }

The following equipment is necessary per unit for watering purposes :—

Leather buckets (3-gallon) - - - } 1 per 25
Waterproof sheets, 12 feet by 12 feet - } camels.

(c) *Sore-backs and Galls.*

The number of sore-backs during the 1902-1903 expedition was very large. The reason of this is obvious. It is impossible to cure a sore-back and to work the animal at the same time. Owing to the limited number of animals at the disposal of the force, animals with sore-backs had to be kept at work.

If animals could have been thrown out of work directly a sore-back started, many of the really bad backs would have been prevented.

Sore backs and galls may be classified as follows :—

(i) On the top of the wither. This class of sore-back is undoubtedly the most common, and is the most difficult to prevent. It is caused by the loading rope pressing on the wither. The remedy is to keep the "*Abjid*" stiff, especially in front, where it lies over the wither.

(ii) In front of the wither. This is common, but should be easily prevented. It is due to a badly-tied herio-rope, and the Somali in charge should be held responsible.

(iii) On the top of the hump. Not so common as either of the two preceding. It is due to awkward loads (such as Hospital and R.E. loads), or to packing a load on the top of the hump.

(iv) On the flanks. A rare place, and should be unknown. It is due to some cooking utensil or other article which has been tied on to the load, pressing on the flank during the march.

(v) Under the tail. A very common gall. One way of preventing it is to take off the crupper after the camel has been loaded and has stood up. This is not advocated, as it has a tendency to throw the load on to the wither. The best way of preventing it is to wrap strips of common white cotton sheeting or gunny round the crupper. This should be done previous to issuing the herio rope from store.

N.B.—A subordinate of the Veterinary Establishment should be attached to each unit of Camel Transport.

(*d*) *Loads.*

The full load for a Somali camel is 240 lbs., exclusive of saddlery. This load must be reduced as soon as camels begin to get out of condition.

In the case of filled water-tanks this maximum load must be exceeded. Two filled water-tanks weigh close on 320 lbs. This is a heavy, but at the same time a compact and easy-riding load.

(*e*) *Marching, and* (*f*) *Grazing.*

Where tactical considerations permit of it, all marching should be done by night or in the cool hours of the early morning and evening. As far as possible, no marching should be done between 8 a.m. and 6 p.m. This leaves from 8 a.m. to 6 p.m. (10 hours) for grazing and rest. Camels will not usually graze between the hours of 11 a.m. and 3 p.m., preferring to rest in the shade during the heat of the day. This gives five to six hours for actual grazing, viz., 8 a.m. to 11 a.m., and 3 p.m. to 6 p.m. Between 6 p.m. and 8 a.m. a march of 10 to 20 miles can be accomplished, allowing for four or five hours' rest at half way. The Somali camel does two short marches of 9 or 10 miles each, with a few hours' rest at the end of the first 9 or 10 miles, with more ease and comfort than one long march of 18 to 20 miles.

One day in three should, if possible, be set apart for rest and grazing.

The above routine gives the Somali camel the best chance, and, though tactical and other considerations will constantly necessitate a departure from it, it should be adhered to as far as possible.

(*g*) *Watering.*

In the dry season and while at work, the Somali camel should be watered once a week, though, in an emergency, he can go a longer time without water. In the wet season and after the wet season, when the grass is green, water need not be given so often—once a month has been sufficient in some cases. Water needs to be given more frequently when the animals are feeding on bushes than when feeding on grass. Animals should not be worked for at least 24 hours after being watered. To enable watering to be carried out quickly on occasions when it has not been possible to store water in advance, each unit should be equipped with :—

1 waterproof sheet, 12 feet by 12 feet - } per 25
1 leather* bucket (3 gallons) - - } animals.

(*h*) *Mange.*

The greatest care has been taken to prevent the spread of mange, and it has caused very little trouble.

The short coat of the Somali camel is not favourable to the spread of mange.

(B) Extracts from Reports furnished by the Inspecting Veterinary Officer, and the Director of Supply and Transport, Somaliland Field Force, at the termination of the Operations of 1903–4.†

I. *Classes of Animals.*

Almost every class of pony, mule, and camel was represented on this campaign, and as the hardships and privations from long marches, short rations, and scarcity

* Iron buckets get damaged, being hauled up and down wells, and canvas buckets soon rot.

† W.O. Papers 0165/4798 and 0165/4796. These reports have been printed, and contain much valuable information.

of water were very great, unique opportunities were offered for observing their powers of endurance.

Ponies might be placed in the following order of merit for work in Somaliland:—

1. *Somali.*—An extraordinarily sound little animal, capable of travelling great distances on little food and no water,
2. *Arab.*—Adapts itself very quickly to the requirements of the country.
3. *South African.*, *English.* } About equally hardy.
   Argentine., *Russian.* } They all suffer more from want of water than the Somali or Arab.
4. *Indian.*—Quite unable to stand hard trekking in Somaliland.
5. *Chinese.*—Quite unable to stand hard trekking in Somaliland.
6. *Abyssinian.*—Quite unable to stand hard trekking in Somaliland.

Mules.—South African, Abyssinian, Indian, and Chinese have all done well.

The South Africans have not been subjected to any hardships from want of rations or water, but they have steadily pulled heavy wagons through heartbreaking sand for over seven months, and are still as fit as the day they landed.

The little Abyssinian has come through his trials with flying colours; he is a really game little animal; given a fair load with a decent saddle and he will always be well up at the end of the day, and will find something to graze on where other animals would die. He stands water deprivation well. In spite of his small size he would be a useful transport animal in any country.

A more cosmopolitan array of camels, both riding and burden, has probably never been seen before on any campaign.

Riding Camels.—Bikanirs, Arabs, and a few Egyptian.

Burden Camels.—Indian, Baluchi, Arab, Somali, Abyssinian.

All did good work if they were good specimens of their kind to start with, but the Bikanirs carried more and outlasted the other riding camels with great ease, so long as they got water and food fairly regularly.

Of the burden camels the Indian and Somali bore the heat and burden of the day and outmarched and outlived the Arabs and Abyssinians. Where it is possible to water and feed them the Indian camel will outlast the Somali also, but when the pinch comes and they have to go on little food and no water for days and days, the Somali camel will pull through and save the situation, though it will never be any use afterwards.

II. *Forage and Water.*

This heading covers most of the difficulties of the campaign. The allowance of 6 lbs. per horse grain ration plus whatever grass or grazing, never plentiful, could be supplied, was not sufficient, but it was impossible for the Transport to carry more. The quality on the whole was good. The oats supplied by the Army Service Corps, the compressed forage, and the English hay were all first class, and perfect skeletons of horses and ponies picked up on them in a surprisingly short time when they got back to rest and water.

Camels and mules eat boosa, but it should only be given to animals that are in good condition—it is poor stuff to try to re-condition on.

The ordinary rules for getting animals fit hold good in Somaliland, with the exception that it is undoubtedly sound, owing to the exigencies of the country, to teach animals to drink much and seldom rather than little and often.

In places like Berbera, where it is hot and there is no shade and no grazing, ponies require water at least twice a day, camels every second or third day.

Up country, where it is cooler and the animals can graze a little, often in the shade, once a day is enough for ponies, every second day for Indian, and every third day for Somali camels. Ponies very soon learned to adapt themselves to watering only once a day.

On many marches it was impossible to give ponies a drink even once a day; the Somali ponies stood it wonderfully, but others always suffered very much. Four gallons a day with a full drink every third day is the least a pony can do and continue to work.

Some camels did extraordinary marches without water, Somalis as much as 18 days and Indians nine days, but they

never recovered it. A camel if once allowed to get below par recovers very very slowly.

There is no grain to be found growing anywhere, and the grazing is very poor as a rule.

After rain in the Haud, Aurori plain, and some other places the grazing is luxuriant, and many different kinds of grasses are to be found.

For practical purposes, however, there are only about four good grasses.

Daremo: a strong rather coarse grass which retains a certain amount of green sap in the middle long after the outside is quite dried up. It grows something like the Indian dhub grass, stretching along the ground and throwing down fresh roots from nodes.

Durr: a coarse-looking grass growing in big feathery clumps, particularly good when young, but animals eat it at all times.

*Oryx** : a long single growing grass, peculiar blue slatey colour when dry.

Both ponies and camels do fairly well on these grasses, but for camels the bush grazing is almost as importaat as the grass. Of it there is a great variety, mostly thorn bushes of sorts.

There are a good many poisonous plants to be watched for and avoided.† The *Irgin* bush is, perhaps, the most dangerous, as it generally grows where other more tempting bushes are scarce. It is easily recognised once seen. Bunches of long, fleshy, peculiar light green stems, something like elongated tallow candles, radiate from a common centre and curve upwards. It is usually from 8 to 12 ft. high.

The *Wabi* is the bush from which the Somalis get poison (wabayo) for their arrows. It has pulpy, thick, round leaves.

* Probably *garragarro* grass is meant; there is no grass known locally as *oryx*.

† In the case of camels, on the first symptoms of poisoning the following drench should be given :—Linseed oil, 2 pints; turpentine, 2 ounces; followed by hot ghi in an hour, and milk if available.

The *Boa* is a vivid green plant said to be poisonous. When the leaves are broken they exude a white milky fluid.

Euphorbia was responsible for a good deal of grief among animals, often through the juice getting into their eyes.

III. *Saddlery, Shoeing, and Draught Transport.*

Serious losses from this cause have occurred, of which a considerable number were avoidable. Saddle galls in the camel are always serious, causing loss of health and condition so rapidly that destruction is the inevitable result.

The chief causes were :—

1. Hurried orders for corps to proceed up country soon after landing, leaving no time for proper saddle fitting.
2. Long and continued marching, and in consequence shape of back altering by loss of condition.
3. Careless saddling.
4. Changing saddles.
5. Use of bad pattern saddles.

The following remedies are suggested :—

1. The system should allow of the resting of camel corps at the discretion of their commanding officers. All corps should have an efficient establishment of palan-makers, and a periodical rest would allow of the alteration of every saddle to fit individual animals.
2. Saddles should be fitted to a camel, marked with the corresponding number of the animal, and never changed.
3. In Somaliland, where night and early morning marching is essential, palans should not be removed when camels are halted for the night. The "saddling up" in the darkness allows of mal-adjustment, continual bruising of the withers through the "throwing on" of the saddle, and constant changing of these articles. In the majority of the wither cases treated in the Base Veterinary Depôt, it was found that the superior spines of the dorsal vertebræ were fractured, and therefore treatment hopeless.

The Mounted Infantry had two kinds of saddles: the Indian pattern with iron arch, and the Colonial Yeomanry pattern. The former is a little lighter and also stands more wear and tear, but has several important disadvantages which more than counterbalance these slight advantages.

With the Indian pattern saddle the blanket must be very carefully folded and adjusted; if this is not done a sore back is almost inevitable, and it is well to avoid, as far as possible, anything which involves extra intelligence and care on the part of the ordinary mounted infantryman —especially on such occasions as night marches. Also, if the rider should have the misfortune to fall off and his foot remain in the stirrup iron, he must be dragged indefinitely, unless the stirrup leather breaks, as there is no means of escape for the leather which passes under a small bar let into the saddle and closed at both ends.

For mules the Indian pattern pack saddle was used, and was quite satisfactory when properly fitted.

For riding camels the Indian double saddle, the Egyptian, and the Arab single saddles were used, and when properly fitted all were quite serviceable. The Indian is the most comfortable, and quite a lot of kit can be carried on the back seat; but for fast trekking without any kit the Arab saddle is best, as it is much lighter.

For burden camels the Somali herios, the Arab pack saddle, and the Indian palan were all tried. The herio is crude and clumsy.

The Arab pack saddles were not a success, they were too long and very difficult to alter so as to prevent them causing very bad sores.

The Indian palans were far the best; even the Somalis soon learned to fit them, and to alter them so as to ease doubtful places.

The three chief varieties of shoes used during the campaign were—

1. A medium weight, concave shoe, stamped "Greenwood and Batley, 1902."
2. An Egyptian shoe of medium weight, broad webbed, flat, and turned up at the toe.
3. A heavy shoe, issued by the British Ordnance.

The two former patterns were good and quite the most useful for horses on service in Somaliland. The latter

were far too heavy, continually fell off, and in consequence caused a number of cases of weak feet and brushing wounds. They were only suitable for heavy draught horses.

Draught work of any kind is very difficult in Somaliland. Three different kinds of wheel transport were tried:—

1. Army Service Corps buck wagons.
2. Indian ekkas.
3. Camel carts.

The buck wagons were imported from South Africa. The very heavy and dry sand told severely on tyres and spokes, and also tried the mules very highly. The mules were worked in the usual teams of 10, and, except that some have become broken-winded, have stood it well.

They were harnessed in the usual South African way. If some way could be devised to relieve the weight of the swingle bar from their heads when standing still, it would be an improvement.

The ekkas were not a success. Had only the Punjab ekka and pony been sent out, as was originally intended, they would have done much better, but even they could not have stood the strain for long.

The camel carts proved a successful experiment. They were ordinary transport carts fitted with shafts and a back chain which passed over a well-padded saddle on the camel's hump, with high cantels of wood to prevent the chain slipping. In very heavy going two camels were used tandem, but it is difficult to get them to pull simultaneously, and as a single camel pulled his cart with 6 maunds in it steadily at 1½ miles an hour, and tandem only pulled 8 maunds at the same pace, there is nothing gained by using it except as an occasional help in difficulties.

Marching in the heat of the day should, of course, be avoided for all animals as much as possible. A little more than this is required for successful marching with camels, as they graze if halted and turned out about 8 a.m., but will not do so later. This means marching at 3 or 4 a.m. every day. An unpleasant prospect, but a *sine quâ non* for good transport work with camels.

Marching by night, especially when there is a moon, suits the camel, but unfortunately knocks up the men, so cannot be done continuously.

Camels should never be marched immediately after drinking.

APPENDIX G.*

Arrangements for Water Supply during Campaign against the Mullah. List of Watering Places.

Water Supply.

Importance. In Somaliland the provision of water supply and storage was of peculiar importance, as operations carried out during the season of drought, between October and April, held out the best hopes of a decisive result. During that season the movements of the Mullah could be restricted by suitable dispositions to certain tracts of country within striking distance of the British forces, thus diminishing his mobility.

Consequently, an ample storage of water along our main line of communications so as to admit of the collection of supplies for the concentration of troops prior to any advance, and efficient arrangements for watering troops and animals during operations, were the primary objects to be attained in view of the general strategical situation.

Transport of water. During the operations under Colonel Swayne and Brigadier-General Manning, water was generally carried on transport animals in tins or in copper tanks called fantasses. Their capacity was 12½ gallons, but it was not safe to reckon on more than 10 gallons. Each tank when full weighed about 2 maunds (160 lbs.) These tanks were also made use of during General Egerton's operations.

Sources of water supply on line of communication. Regarded from the point of view of the water supply question, the line of communications during 1903–1904 may be divided into four main sections, as follows :—

Berbera to Upper Sheikh.
Upper Sheikh to Elkadalanleh.
Elkadalanleh to Kirrit.
Kirrit to Eil Dab and Bohotle.

* From the Official History of the Operations in Somaliland, 1901–4.

Berbera to Upper Sheikh.—In this section the supply was chiefly from springs. At Berbera there was a large supply brought in pipes from the deep and warm springs at Dhubar. A reservoir was also made at Adhoo Sheikh close to Dhubar. (For details of water supply *see* table, page 256.)

Upper Sheikh to Elkadalanleh.—In this section the water was obtained from wells sunk in the bed of the Tug Der.

Gololi was the only place that ran completely dry after months of heavy calls on its resources. This took place in December, 1903, but early in March, 1904, the supply was revived by an opportune downfall of rain. (For details *see* table, page 256.)

Elkadalanleh to Kirrit.—In this section there was a waterless stretch of over 40 miles. Trial borings were made at Darkeinleh without success. Water was found at Idoweina, but this was 6 or 7 miles from the road. At Little Bohotle, 9 miles from Kirrit, a well 66 feet deep was sunk, but no water was obtained. There were in this section a few ballis, pans, or depressions which would fill with water in the rains.

Kirrit to Eil Dab.—In this section the supply was from wells in the gypsum formation which extends right into the Nogal. The Kirrit supply failed on September 1st, 1903, and in consequence the advanced depôt was moved to Eil Dab and the demand on the Kirrit wells lessened. By unremitting labour the supply was afterwards restored and its quality improved.

Between Wadamago and Bohotle there was no water except such as may collect in ballis during the rainy season. (For details regarding the water supply in the Nogal and on the Berbera–Las Dureh line of communications *see* table, page 264.)

Water storage on line of communication. The first points to be determined were the amount of water storage capacity required at each post on the line of communications and the method of storage to be adopted. The decision on these points would naturally govern the quantity and class of stores to be procured for water storage in addition to any provision for active operations. Certain general considerations also stood out. Such were—

The source of supply and its probable permanence at each post.

The garrisons allotted to each post.

The possibility of a congestion of transport at different places.

The average daily consumption of infantry brigades and mounted troops, excluding transport animals, which worked out as follows:—

Mounted troops	-	18,000 gallons daily.
1st Brigade (with S.M.I.)	-	8,000 „ „
2nd Brigade „	-	8,000 „ „

The water required for convoys.

The presence or absence of a civil population drawing from the same sources.

The time available and probable duration of the operations.

The fact that practically all food materials and tools had to be brought up from the base.

Labour was locally unobtainable, thus entailing importation from Aden. Military working parties had to be kept down in strength so as to admit of the accumulation of reserve supplies.

The abnormal strain brought on the water supply by the Field Force.

The necessity for rapid watering of troops and convoys.

The capacity for storing water provided, after considering all the above factors, is given on next page, with the actual amount of water stored daily.

Methods of storage.

Generally tarpaulin or sailcloths were used for the lining to the reservoir tanks, which were in some places excavated in the ground and in others built of dry stone masonry. Whenever possible the lining was laid in a double layer, with the tarpaulin underneath the sailcloth. Each tank had a capacity of from 8,000 to 9,000 gallons to fit in with the dimensions of the sailcloth (30 feet by 30 feet). The average durability of a sailcloth or tarpaulin was about 1½ months. Many of the tanks were grouped so as to be filled from one end by syphoning. Tanks of 6,000 gallons capacity sent from England were also used for permanent reservoirs at posts, but some of these tanks were rendered useless for a time owing to their being painted with lead paints. Evaporation caused some loss of water, but was checked by grass mats laid on wire across the tanks.

Place.	Capacity.	Actual Daily Storage.	
		From	To
	Gallons.	Gallons.	Gallons.
Upper Sheikh - - -	265,000	70,000	250,000
Dubbur - - -	140,000	10,000	50,000
Gololi - - - -	50,000	—	50,000
Waran - - -	30,000	—	30,000
Burao - - -	255,000	170,000	250,000
Ber - - - -	24,000	20,000	24,000
Elkadalanleh - - -	56,000	6,000	45,000
Kirrit - - -	144,000	3,000	15,000
Olesan - - -	115,800	1,000	90,000
Wadamago - - -	167,000	60,000	110,000
Ain Abo - - -	63,000	40,000	60,000
Eil Dab - - -	150,000	100,000	150,000
Bohotle - - -	35,000	10,000	20,000
Beyi - - -	45,000	20,000	45,000
Hagal - - - -	30,000	20,000	30,000
Las Dureh - - -	52,000	40,000	52,000
Las Adey - - -	15,000	—	15,000
Las Khorai - - -	50,000	30,000	50,000
Badwein - - -	30,000	—	—
Yaguri - - -	30,000	—	—

Special storage works.

At Upper Sheikh a masonry dam was constructed with a capacity of 170,000 gallons. It eventually held a daily average of 80,000 gallons.

At Eil Dab a 50,000 gallon reservoir was constructed with sailcloths and tarpaulins. But it had the disadvantage that in case of leakage repair was difficult.

At Kirrit an embankment was made to retain 80,000 gallons, but this was never filled.

At Elkadalanleh about 100,000 gallons were held up by the earth excavated from the trench wells.

Report of storage.

The storage at each post was reported by telegram daily to Officer Commanding, Lines of Communication, to the C.R.E., and to the C.R.E., Lines of Communication.

System of distribution.

From the main storage reservoirs the issues were made to expense tanks and to troughs either by pumps or, more

generally, by syphoning. The scale of allowance was generally as follows :—

Men: 2 to 10 gallons per day, or more if water was abundant.
Horses and mules: 6 to 8 gallons per day.
Indian camels: 10 gallons every fourth day.
Somali camels: 8 gallons every fourth day.

But this scale was intended only as a general guide. The actual quantity required on any given day was estimated from the number of men and animals due to arrive, the number of water tins to be filled, and the period elapsed since the last watering in the case of camels, since these last drink more than 8 or 10 gallons per animal if deprived of water for longer than four days.

Pumps.

Two kinds of pump were principally used :—
The Bastier pump, for depths of over 50 feet.
The lift and force pump for 20 to 25 feet depths.

At Burao there was a windmill pump (aërmotor), but it was necessarily desultory in its action. The lift and force pumps were the more generally used, and delivered from 500 to 600 gallons per hour. They were considered indispensable, and the only defect was some trouble in connection with the hose, which sometimes became choked.

On the march.

While on the march a sapper detachment either went ahead or marched with the advanced guard so as to put in hand without loss of time the water supply arrangements in camp or on the line of march. With each brigade, two lift and force pumps with hose, some sailcloths specially cut to 30 feet by 20 feet, portable troughs, buckets, rope, &c., were carried on mules.

A large number of pumps were taken with the various operating columns, so that in the event of scarcity every source of water might be utilised at halts or in camps, so as not only to secure a sufficient supply but also to ensure that watering might be completed before sunset.

Labour.

Labour for pumping was provided generally by fatigue parties from the troops, but this was supplemented by local labour from Aden. The Somali was not to be depended on for such work.

Deep boring operations.

During 1903–4 boring operations were carried on at Hope Springs, Elkadalanleh, Darkeinleh and Kirrit. The work, which was under the supervision of Major Joly de Lotbinière, R.E., was carried on by a special party of sappers and by two experts who were specially brought from America and England.

The object of the operations was to discover if an artesian supply of water could be tapped so as to assist the normal supply.

In the four places where boring operations were carried out practically no water was found, but Major de Lotbinière was of opinion that the geological formation was favourable to the existence of an artesian supply of water over a considerable portion of the high tableland of Somaliland. He, however, considered that a drop drill was only suitable for the operations, and that the drop drill used was not big enough. As it was decided not to incur the extra expense of purchasing and installing a larger drill, the operations ceased.

The details of the operations are as follows :—

At *Hope Springs* the boring was carried to 388 feet depth. No bedrock or water was met with. The drill employed was the Calyx Rotary, and time taken 36 days.

Nature of soil: surface soil and secondary deposits of clays, marls, sands and conglomerates.

Elkadalanleh.—Boring carried to 464 feet depth. No water met with. Drill employed, Calyx Rotary. Time taken, 62 days. Abandoned, as shot crowns wore out.

Nature of soil: 70 feet surface soil and clay, 394 feet bedrock limestone with breaks.

Darkeinleh.—Boring carried to 258 feet. No water met with. Drill employed, Columbia No. 1 Drop Hill. Time taken, 27 days. Abandoned, as drill was too small.

Nature of soil: 4 feet surface soil; 254 feet bedrock limestone with breaks.

Kirrit.—Boring carried to 400 feet. Small quantity of water met with in gypsum. Drill employed, Columbia No. 1 Drop Drill and Rotary Drill. Time taken, 23 days. Abandoned on conclusion of operations.

Nature of soil, 66 feet bedrock gypsum; 334 feet blue clay with bands of shale and hard limestone.

Abstract of Water Supply Data.

N.B.—Dry Seasons, October to April. This Table was prepared from Observations between September and April.

Place.	Nature of Supply.	Depth of Well to Water Surface.	Depth of Water before use.	Average Yield.	Accessibility; best method of drawing.	Quality.	Permanency.	Remarks.
1.	2.	3.	4.	5.	6.	7.	8.	9.
I. Main Line of Communications.								
Berbera -	(i) Piped from Dubar. (ii) Three wells	*See* Dubar. (a) (b) (c) 8 ft. 9 ft. 9 ft.	*See* Dubar. (a) (b) (c) 2 ft. 2 ft. 1½ ft.	(a) 300 gallons per hour (b) 400 " " (c) 200 " "	Easy of access - -	Good	Permanent - -	Three wells were dug at Berbera as water supply for animals; they are trench wells from 30 to 60 ft. long.
Dubar -	Springs - - -	At surface -	- - -	4,400 gallons per hour.	Easy of access. Water is collected in settling tanks.	Slightly aperient.	Permanent - -	Water from these springs is at temperature of 104°.
Kalgumrah	Two wells in bed of river.	27 ft. to 30 ft.	2 ft. 6 in. -	Ordinarily 100 to 200 gallons per hour from each well; after flood three or four times the above yield.	Wells may fill up after flood and require re-excavation. Bastier pumps or buckets	Good	After months of use water level fell in April 1904. Semi-permanent supply dependent on rain.	About 1½ miles up the river running S.W. from Kalgumrah there is a large pool of water in the bed.
Bihendula -	Springs - - -	At surface -	- - -	Abundant - - -	Easy of access; buckets -	Good	Permanent - -	This is a stream.
Upper Sheikh.	(i) From wells in east nullah. (ii) From stream in Sama Sabdha nullah.	(i) 12 ft. - (ii) Pool at intervals.	(i) 3 ft. - - (ii) 1 ft. to 2 ft. in pools.	(i) 2,000 to 5,000 gallons per day in dry season. (ii) This is a stream with a copious supply.	Easy of access, L. and F. pumps.	Good	(i) Permanent, but liable to considerable fluctuations in yield. (ii) During drought water sinks into the bed and is obtained by excavating the sand, when pools are found.	In rains supply is abundant.
Dubbar -	Wells in the river bed sunk at various points in pockets.	4 ft. to 10 ft., and even over 20 ft. in some cases.	2 ft. to 4 ft. -	300 gallons an hour from each well after rains, but will fall to 500 gallons a day under constant use. (*See* remarks opposite Gololi.) Yield dependent on number of pockets opened out.	L. and F. pumps. Wells or pits must be dug in the pockets, and these will fill after freshets and require to be dug out. In drought, when it is necessary to deepen the pits, the subsoil may be found very stiff.	Good Good	Precarious; liable to exhaustion. Precarious; liable to exhaustion.	(1) At Dubbar and at Gololi pits or shallow wells used for tapping the water, which is apparently held up in pockets, as it can only be obtained in particular spots independent of and in no discoverable relation to each other. Pockets vary greatly in their yield. During the dry season the yield from these pockets diminishes rapidly, and is liable to fail altogether,
Gololi -	Wells in the river bed sunk at various points in pockets.	4 ft. to 10 ft. or 15 ft.	2 ft. to 4 ft. -	From three or four wells, 3,000 gallons per diem down to nil per diem. Yield depends on number of pockets opened out.				

Place.	Nature of Supply.	Depth of Well to Water Surface.	Depth of Water before use.	Average Yield.
1.	2.	3.	4.	5.
Waran	Wells in the river bed sunk at various points in pockets.	4 ft. to 10 ft. or 15 ft.	2 ft. to 4 ft.	5,000 gallons daily from 5 or 6 wells. Yield depends on number of pockets opened out.
Burao	40 wells in a promontary at bend of river.	50 ft. to 60 ft., after rains 30 ft.	2 ft. to 10 ft.	600 to 800 gallons per day per well up to 3,000 gallons per day per well.
Elkadalanleh.	(i) 25 wells in the river bed in pockets.	(i) 4 ft. to 10 ft., even 35 ft., according to time of year.	2 ft.	From all wells 1,500 gallons to 8,000 gallons per day after rains, but in drought about 40 to 100 gallons per day from all wells.
	(ii) One well on bank	(ii) 50 ft.	4 ft.	
Ber	Wells in river bed	20 ft. to 30 ft.	1 ft. to 3 ft.	Dependent on number of wells used, varies from 200 to 2,000 gallons per day per well.
Olesan	Wells in river bed. About 1 mile down stream there is a pool containing about 5,000 gallons after floods.	10 ft. to 20 ft.	2 ft. to 3 ft.	Dependent on number of wells used; varies from 200 to 1,000 gallons per day; after floods 4,000 to 6,000 gallons per day from all wells.
Shimber-Berris.	Two wells 800 ft. below camp.	43 ft. to 45 ft.	2 ft.	250 gallons per day from both wells.

Accessibility; best method of drawing.	Quality.	Permanency.	Remarks.
6.	7.	8.	9.
L. and F. pumps. Wells or pits must be dug in the pockets, and these will fill after freshet and require to be dug out again. In drought, when it is necessary to deepen the pits, the subsoil may be found very stiff.	Good	Permanent, but liable to fluctuation.	especially if subjected to a heavy drain. (2) The Waran supply is similar, but the pockets are much more extensive. (3) Burao has never been known to fail absolutely, but water may fall very low, involving repeated clearing and deepening of wells. (4) At Elkadalanleh, supply is similar to Dubbur and Gololi. (5) All these places are dependent for the replenishment of their supply on the freshets in the river. When yield becomes markedly less, new wells should be sunk to strike other pockets and existing wells deepened. In time all pockets would be exhausted.
Easy of access; bastier pumps or Somali wadans (buckets); wells can be cleared out by Somalis with ease.	Good, but slightly aperient.	Permanent, but liable to fluctuations; never yet failed completely.	
L. and F. pumps. (*See* remarks opposite Gololi.)	Good, but aperient.	Precarious; liable to exhaustion.	
L. and F. pumps. (*See* remarks opposite Gololi).	Fair; aperient.	Precarious, liable to exhaustion.	Remarks relative to Dubbur-Gololi apply.
L. and F. pumps. Wells must be dug for a supply from the river bed.	Fair; aperient.	Precarious; liable to exhaustion.	In operations of 1903-4, water was obtained at Olesan by a system of intercepting tanks which filled when it rained in the immediate vicinity. Rains in the hills will cause the river to flood, and water can then be obtained from pockets as at Dubbur and Gololi, and in large quantities.
Somali buckets *i.e.*, wadans. Well is very narrow, and can only be cleaned by letting down a small boy.	Fair; aperient; somewhat coloured.	Permanent	These wells have never been subjected to a heavy drain.

Place.	Nature of Supply.	Depth of Well to Water Surface.	Depth of Water before use.	Average Yield.	Accessibility; best method of drawing.	Quality.	Permanency.	Remarks.
1.	2.	3.	4.	5.	6.	7.	8.	9.
Kirrit	(i) Two cave wells at foot of hill, at which is defensible post.	(i) 15 ft. to 20 ft.	2 ft.	(i) 500 to 1,000 gallons per diem.	L. and F. pumps. The cave well, as indicated by the name, is a cavern with narrow passages leading under the gypsum. Descent into the passages is easy.	(i) Impregnated with sulphuretted hydrogen. (ii) Fair; palatable. (iii) Fair; palatable.	Precarious; liable to exhaustion.	After rain, the cave wells would fill up and the yield would be trebled or quadrupled. In fact, as the cave well forms a subterranean reservoir, yield would depend on number of pumps used until level reduced. It would then gradually diminish to vanishing point in the dry season. By constant cleaning of the passages, a small supply was kept up during the dry season. The impregnation with sulphuretted hydrogen is probably due to camel droppings having been swept in during former watering by Somalis. By cleaning, the water becomes much better in quality.
	(ii) Two ordinary wells (called new wells) about ½ mile west of post.	(ii) 25 ft.	2 ft.	(ii) 300 gallons per diem.				
	(iii) Cave well (called sweet water well) 10 yds. N.W. of new wells. These are in the gypsum formation.	(iii) 20 ft.	2 ft.	(iii) 50 gallons per diem.				
Wadamago	One well in gypsum formation.	55 ft. to 60 ft.	1½ ft. to 2 ft.	12,000 gallons per day	L. and F. pumps in treble; lift easy to access; water is in a large pit.	Good	Permanent; it is possible that this waters comes from an underground river.	A copious supply.
Garrero	30 wells in gypsum formation.	30 ft.	6 in. to 1 ft. 6 in.	200 gallons per day from all wells.	L. and F. pumps or wadans; easy of access.	Fair	Precarious; liable to exhaustion.	In the dry season only two or three of the wells contain water. In rains, there would be a large quantity of water held up in a hollow in the gypsum formation which is filled with sand.
Bohotle	400 wells in gypsum formation.	4 ft. to 30 ft.	Very variable in dry season, 1 ft. to 1½ ft.	After rain there is a large quantity of water, but after long drought yield may be only 2,000 gallons per day by using all those deep wells.	L. and F. pumps and buckets; easy of access.	Fair	Semi-permanent	These wells are in a basin, which after heavy rains forms a lake. In dry season only the deep wells give water.
Ain Abo	One cave well	30 ft.	2 ft. to 3 ft.	6,000 gallons per day	L. and F. pumps; the cave well can be entered by the existing rough ledges of gypsum.	Fair	Permanent.	
Ell Dab	Two wells of the class of cave well.	20 ft. to 25 ft.	2 ft. to 3 ft.	20,000 to 25,000 gallons per day from both wells.	L. and F. pumps; wells can be entered by the existing rough ledges of gypsum.	Fair; aperient; somewhat impregnated with sulphuretted hydrogen.	Permanent	A copious supply. There was a very heavy drain on these wells throughout the operations without any diminution of the level of the wells.

Place.	Nature of Supply.	Depth of Well to Water Surface.	Depth of Water before use.	Average Yield.	Accessibility; best method of drawing.	Quality.	Permanency.	Remarks.
1.	2.	3.	4.	5.	6.	7.	8.	9.
				II. THE	NOGAL.			
Badwein	Well and pools	In well, 20 ft.	2 ft. to 3 ft.	2,000 to 5,000 gallons per day.	L. and F. pumps	Bad	Precarious; liable to exhaustion.	The water is procured from pools and from a well situated in a large pit.
Jidbali	Two wells	20 ft.	1 ft. to 2 ft.	800 gallons per day from both wells.	L. and F. wells; can be easily entered and cleaned.	Bad	Precarious; liable to exhaustion.	
Adur	Four wells	20 ft.	1 ft. to 2 ft., when not used to 7 ft. depth.	Two wells, 160 gallons an hour; two wells, 40 gallons an hour.	L. and F.; wells can be easily entered and cleaned.	Fair	Probably permanent	Force halted only a day or two in January 1904.
Derigobbo	Pools		2 ft. or 3 ft.	Issue of 10,000 gallons made a marked reduction in level.	L. and F. pumps	Fair, some pools, brackish.	Seems to be a spring	Force only marched through and watered in January 1904.
Yaguri	Water lodged in depressions in nullah bed in two sections of nullah about 400 yds. apart, and measuring 100 and 50 yds. respectively.	Near surface	Depends on depth of hole dug.	2,000 gallons to 5,000 gallons per day.	L. and F. pumps; easy of access by digging.	Good	Liable to dry up in drought.	
Dariali	Several large pools fed apparently by springs.	Near surface	2 ft. to 3 ft.	Rate of inflow, probably 2,000 to 5,000 gallons per day in main pools.	Buckets or L. and F. pumps; easy of access.	Good	Permanent	The stay of the force in January 1904 was not sufficiently prolonged to judge of the permanency of the supply.
Kurtimo	Water in pools	Near surface	2 ft.	Doubtful	Buckets; L. and F. pumps; easy of access.	Somewhat brackish.	Seems permanent	
Dawa Dawa	Small pools	Near surface	2 ft. to 3 ft.	Doubtful	Easy of access; buckets and L. F. pumps.	Brackish		Force only marched through and watered in January 1904.
Arde Jiffita	Three wells	15 ft.	2 ft.	Probably 1,500 gallons per hour from best well.	L. and F. pumps; easy of access.	Brackish	Seems permanent	
Laule	Well	15 ft.	2 ft.	2,000 gallons per hour	L. and F. pumps; easy of access.	Bad	Permanent	
Gaolo	Large pools in bed of nullah.	At surface	2 ft. to 3 ft.	Inflow probably 200 to 500 gallons per hour.	Buckets on L. and F. pumps; easy of access.	Good	Seems permanent.	
Halin	Stream			3 to 5 gallons per sec.	Buckets or L. and F. pumps; easy of access.	Good	Permanent.	
Hudin	In six wells in gypsum about 1 mile from post.	8 ft.	1 ft.	About 1,500 gallons per hour per well.	Easy of access; L. and F. pumps.	Bad, very aperient.	Permanent.	

Place.	Nature of Supply.	Depth of Well to Water Surface.	Depth of Water before use.	Average Yield.	Accessibility; best method of drawing.	Quality.	Permanency.	Remarks.
1.	2.	3.	4.	5.	6.	7.	8.	9.
III. Berbera—Las Dureh					**Line of Communications, &c.**			
Beyi -	In trenches in river bed to the number required.	8 ft. to 10 ft. -	2 ft. - -	400 gallons per diem per well, but after flood probably 3,000 gallons per diem per well.	Easy of access; L. and F. pumps.	Good; dhull can be cooked.	Permanent - -	Floods will fill up the trenches with sand, necessitating re-excavation.
Hagal -	In trenches in river bed to the number required.	4 ft. to 8 ft. -	2 ft. - -	400 gallons per diem to 3,000 gallons per diem per well.	Easy of access; L. and F. pumps.	Good	Permanent - -	
Las Dureh -	In trenches in river bed to the number required.	1 or 2 ft. to 3 ft.	2 ft. - -	8,000 gallons per day from six to eight pits.	Easy of access; L. and F. pumps.	Fair, some of it brackish.	Permanent - -	
Las Adey -	Trenches in river bed	1 ft. - -	2 ft. - -	2,000 gallons per day -	Easy of access; L. and F. pumps.	Good	Permanent - -	50,000 gallons of water were taken out in 4 weeks with reduction of general level by 9½ inches. There is running water at Iga (Shadid), 18 miles west of Las Adey.
Las Khorai	Pits or trench in nullah bed.	8 ft. - -	2 ft. - -	500 gallons per hour -	L. and F. pumps; easy of access.	Fair	Permanent.	
Illig -	One well on beach -	12 ft. - -	1 ft. - -	50 gallons per hour -	Easy of access; L. and F. pumps.	Slightly brackish.	Seems permanent.	
IV. Obbia Line					**of Communications.**			
Gabarwein	One well - -	38 ft. - -	No information available.	1,000 gallons per day -	Easy of access - -	Good	No information available.	
Lodobal -	Shallow wells - -			Plentiful - -	Easy of access - -	Good		
El Dibber -	Wells - -			Plentiful - -	Easy of access - -	Tainted		
Dibit -	Four wells - -			Fair supply - -	Easy of access - -	Impregnated with sulphuretted hydrogen		
Inideenli -	Six wells - -			Plentiful - -	Easy of access - -	Good		
Rhakn -	(*a*) One open well - (*b*) One deep well - (*c*) One well - -			(*a*) 2,400 gallons a day- (*b*) 300 gallons a day - (*b*) 150 gallons a day -	(*a*) Easy of access - (*b*) Requires L. and F. pumps or buckets. (*c*) Easy of access -	Good Good Good		
Wargallo -	One deep well - -			Limited supply - -	Buckets or L. and F. pumps.	Inferior		

Place.	Nature of Supply.	Depth of Well to Water Surface.	Depth of Water before use.	Average Yield.
1.	2.	3.	4.	5.
Galkayu -	Numerous wells -	No information available.	No information available.	Plentiful - -
Bera -	20 wells - - -			Fair supply - -
Rohr -	Wells - -			Plentiful - - -
Badwein -	Three wells - -			Fair supply - -
Dudub -	Wells - - -			Fair supply - -
Galadi -	Numerous wells -			Plentiful -

Accessibility ; best method of drawing.	Quality.	Permanency.	Remarks.
6.	7.	8.	9.
Easy of access - -	Impregnated with sulphuretted hydrogen.	No information available.	
Easy of access -	Good		
Easy of access - -	Good		
Easy of access - -	Good		
Easy of access - -	Good		
Easy of access - -	Good		

APPENDIX H.

Hints as to Kit, Servants, and Horses for Officers joining the Somaliland Protectorate Service.

1. *Kit.*

As regards kit, the best general advice that can be given to any one coming out to Somaliland for a tour of service is, "Leave in England your town-going clothes, and "bring out everything else that you have, but buy as little "as possible of new kit." It will be useful to add that Somaliland is a country where one rides a great deal, and that there is practically no ladies' society.

There are shops in Berbera where you can buy most things that are necessary to supplement an ordinary English or Colonial soldier's kit. You will probably not get as good articles as you would in England, and prices will be somewhat higher, but what you get will serve your purpose, and it is better to pay somewhat higher prices locally for what one really wants than to waste money in buying at home articles which one may be quite well able to do without. Little things can always be sent out from England by parcel post, and large packages take a comparatively short time to come out by fast freight steamers.

The lists which follow will be a guide as to what is required.

Any extra kit which is brought out for the voyage, &c., can be stored in Berbera either in the Regimental Stores or in the store-room of Messrs. Cowasji Dinshaw, and, if carefully packed with camphor, will not get damaged.

(*a*) *Tentage and Camp Equipment.*

As regards tents, it is advisable to bring out only a small light shelter-tent of waterproof canvas. Edgington, of Duke Street, London Bridge, has a good pattern. Its measurements are approximately 6½ feet long by 4½ feet wide by 4¾ feet high; its weight, when new, about 18 lbs. (without pegs), and its price about 3*l.* 3*s.*

No other tents need be brought; whatever is required can be drawn from the Government Stores in Berbera.

A few waterproof sheets are necessary. The best pattern are of green canvas, and can be got from Edgington, the Army and Navy Stores, and many other firms. They should be made with eyeholes round the edges at a distance of 2 feet to 3 feet from each other. The following dimensions are recommended:—

2 sheets, 7 feet by 4½ feet.
2 sheets, 12 feet by 12 feet.

Some strong ½-inch or ¾-inch cord for lacing or tying up these sheets is always useful. Half-a-dozen lengths of each would be ample, each length being 30 feet to 40 feet.

As regards camp furniture, the following is required:—

Camp table. The X pattern is recommended.
Camp bed. " " "
Camp chair. Any pattern you fancy, but it should be light.
Hand basin, with leather cover. Sponge, soap-dish, &c., can be placed inside this.
Woolsley valise. For packing bedding.
Camp lantern. Any pattern will do; it should be strong and not too heavy; it should be a *candle* and not an *oil* lamp; *talc* slides are preferable to glass.

(*b*) *Military Equipment.*

A small-bore rifle or carbine is necessary. A ·303 rifle or carbine can be obtained from the Government Store in Berbera.

A revolver is useful. It should be in a leather case on a leather belt, with a small leather pouch for ammunition.

Note.—Ammunition for ·303 rifles and for Welby revolvers is obtainable from the Government Stores in Berbera.

One or two haversacks are necessary. Leather or stout canvas is the best material for these.

A water-bottle, if you have one, will be found useful, but water is usually carried in canvas water-bags, which are obtainable locally either from Government Stores or from a merchant.

A good watch and a magnetic compass are indispensable.

A set of pony saddlery is necessary. This may be of ordinary hunting, or of "regulation" military, or of Colonial pattern. The saddle should have plenty of Ds. A set of great-coat straps are wanted—three straps for buckling a mackintosh to the front of the saddle, and two straps for buckling a warm coat or a blanket to the back of the saddle. A thick horse-blanket to fold under the saddle is better than a numdah, and more useful, as it can be used to throw over the horse when required. A small leather saddle-bag, made to buckle on to the Ds. on one side of the saddle, is useful for carrying a dry shirt or a book.

A pair of large saddle-bags for spare horse or mule are very useful. The best patterns are of green waterproof canvas with a leather centre piece. They can be obtained from the Army Equipment Stores in Saville Row.

A pair of similar saddle-bags for a riding-camel will be found very useful. They should be about twice the size of the pony saddle-bags mentioned above.

Military sketching paraphernalia and drawing instruments should be brought by any one who has them. They will be found very useful, as large tracts of Somaliland are still unsurveyed.

A small case of medicines for haversack or saddle-bag is always useful. Such cases can be got at the Army and Navy Stores. A useful pattern is of leather and contains six vulcanite bottles of the most useful medicines, with plaster and scissors, a few bandages, some lint, and a thermometer.

(c) *Uniform.*

Three coats, two of "khaki" drill and one of "khaki" or "universal" serge, will be sufficient. These should be of the "regulation" pattern and made loose. Buttons should be of leather.

Two pairs of breeches or knicker-breeches are necessary; they should be made of cord or corderoy of medium thickness.

A pair of "khaki" drill or serge slacks, to wear in camp, are a comfort.

Shooting boots with gaiters or putties are, on the whole, more useful than any form of long boots. Two pairs of shooting boots and two pairs of gaiters are

required. Boots may be of black or brown leather; reversed hide is good material for boots; it is soft and does not get cut by stones. Gaiters should be of brown leather.

A pair of shoes, canvas or leather, with rope soles, are a comfort for use in camp.

The Kitchener pattern helmet is one of the best patterns to be had, and seems to be more worn now than any other pattern.

A small cap for wearing in uniform is required. The "regulation" pattern Field Service cap is a handy pattern.

A mackintosh is necessary. It should be of "regulation" pattern.

A warm coat for wearing in the evening or early morning is very useful. The best pattern is a double-breasted coat cut for riding, not too long, made of thick "khaki" serge, and lined with flannel. The buttons should be of leather.

(d) *Bedding.*

The following bedding will be sufficient:—

2 pairs of sheets—small size for camp bed.
4 pillow slips.
1 pillow.
5 blankets—brown or dark fawn colour.

A sweater for wearing by night in very cold weather is useful.

(e) *Underclothing.*

It is best to bring thick and thin underclothing, as worn in England in summer and winter. Berbera in summer is very hot, and in the winter warm. At some places in the interior it is cold at night and in the early morning at all seasons, and very cold in the winter.

Flannel shirts are the most useful in the interior. They should be of a brown or "khaki" shade, and are best made with detachable collars of the same material. For the coast towns thin soft-fronted white or coloured shirts are most useful.

The socks you usually wear for shooting will be most likely to suit you best for marching in this country.

For night wear flannel pyjamas of medium thickness are best. If at the coast in the hot weather you may want

something thinner, but can have what you require made up locally.

(*f*) *Mufti.*

If stationed in the interior you will require practically no mufti. A shooting coat is always useful and may be taken; a suit of flannels may come in usefully.

If stationed at the coast you would require one or two suits of flannels, and some lighter boots than shooting boots.

As already explained, on proceeding into the interior you can pack and leave at the coast your surplus kit either in the Regimental Stores or in Messrs. Cowasji Dinshaw's store-room.

(*g*) *Trunks and Boxes.*

For storing kit at Berbera tin cases are best. For use in the interior tin cases or leather trunks or bags will do.

(*h*) *Sporting Equipment.*

Bring any rifles and guns that you have, with a moderate supply of ammunition. If you have no rifles there is no necessity to buy. You can get a ·303 rifle or carbine from the Government Stores at Berbera, and this is all you require for shooting antelope. You will probably be able to borrow a heavy rifle if you go out after lion.

Bring a good leather cartridge bag or haversack. This is always useful. If you have a leather or tin cartridge box bring it with you; you will find it useful.

(*i*) *Food Supplies.*

Everything is obtainable locally, though prices are high. If settled in the country for any definite period you can arrange to get supplies sent out from home. By this means you get probably better articles and at less cost than by purchasing locally. It is best, however, to come out and see for yourself how and where you are likely to be situated before giving any orders for supplies.

Cooking pots, Crockery, Lamps, &c.

All these articles are obtainable from local merchants in Berbera, and you will do best not to purchase till after you know where you are to be stationed.

(*k*) *Books, Papers, &c.*

You should order one or two weekly papers to be sent to you.

If you are a soldier, you will do well to bring with you the books you require for working for your next promotion examination, or for the Staff College examination. There is plenty of time for reading in Somaliland, and examinations can be held locally.

You will want a light travelling writing case and safety ink pot.

If you go in for photography, bring a camera out with you.

2. *Servants.*

Good servants can be got locally. You will probably have plenty of offers of service in Aden, but it is best to wait till you arrive in Berbera, when you can engage the servants you want with the help of some one who knows the country and people.

3. *Horses.*

You will get what you require in Somaliland, and there is no necessity to bring any with you.

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TABLE OF SEASONS.—I.

GUBAN AND COAST.

Details.		Jan.	Feb.	Mar.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Remarks.
Native Seasons.		Jilal.			Kalil.	Gu.		Haga.				Dair.		
Country, state of.		"Abar" (place of famine).				"Barwaho" (fertile).								
Wind.	Monsoon.	N.E. monsoon. Steady breeze.				S.W. monsoon or karif, very variable winds, and calms.						N.E. monsoon.		
	Sea.	Bat Furau (open sea).				Bat Hiddan (closed sea).					Bat Furau.			
	Guban and Mijjarten, North Coast.	Height of monsoon.		Light and variable E.N.E., S.E., and S. land winds 4 to 8 a.m.		S.W. squalls increase in violence until end of August, blowing continuously in that month, but dying away in July between 2 p.m. and 6 p.m., when a light sea breeze springs up and lasts to midnight, when the S.W. wind begins.					Land and sea breezes alternate.			Mid April to end of Aug. or mid-Sept., stifling dust storms on the plains. At Mogdishu sand storms occur occasionally, but are never very bad.
	Zeila and northwards.	S.E.				N.W.					S.E.			
		As in the Red Sea.												
	Cape Gardafui 4° N.	Steady.				Light, variable, squalls.	Strong S.S.W.	Moderate to strong gale, S.S.W.		Strong wind S.S.W.	Light, N.E. to E., calm.	Moderate to very light.		
	4° N. Equator.					Strong S.E., S., S.S.W.			Light to moderate.	Light S.S.E., S.	Light S.			
Temperature.	Variation between day and night.	Great variation.				Still more marked. Maximum 50°.					Great variation.	51–12°C*		* In Gadabursi country (Burbon).
	General description of each month.	One of the coldest months.			Occasionally as hot as July to August.	One of the two hottest months.	Next hottest.			One of the two hottest months.		Two of the coldest months.		Plains hotter than coast ports, *vide* below.
	Coast ports { max.	89°			90°	102°	94°	100° ·5		110°	100°†	90°	90° ·6	† October is temperate in the Warsangli country.
	Coast ports { min.	72°			80°	92°	88°	82°		80°	84°	62°	59°‡	‡ Dec., 1901, exceptional.
	Plains { max.				90°		110°	118°§ (107° ·5)		103° ·5				§ At Malgol, maximum observed by the Swaynes.
	Plains { min.				80°			82°		69°				
	Mogdishu, extremes.				72°							90°		4° to 5° cooler at night.
Rainfall.	British Somaliland.	Dry.			Light rains.	Dry.	Light rains.	Dry.	Light rains sometimes.	Dry.	Heavy thunderstorms with hail occur but rarely, usually light rains.			Rainfall uncertain in time and quantity. Nov. most probable month for rain. Heavy dews during Sept., Oct., and Nov. at night in Berbera.
	Italian Somaliland, Mogdishu.	Rainy season.								Rainy season.				Second rainy reason ceases first week in Dec.
	Annual.	At Berbera { 1891–92, 12 inches in 2 to 3 very heavy falls. 1892–93, 1·21 „ 1893–94, 0·22 inch. 1894–95, 3·45 inches. 1901–02, 4 inches (1½ inches fell in a few hours).												

INTERIOR (except Rahanwein country).

Details.	Jan.	Feb.	Mar.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Remarks.
Country.	Jilal.			Kalil.	Gu.		Haga.				Dair.		
General.	N.E. monsoon does not penetrate beyond Golis.			S.W. monsoon. Periods and force of wind more variable than on coast.							*Vide* Jilal.		
Ogo-Guban 3,000 to 4,000.													
Ogo 4,000 to 6,000.				Fair S.W. wind to gale.									
Haud and Higher Plateaux.							Haga, strong gales. Tents cannot be pitched.						
Shebeli Valley.									Very hot and trying calms.				
Variation between day and night.	More noticeable than in Guban, averaging 30°.												
Towards Abyssinian Highlands. { max.								80°	72° ·5				
Towards Abyssinian Highlands. { min.									58°				
Ogo-Guban. { max.			78°			97°	83°	90°	83°				In Isa country
Ogo-Guban. { min.		56°	70°			73°	65°	56°	70°			51°	
Ogo (Sheikh). { max.	78°	81°	85°	87°	89°	91°	86°	88°	90°	84°	80°	77°	In the Warsangli country in the month of Oct. a maximum of 76° and a minimum of 2°‖ has been recorded.
Ogo (Sheikh). { min.	40°	43°	48°	51°	53°	67°	66°	67°	65°	54°	41°	42°	
Haud and Higher Plateaux. { max.					(105° to 108°¶)		83°	86° Cold.					‖ At Karkar in Darror Valley, maximum in sand storms.
Haud and Higher Plateaux. { min.					73° (95° to 95°¶)		56°	59°					¶ Average at Karkar.
Shebeli Valley. { max.						97°			103°				Higher temperature in the interior than on the coast.
Shebeli Valley. { min.						75°			77°				
Towards Abyssinian Highlands.	Dry.			Light rains.				Occasional heavy rains.		Heavy rains.			Heaviest rainfall in interior.
Ogo-Guban.	Dry.		From end of March heavy thunderstorms occasionally.	Dry.	Heavy thunderstorms.		Frequent rain.	Heavy rains.	Heaviest rains.	Thunderstorms and hail.		No rain in Esa country.	In Western Somaliland mist on hills frequent from April to May and Aug. to Sept.
** Ogo (*see* below).				Heavy occasionally.						Dry.			
Haud and Higher Plateaux.							Fine.		(?) slight.	Slight rains or dry.		Slight rains on 3–4 days.	Heavy dews in Oct. and Nov.
Shebeli Valley.			As in May to Sept.	Heavy rains flooding parts of valley. River at Imi 30 feet deep.									
Annual.	Rainfall diminishes from west to east. Record of the rainfall at Sheikh is given below. In the Mijjarten country rainfall is heavy; but in the Warsangli country is uncertain, heavy in places, scarce in others, and droughts occur occasionally.												

**Ogo (Sheikh).	Jan.	Feb.	Mar.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Total in Year 1904.
Average rainfall in inches	Nil	·03	·17	3·24	3·77	·04	1·04	1·32	·33	·96	Nil	Nil	11·3 inches.