

BRITISH CENTRAL AFRICA

LIST OF PREVIOUS WORKS BY THE SAME AUTHOR

THE RIVER CONGO, FROM ITS MOUTH TO BOLOBO

THE KILIMANJARO EXPEDITION

THE LIFE OF A SLAVE

THE LIFE OF LIVINGSTONE



AN ANCIENT WARRIOR

DEDICATION

WHATEVER MAY BE WORTHY OF PRAISE IN THIS BOOK
I DEDICATE TO MY COMRADES IN BRITISH CENTRAL AFRICA
TO THE MEMORY OF THOSE WHO DIED
IN A MANFUL STRUGGLE—

CAPTAIN CECIL MAGUIRE, DR. SORABJI BOYCE, JOHN KYDD

J. G. BAINBRIDGE

LIEUT. S. ARGYLL GILLMORE, ALFRED PEILE

L. M. FOTHERINGHAM, JOHN BUCHANAN, G. HAMPDEN

CHARLES A. GRAY, H. BRIGHTON

GILBERT STEVENSON, J. G. KING, J. L. NICOLL

EDWARD ALSTON, AND LIEUT.-COLONEL C. A. EDWARDS—

AND TO THE ACCEPTANCE OF THOSE

STILL LIVING AND WORKING

IN THE SERVICE OF QUEEN AND COMPANY

WHO HAVE WROUGHT WITH ME SINCE 1889 IN THE

BUILDING UP OF THIS CINDERELLA AMONG THE PROTECTORATES

Harry Winston

10.15.2

BRITISH CENTRAL AFRICA

AN ATTEMPT TO GIVE SOME ACCOUNT OF A PORTION OF
THE TERRITORIES UNDER BRITISH INFLUENCE
NORTH OF THE ZAMBEZI

By

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H.M. COMMISSIONER AND CONSUL-GENERAL IN BRITISH CENTRAL AFRICA

WITH SIX MAPS AND 220 ILLUSTRATIONS

REPRODUCED FROM THE AUTHOR'S DRAWINGS OR FROM PHOTOGRAPHS



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PREFACE

NORTH of the Zambezi and in the South Central portion of the continent of Africa, bounded on the north by Lake Tanganyika and the Congo Free State, on the north-east by German East Africa, on the east, south-east and west by Portuguese possessions, lies what is now termed British Central Africa, Protectorate and Sphere of Influence. The Sphere of Influence is much larger than the actual Protectorate, which is chiefly confined to the districts bordering on Lake Nyasa and on the river Shire. The Sphere of Influence is at present administered under the Charter of the British South Africa Company; the Protectorate has always been administered directly under the Imperial Government from the time of its inception. Circumstances were so ordered that I happened to be the chief agent in bringing all this territory, directly or indirectly, under British Influence, both on behalf of the Imperial Government and of the Chartered Company; and though I was ably seconded by Mr. Alfred Sharpe (now Her Majesty's Deputy Commissioner), the late Mr. Joseph Thomson, Mr. J. L. Nicoll, and Mr. A. J. Swann, it lay with me to propose a name, a geographical and political term for the mass of territory thus secured as a dependency of the British Empire.

On the principle that it is disastrous to a dog's interest to give him a bad name, it should be equally true that much is gained at the outset of any enterprise by bestowing on it a promising title. I therefore chose that of "British Central Africa" because I hoped the new sphere of British influence might include much of Central Africa where, at the time these deeds were done, the territories of Foreign Powers were in a state of flux, no hard and fast boundaries having been determined; therefore by fair means Great Britain's share north of the Zambezi might be made to connect her Protectorate on the Upper Nile with her Empire south of the Zambezi.

Treaties indeed were obtained which advanced British Territory from the south end to the north end of Lake Tanganyika, where the British flag was planted at the request of the natives by Mr. Swann in the spring of 1890; but the said Treaties arrived too late for them to be taken into consideration at the time the Anglo-German Convention was drawn up.

Consequently all our Government could do was to secure from Germany a right of way across the intervening strip of territory; and the boundaries of German East Africa and of the Congo Free State were henceforth continuous in the district immediately north of Tanganyika.

Similarly the agents of the King of the Belgians were able to make good their claims to the country west and south-west of Tanganyika. Therefore British Central Africa did not ultimately attain the geographical limits to which I had originally aspired, and which would have amply justified its title. I write this in (perhaps needless) apology for a name, which after all is a fairly correct designation of a territory in the South Central portions of the continent separated by several hundred miles from the East or West Coasts and stretching up to the equatorial regions. An almost exact geographical parallel to the British Central Africa Protectorate is the State of Paraguay in South America; which, like British Central Africa, has only free access to the sea by the course of a navigable river under international control.

This book, however, will deal only with that Eastern portion of British Central Africa which has more or less come within my personal experience, that is to say it is principally confined to the regions bordering on Lakes Tanganyika and Nyasa and the River Shire.

Although for seven years I have been connected with these countries, and have been gathering notes all that time, it is not to be supposed for a moment that the results of my work which I now publish deal more than partially with the many aspects and problems of this small section of Central Africa. The careful reader will be conscious of gaps in my knowledge; but I think he will not find his time wasted by vague generalisations. Such information as I have to give is definite and practical. During my present leave of absence I have deemed it wise to gather together and publish the information I possess while an opportunity offered and before such information is useless

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or stale. Two years' more residence might have enabled me to answer to my satisfaction many questions about which I am dubious, or of which I know nothing. There will be room for specialists to take up many sections of my book, and using, perhaps, this arrangement of material as a basis, to correct and supplement the statements I have made.



MY TABLE IN THE WILDERNESS

ACKNOWLEDGMENTS

IT gives me great pleasure to acknowledge the help I have received from many friends and acquaintances in the production of this book. Sir Thomas Sanderson, K.C.B., Permanent Under-Secretary of State for Foreign Affairs, has revised the proofs for me; and Sir Clement Hill, K.C.M.G., and the African Department of the Foreign Office have enabled me to obtain information on various subjects; Mr. Alfred Sharpe, H.M. Deputy Commissioner and Consul for British Central Africa, has given me from time to time interesting notes, and has taken a number of photographs for the special purposes of the book; Mr. J. B. Yule, B.C.A.A., of the North Nyasa district, has lent me many of his photographs and has supplied me with information on native manners and customs; Dr. David Kerr Cross, M.B., has allowed me to use his valuable notes on Anthropology and the Diseases prevalent among Europeans and natives; Mr. P. L. Sclater, F.R.S., Secretary of the Zoological Society, has rendered me great help in preparing the chapters on Zoology, to which also Mr. Oldfield Thomas, Dr. A. G. Butler, Mr. W. F. Kirby and other officials of the British Museum of Natural History, and Mr. W. E. de Winton, F.Z.S., have contributed information. Mr. Thiselton Dyer, C.M.G., Director of the Royal Gardens, Kew, on this occasion (as indeed on all others when I have applied to him) has given his assistance with promptness and cordiality. Mr. Alexander Whyte, F.Z.S. (Principal scientific officer in British Central Africa), has supplied me with much interesting information during six years; Mr. J. F. Cunningham, Secretary of the British Central Africa Administration, and Mr. Wm. Wheeler, Chief accountant to the same, have obtained for me photographs and information under many heads; the Rev. D. C. Ruffele-Scott, B.D. (of the Church of Scotland Mission, Blantyre), collected five vocabularies for me: I have found his dictionary of the Ci-nyanja (Chi-mañanjá) language a useful book of reference. The proprietors of the *Graphic* have been very kind in permitting the reproduction in these pages of certain drawings which originally appeared in one or other of their journals. Mr. Fred Moir, the Secretary to the African Lakes Company, placed his photographs at my disposal and helped me in various ways. The Rev. A. G. B. Glossop, M.A., Mr. R. Webb, and Miss Palmer, of the Universities Mission, have been particularly kind in obtaining and lending photographs. I have also derived much information from the notes and reports of the late Lieut.-Colonel C. A. Edwards, of Commander Percy Cullen, Captain W. H. Manning, and Messrs. J. E. McMaster, A. J. Swann, R. Codrington, H. A. Hillier, J. O. Bowhill, the late J. L. Nicoll and Gilbert Stevenson, H. C. McDonald,

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J. McClounie, Donald Malloch, and the late E. G. Alston, of the British Central Africa Administration; while I have also to acknowledge the loan of photographs from Messrs. E. Harry, the late Gilbert Stevenson, Commander Percy Cullen, and many others.

A special mention should be made of the valuable Appendix to my chapter on "The Botany of British Central Africa"—the list of all the known species of plants collected there from 1859 to the present day. This list has been prepared for inclusion in my book, under the direction of Mr. Thiselton Dyer, by Mr. I. H. Burkill, B.A., a member of the Scientific Staff at Kew.

It will be seen from this long list of persons to whom I am indebted for information that my book represents the summing-up of others' researches as well as of my own, and that if praise be awarded to the book, as to the seven years' work of which it is the record, that praise must be fairly distributed among many workers. It is pleasant to me to think that one of my collaborators in this work is a native of British Central Africa.

H. H. JOHNSTON.

ORTHOGRAPHY

THE orthography of native words and names used throughout this book (except in the Vocabularies) is that of the Royal Geographical Society. All the consonants are pronounced as in English (except "ñ," which stands for the nasal sound in "*ringing*"), and the vowels as in Italian. Where the spelling of an African name is established in a European language it is not altered: Examples—Congo (Kongo), Moçambique (Msambiki), Quelimane (Kelimān).

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BRITISH CENTRAL AFRICA

CHAPTER I.

WHAT THE COUNTRY LOOKS LIKE

BEFORE I begin to discourse on the dull facts of history and geography, let me try to give my reader some idea of what the country looks like by describing certain set scenes and panoramas. Perhaps from these he may derive a clearer impression of the general appearance and the many diverse aspects of British Central Africa.

A steadily flowing river. In the middle of the stream an islet of very green grass, so lush and so thick that there are no bright lights or sharp shadows—simply a great splodge of rich green in the middle of the shining water which reflects principally the whitish-blue of the sky; though this general tint becomes opaline and lovely as mother-of-pearl, owing to the swirling of the current and the red-gold colour of the concealed sand-banks which in shallow places permeates the reflections. Near to the right side of the grass islet separated only by a narrow mauve-tinted band of water is a sand-bank that has been uncovered, and on this stands a flock of perhaps three dozen small white egrets closely packed, momentarily immovable, and all stiffly regardant of the approaching steamer, each bird with a general similarity of outline almost Egyptian in its monotonous repetition.

The steamer approaches a little nearer, and the birds rise from the sand-bank with a loose flapping flight and strew themselves over the landscape like a shower of large white petals. On the left bank of the river looking down stream is a grove of borassus palms rising above the waterside fringe of white flowered reeds and apple-green mopheads of papyrus. The trunks of the taller palms are smooth and whitish, but those of younger growth nearer to the ground are still girt about by a fierce spiky hedge of dead black-stemmed fronds. The crowns of the palm trees are symmetrical and fan-shaped in general outline, while each individual frond has in its inner side a horse-shoe curve. The colour of the fronds is a deep bluish-green singularly effective in contrast with the grey-white column they surmount. The fruit of the palms, when they can be descried, are like huge yellow-green apples thickly clustered on pendent racemes protruding from the centre round which the fronds radiate.

Behind the palm forest is a long line of blue mountain so far away that it is just a faint blue silhouette against the paler blue sky. The afternoon is well advanced, and in the eastern sky, which is a warm pinkish blue, the full moon has already risen and hangs there a yellow-white shield with no radiance. On the opposite bank of the river to the palm trees is a clump of tropical forest of the richest green with purple shadows, lovely and seductive in its warm tints under the rays of the late afternoon sun. Here are large albizzia trees.¹ Over the water-side hang thick bushes overgrown with such a drapery of convolvulus creepers



BORASSUS PALMS ON THE SHIRE

that the foliage of the bush is almost hidden. This green lacework is beautifully lit up by large mauve flowers. Above the bushes rise the heads of the wild date palm, and amid the fronds of this wild date here and there a cluster of its small orange fruit peeps out. These palms rise over masses of foliage, and occasionally top the higher trees, growing within their canopy in almost parasitic fashion. This cluster of tropical vegetation will be here and there scooped out into fairy bowers by the irregularities of the bank. Sometimes the trees will overhang the stream where the bank has been washed away. Tiny kingfishers of purple-blue and chestnut-orange flit through the dark network of gnarled trunks, and deep in this recess of shade small night-herons and bitterns stand bolt upright, so confident in their assumed invisibility against a back-

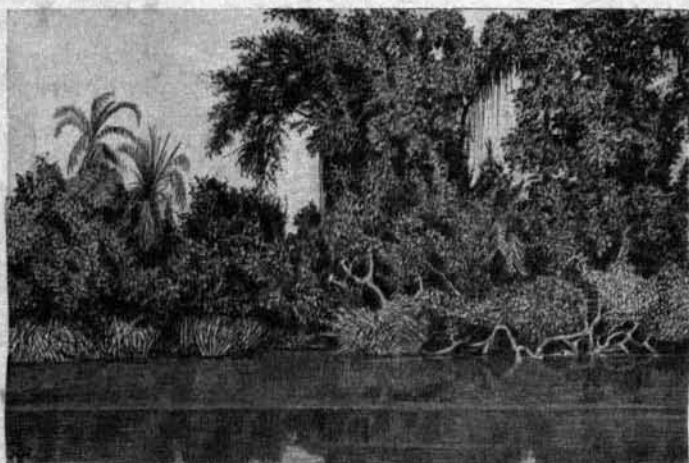
¹ A genus related to the acacia with the thickest foliage of pinnate leaves looking at a distance like green velvet.

WHAT THE COUNTRY LOOKS LIKE

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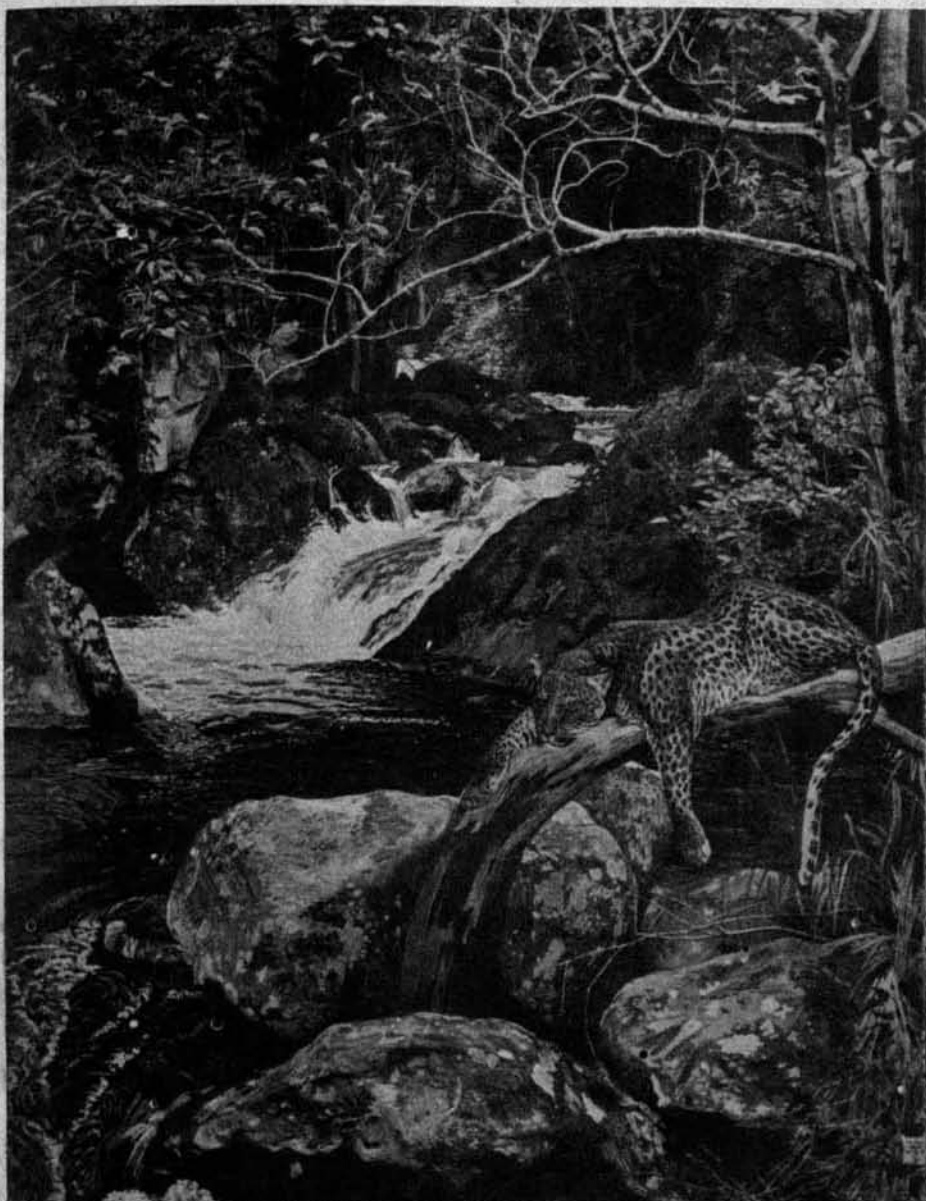
ground of brown and grey that they do not move even when the steamer passes so close by them as to brush against the tangle of convolvulus and knock down sycomore figs from the glossy-leaved, many-rooted fig trees.

It is a backwater on the Shire river, or perhaps not so much a backwater as a sluggish branch of the stream which the main current has deserted and left hidden away between bosky islands and the high wooded bank. The flow of the current is not discernible, and the reflections are glassy and mirror-like in their exactitude, except that the surface of the water in the foreground is strewn with oval lotus leaves looking in shape and even colour exactly like those copper ashtrays or cardtrays made in Indian ware with slightly turned-up crinkled edges. The scene is much framed in with overarching foliage and branches from island and opposite bank. On this shore of the mainland



TROPICAL VEGETATION ON THE BANKS OF THE SHIRE

there are tall acacia trees with smooth pale-green trunks and whitish-green branches, and a feathery light-green foliage spangled with hanging clumps of tiny golden-stamened, petalless flowers which exhale the most penetrating, absolute, and honeyed of all flower scents, a scent so strong that it may be wafted on a still, hot day across a mile of water. In the middle distance is a fine group of trees, elm-like in shape, growing on the river bank above the flood limit. In the farthest distance a few sparse-foliaged acacias stand out against the grey-blue sky above a high fence of reeds. In the nearer distance one clump of spear-like reeds rises from the waterlilies and shows some fine white-flowering plumes against the dark background of the forest clump. In the foreground is a huge snag, the relic of a fine forest tree that has been washed down in the flood and stranded in the mud of this backwater. On its branches are perched darters with sheeny plumaged bodies of greenish-black and chestnut-coloured necks ending in a head and spear-like beak, so slim that it seems a mere termination of the angular weapon of the neck. Amongst the waterlily leaves rise the beautiful blue-pink flowers that are styled the lotus.



THE LEOPARD'S RESTING-PLACE: A MOUNTAIN STREAM IN CENTRAL AFRICA

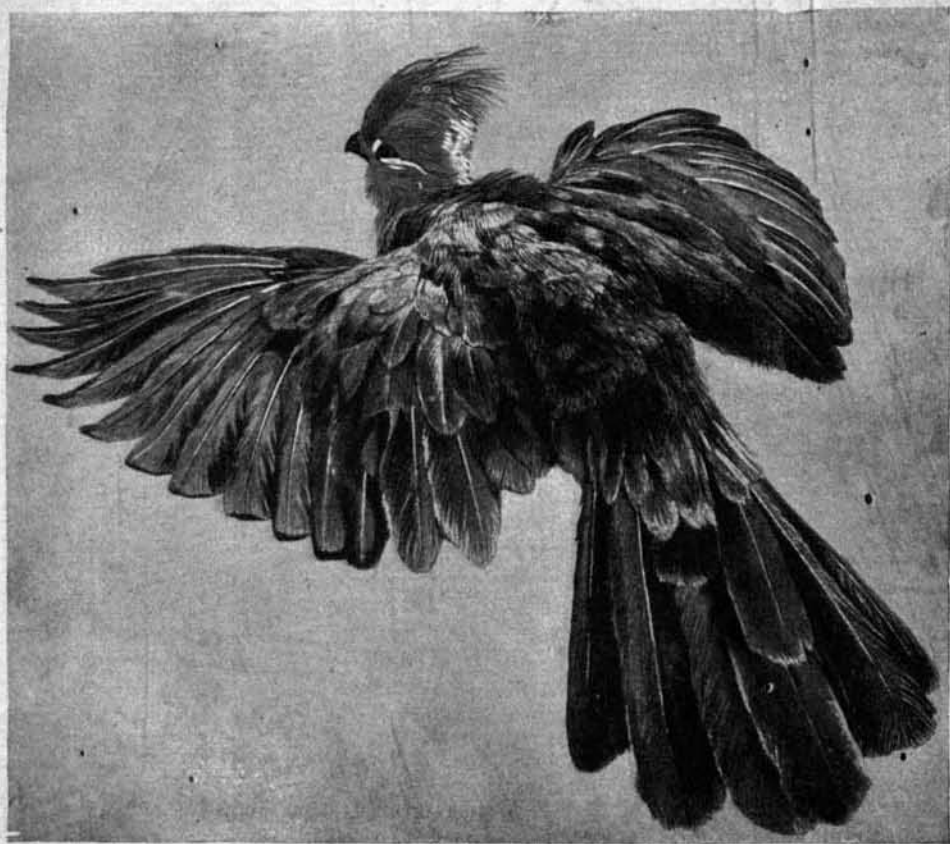
with its untidy haycocks of huts, its clumps of bananas, plantations of sweet potatoes and tobacco, and adjoining stubble fields where gaunt isolated stalks of sorghum still linger. The blue mountain wall towards which we are aiming rises higher into the sky, and its blue vagueness becomes resolvable into a detail of purple and yellow grey. But though the sun is hotter than ever as it approaches the zenith our continual ascent brings us to a region that enjoys more benign conditions of moisture and coolness at night time. The young green grass is more advanced than down below, the herbage is so thick that the red soil is almost hidden. The wild flowers commence to be beautiful. There are innumerable ground orchids in various shades of mauve or yellow, or with strange green blossoms, or flowers of richest orange. A beautiful white clematis grows from an upright stalk, and here and there are bushes of a kind of mallow, which bears large azalea-like clusters of the most perfect blush pink. Higher up still there are more and more flowers in many shades of blue and mauve and yellow. There is a small kind of sunflower that is a deep maroon crimson, and another coreopsis more like the cultivated sunflower with flaming yellow petals. In moist places—and the path is now constantly crossing small brooks—grows the dissotis, with large flowers of deep red-mauve. The path curves and twists and runs up above heights and then down into deep ravines, and still the flowers grow thicker and thicker and more lovely, till in the ecstasy of a colour dream, all remembrance of the sun's heat, of your great fatigue and your sweat-drenched clammy garments is forgotten. On the hill-sides there are frequent clumps of wild date palms, some of which rise to a great height with their slender stems often bowed or curved and seldom perpendicular. Then you come to your first tree-fern, or if you are a botanist you are delighted with a rare cycad growing majestically alone and looking very much as though it were an admirable piece of artificial foliage executed in green bronze. Still ascending, with a pause here and a rest there in the absolute shade of the great forest trees, tree-ferns become so abundant at last as to make fairy forests of themselves, excluding other arborescence. Then they give way again to densely-packed thick-foliaged forest trees of low growth through which a path winds over many a bole and through many a bamboo bower in deep green gloom. Through this gloom flit the crimson-winged turacos, the lovely genii of the African forest—birds of purple-blue, bluish-green and grass-green silky plumage with a white-tipped crest, red parrot-like beaks, and bare red cheeks, but always, no matter what their species, with the broad, rounded pinion feathers of the wing the most perfect scarlet-crimson ever seen in nature. The loud parrot cries of these



A TREE-FERN

birds (not unmelodious) echo and re-echo through the forest glades as they call to one another; and here is a crimson flash, and there is a long crimson streak drawn across the green background as they fly backwards and forwards before the delighted intruder.

Runnels of water will at times trickle through the black leaf mould of the scarcely discernible path, and you will come to many a fairy glen where the dark, clear, cold water lies in deep pools amongst the ferns.



"THE GENIUS OF THE WOODS" (GREEN TURACO)

The forest for a time will give place to a bamboo thicket, the bamboos perhaps of a different species to those lower down, with smaller and finer leaves of a deeper green; nothing more beautiful than these bamboo glades is to be seen in the way of vegetation. It is difficult to express in words the effect which is produced by thousands of narrow, pointed leaves of shiny surface shaped like small spear blades—a wall of green facets—moving at times with a faint tremor which sends a shimmering of green around you, accompanied by the tiniest whispering sound. No transformation scene ever shown on the stage was so beautiful as a bamboo glade on the high mountain side with, invariably, water falling down the centre of the picture in tiny cascades and the soft ground carpeted with a deposit of cast leaves like thin spear blades of pale gold.

Beyond the bamboos the path becomes terrible. You emerge from the gloom of this first forest belt on to bare rock and obtain glorious views over the flower-braided hill-slopes below, over the band of dark green velvet forest, and beyond into plains that are purple-blue with a diamond flash of water here and there till the horizon is closed up with the palest silhouettes of other mountains.

The path is now scarcely apparent. It is a hazardous progress up a steep face of smooth polished rock from grass clump to grass clump. Here and there on ledges of the rock where a little vegetable soil may have collected tussocks of grass are growing, and these afford a precarious foothold; nevertheless though there is no good path it is obvious that men often pass this way up and down the mountains since the tussocks of grass that are regularly trodden



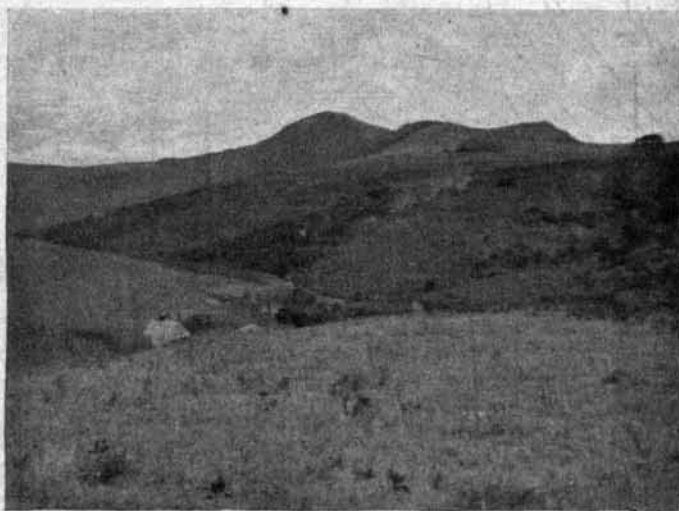
A BAMBOO THICKET

on are grey and dead in comparison to those untouched by the human foot, which remain green. Here the difficulty of your ascent will be lightened by the joy you must feel in the lobelias, if you have any sense of colour. In the crevices of these glabrous-looking mountain ribs will grow bunches of lobelias extravagant in their thousands of blue flowerets.

At last the ascent of this mountain wall is safely accomplished, and you fling yourself panting on short wiry turf growing in clumps and know that you have reached the limits of "Jack-in-the-Beanstalk's" country.

All the great mountains of South Central Africa seem to be isolated fragments of an older plateau, and most of them present more or less precipitous wall-like sides rising above the foot hills, which latter are created by land slides and debris, or represent smaller remains of the plateau that in course of time have been more worn away than the larger blocks constituting the big mountains or the long mountain ranges. These wall-like sides are naturally difficult of ascent; but when one has clambered up over the edge, and on to

the more level surface of the upraised tableland, it is a veritable "Jack-in-the-Beanstalk's" country, quite different in aspect to the tropical plains below. Turning your eyes away, however, from the blue gulf which yawns beneath the precipitous ascent of several thousand feet—which blue gulf after analysis by the eye resolves itself into the faint map of many leagues of surrounding countries—you find that the plateau on which you stand is a little world in itself. The general surface is rolling grass land and beautifully-shaped downs, with little streams and little lakes, and little forests; and again from out of this tableland little mountains of one to three thousand feet, chiefly of granite, rise up into the clouds and in their austere rockiness contrast charmingly with the lawns of short grass, the flowery vales, and the rich woodlands at their base. Altogether the scenery is pretty rather than grand, and if you could forget the ascent you have made and your geographical position, you might imagine



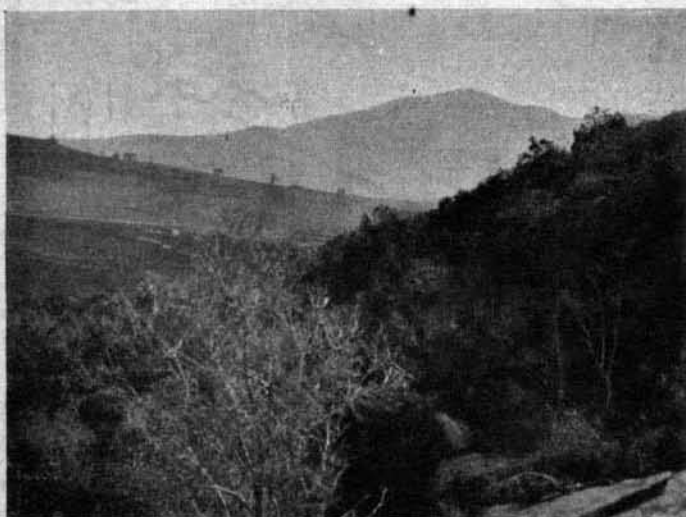
"JACK-IN-THE-BEANSTALK'S" COUNTRY

yourself in Wales, and believe that country of this sort stretched illimitably before you for miles and miles, were it not that upon walking a few steps in another direction you suddenly stop shuddering on the sharp edge of an awful gulf—a gulf which on a misty day might be the end and edge of the world.

It is a "Jack-in-the-Beanstalk" country. A little section of land upraised and quite apart from the rest of Tropical Africa with a climate and flora of its own, and as a rule without indigenous human inhabitants. The fauna of these altitudes has usually peculiar features though most of the mammals differ but little from those of the plains. Antelopes, buffalos, and even elephants will scramble to these heights, if they be in any way accessible, for the sake of the sweet herbage; therefore in your ramblings over these plateaux you may catch sight of big game, and even meet in its train the lion and leopard. The woods of Cape-oak and other evergreens—the branches of which are hung with long sprays of greenish-white lichen, "the old man's beard"¹—are resonant with the

¹ *Usnea*, the "orchilla" weed of commerce.

cries of turacos, possibly a species slightly differing from that found in the warmer climate of the plains or hill-sides. Most of the other birds will be allied to South African, Abyssinian or even European species—large purple pigeons with yellow beaks or pretty doves with roseate tinge and white heads; orioles of green and yellow and grey; chats, buntings, fly-catchers, plump speckled francolin and tiny harlequin-quails; few, if any birds of prey, but many great-billed black and white ravens and an occasional black crow. The wild flowers remind one touchingly of home. There are violets, there is a rare primula, there are buttercups, forget-me-nots, St. John's wort, anemones, vivid blue hound's-tongue and heather. Unfamiliar, however, are the lovely ground orchids, the strange proteas and the "everlasting" flowers. Also there are straggling arborescent heaths, almost like small conifers in appearance, though other forms more closely resemble our own heather. Near the edges of the plateau



ON THE PLATEAU

amongst the rocks grows a big kind of tree-lily with a gouty, pachydermatous, branching stem and tufts of grass-like leaves. If it be, as I imagine, the early spring when you are ascending the mountain, these otherwise ugly shrubs will be covered with white lily-like blossoms.

The air of these lofty plateaux is cool and bracing and the sunshine harmless in the day-time. When the weather is fine the sky is a lovely pale-blue. Daylight under these conditions is one long inexhaustible joy of living. Fatigue is not felt; the sun's heat is pleasantly warm; a moderate thirst can be delightfully quenched in the innumerable ice-cold brooks; but when the sun is set—set amid indescribable splendour in what appears to be the middle of the sky, so high is the horizon—nature wears a different even an alarming aspect: unless you have a cheerful log-hut to enter or a well-pitched comfortable tent (with a roaring fire burning at a safe distance from the tent porch) you will feel singularly dismal. Perhaps a thunder-storm may have come on. Enormous masses of cloud may be bearing down on and enveloping you—thunder of the most deafening description breaks around you and

re-echoes worse than any roar of artillery in battle from every ravine and hill-side. The drenching rain or the driving mist may be chilling your half-naked followers into blue numbness, and even bringing them, if they are unsheltered, dangerously near death from cold. Even if it be a fine night, and the moon shining, there will be something a little repellent and awe-striking in the world outside your tent. The forest, to the vicinity of which you have come for shelter, is very black, and the strange cries of bird and beast coming from these depths quite confirm the native belief that the trees are haunted with the spirits of the departed. The stars seem so near to you,



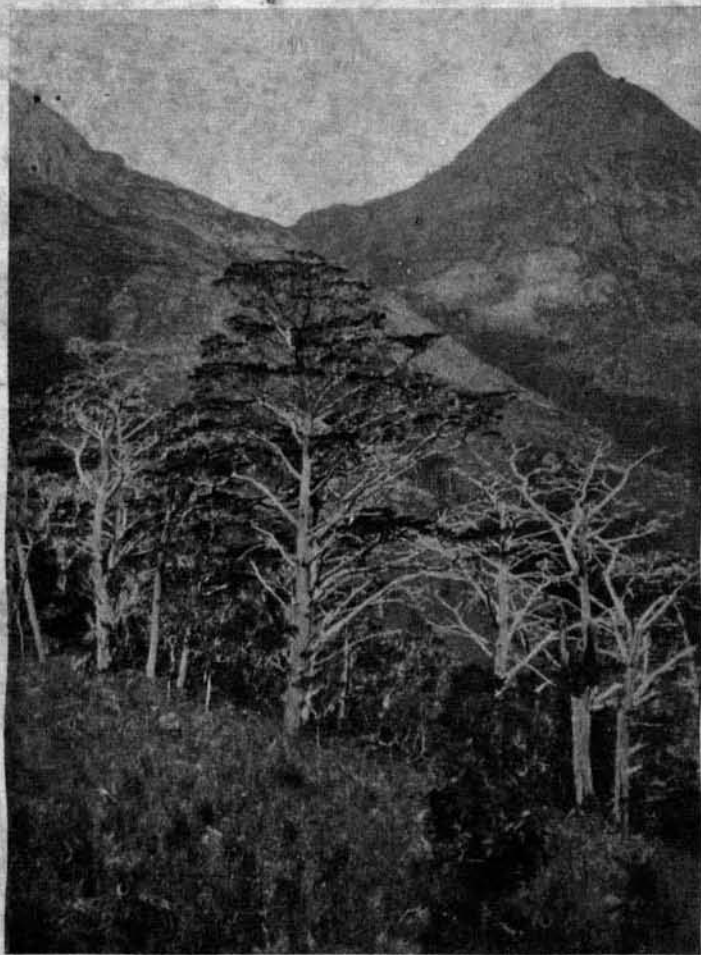
THE MLANJE CEDAR FORESTS

and if in the moonlight you have found your way over the tussocky grass to the edge of the plateau and looked forth on a sleeping universe you feel a little frightened—so completely are you aloof from the living world of man. It is much pleasanter, therefore, to be shut up in a good tent or log cabin, snugly ensconced in bed (for it is probably freezing hard) reading a novel.

We are on the upper plateau of Mlanje, grandest of all British Central African mountains. It is early morning, say 6.30 a.m. We have been roused by our native attendants, have had a warm bath and a cup of coffee and are now inspecting our surroundings in the glory of the early sunshine. On the short wiry grass there lies a white rime of frost as we walk down the slope to the cedar woods. Here rises up before us a magnificent forest of straight and noble trees, of conifers¹ which in appearance resemble cedars of Lebanon

¹ *Widdringtonia whytei*.

though they have also a look of the Scotch pine and are actually in their natural relationship allied to the cypress. Their trunks are straight and the outer bark is often bleached white; the wood is the tint of a cedar pencil. The foliage which on the older trees grows in scant tufts (leaving a huge white skeleton of sprawling branches) on the younger trees is abundant, bluish-green



ON MLANJE MOUNTAIN

below and the dark, sombre green of the fir tree above. The extremities of each branch have a pretty upward curl.

Much of the undergrowth of these cedar woods is a smaller species of *Widdingtonia* with a lighter green foliage, most gracefully pendent and starlike in each cluster of needles.

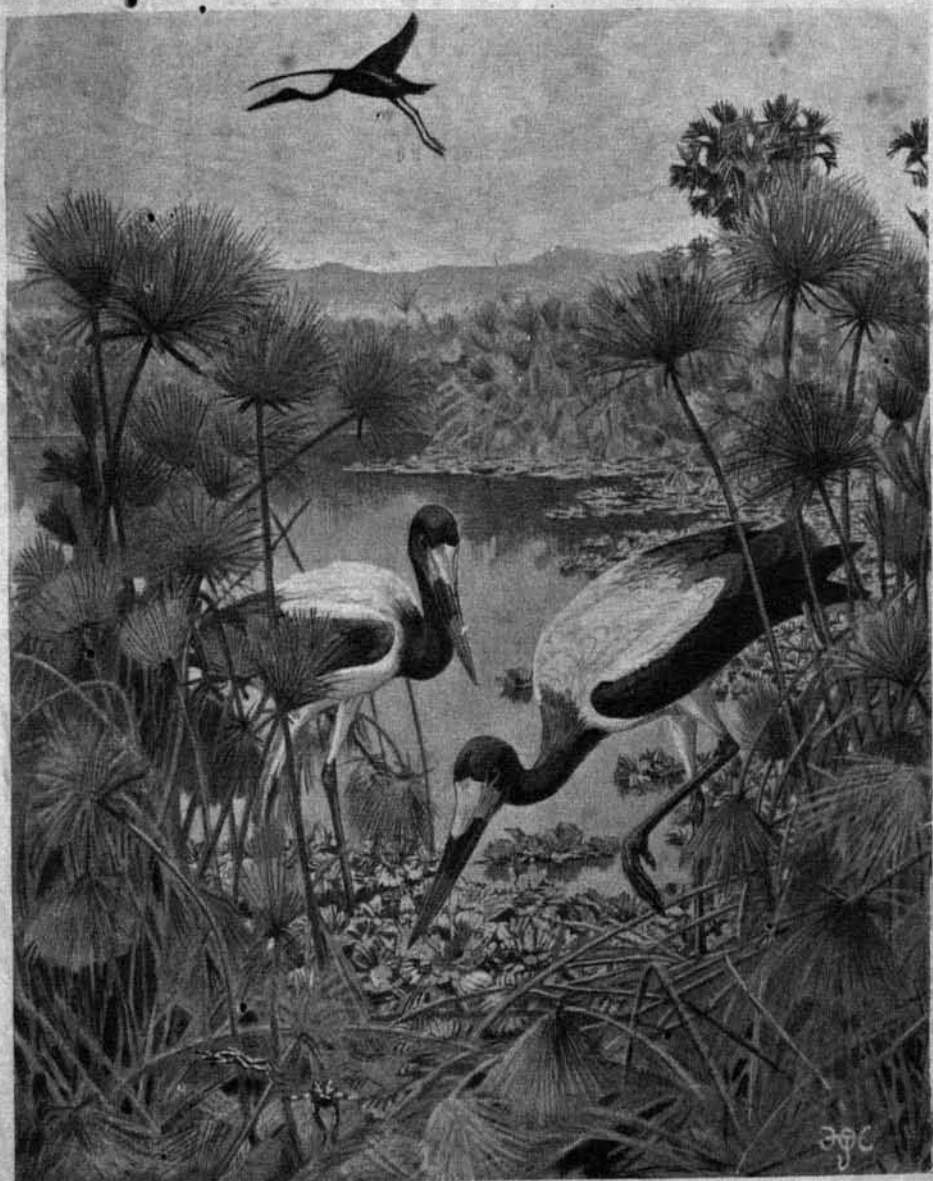
Oh! the deep satisfying peace of these cedar woods. The air is thick with the odour of their wholesome resin. The ground at our feet is a springy

carpet of emerald green moss out of which peep anemones and primulas. Here indeed when the mild warmth of the day has dried up the night dews might one lie half-stupefied by the rich aroma of the cedar wood, "the world forgetting, by the world forgot," while the big purple pigeons with white-streaked necks and yellow beaks resume their courtship on the branches above



A ROCK GARDEN ON MLANJE

our heads. Beyond the cedar wood is the mountain-side strewn with innumerable boulders and cubes of rock which are interspersed with huge everlasting flowers and a strange semi-Alpine vegetation. If we are trying to scramble up these to reach the summit we shall hear from time to time the musical trickle of water in caverns and holes, closed in by these strong boulders and thickly hung with mosses and ferns. Should we then have reached any of the great summits of Mlanje and looked down into its central crater we shall realise that here must have been at one time volcanic action. The



PAPYRUS MARSH AND SADDLE-BILLED STORKS

scene before us is an indescribable wilderness of stones and boulders which look as though they had been hurled right and left from some central eruption.¹

On the left-hand side stretches an arid plain of loose friable soil once formed below the water, and white with the lime of decomposed shells blazing in the reverberating sunshine of noonday—the refracted heat of its surface so great that the horizon quivers in wavy lines before our half-blinded eyes; on the other side a papyrus marsh with open pools of stagnant water. Beyond the arid waste of light soil on which a few grey wisps of grass are growing, lie the deep blue waters of a lake—almost an indigo blue at noonday and seen from this angle. Behind the papyrus marsh is a line of pale blue-grey mountains—a flat wash of colour, all detail veiled by the heat haze. We are at the mouth of a great river and the marshes on one side of us represent either its abandoned channels half dried up or its back water at times of overflow. For a mile or so the eye, turning away with relief from the scorching, bleached, barren plain which lies between us and the lake, looks over many acres of apple-green papyrus. The papyrus, as you will observe, is a rush with a smooth, round, tubelike stem, sometimes as much as six feet in height. The stem terminates in a great mop-head of delicate green filaments which are often bifid at their ends. Three or four narrow leaflets surround the core from which the filaments diverge. If the papyrus be in flower small yellow-green nodules dot the web of the filaments. With the exception of this inflorescence the whole rush—stem, leaves, and mop-head—is a pure apple-green and the filaments are like shining silk.

The water in the open patches in between the islands and peninsulas of papyrus is quite stagnant and unruffled and seemingly clear. Sometimes the water is black and foetid but its tendency to corruption is often kept in check by an immense growth of huge duck weed,—the *Pistia stratiotes*, for all the world like a pale green lettuce.

A pair of saddle-billed storks are wading through the marsh, searching for fish and frogs and snakes. Their huge beaks are crimson-scarlet, with a black band, and their bodies are boldly divided in coloration between snowy white, inky-black, and bronze-green.

On Lake Nyasa. The steamer on which you are a passenger, in imagination, has left her safe anchorage in the huge harbour of Kotakota in the early morning and rounding the long sandspit which shields the inlet from the open lake, finds herself breasting a short, choppy sea. The waves at first are a muddy green where the water is shallow but soon this colour changes to a deep, cold, unlovely indigo. A strong southern breeze is blowing in your teeth and each billow is crested with white foam. The “Mwera” or south-easter—the wind which ravages the lake at certain times—is to-day against you, and you are condemned by circumstances to steam southwards opposed by this strong gale. As you get out into the middle of the lake the situation is almost one of danger, for the vessel on which you are travelling, though dignified with the name of “steamer,” is not much larger than a Thames steam launch. In such weather as this she could not possibly go far with the billows on her beam

¹ These isolated fragments of granitic rock are found miles away from the Mlanje mountain in the plains below bearing all the appearance of having been hurled through the air for miles into the surrounding country. Mlanje mountain is evidently a large slice left of the pre-existing tableland from which again volcanic cones have risen.

or she would be rolled over; then again if the steamer went northwards with a following sea she would be speedily swamped; her only course—and it happens on this occasion to fit in with preconcerted arrangements—is to steam southwards, facing both wind and waves. At times the vessel seems to be standing on end as she crests some huge ridge of water; and as she descends into the furrow this broad-backed roller comes up under her stern and floods the upper deck. Then again she mounts, to fall again and mount again and fall again, until the best sailor in the world would be dizzy with this hateful see-saw motion. In fact, if it were not quite so dangerous, an ordinary passenger would give way to seasickness; yet on this occasion you are too frightened that the ship may be swamped and founder to bestow much attention on the qualms of your stomach.

But the captain is hopeful, and tells you that as this is the third day the wind has been blowing it will probably cease towards the evening. Overhead, in spite of the whistling wind, the sky is clear of clouds and a pale blue. The lake is dark indigo, flecked with white foam—not the rich, creamy, thick, white froth of saltwater, but a transparent clear foam like innumerable glass drops reflecting the sunlight coldly from many facets.

The lake is perhaps forty miles broad. North and south there is a clear sea horizon. East and west there are pale greyish-blue outlines of mountain ranges; but owing to the driving wind and the slight diffusion of spray at lower levels, or some such atmospheric cause, the lower slopes of the mountains are invisible and the distant land has no direct connection with the sharp-cut line of the indigo, foam-flecked water.

But with the afternoon heat the wind gradually lessens in force—lessens to a positive calm an hour before sunset; and the waters of the lake so easily aroused are as quickly and as easily appeased. As the wind diminishes in force the waves grow less and less till they are but a gentle swell or a mere ripple. At last, half an hour before sunset, you have the following scene before you. The steamer is now travelling smoothly and on an even keel along the south-east coast of Nyasa. The eastern sky is a yellowish white, which near the horizon becomes a very pale russet pink. The distant range of mountains facing the rays of the almost setting sun has its hollows and recesses and ravines marked in faint shadows of pinkish-purple, while the parts bathed in sunlight are yellowish grey. On the left-hand side of the picture the land projects somewhat into the lake in a long spit surmounted with low wooded hills, where the ground is reddish-brown dotted with white rocks, and the trees are a warm russet green in their lights and mauve-blue in their shadows. In the middle of the view, breaking the long line of the water horizon under the distant mountains are three warm-tinted blots of brown-pink, that represent three islets.

The water of the lake, however, gives the greatest feast of colour. Its ground tint near the horizon is a lemon white, which changes insensibly to silver-blue close up to the ship's side. But this immobile sheet of lemon-white, melting into palest azure, is scratched here and smeared there (like plush which has had the nap brushed the wrong way) with streaks and patches of palest amber. The whole effect is that of a great mirror of tarnished silver. The amber-white of these disconnected areas of ripples, where the expiring breeze faintly ruffles the perfect calm of the reflected sky, resembles the pinkish brown stains on a silver surface just becoming discoloured from exposure to the light.

Presently it will be night with a sky of purple grey studded with pale gold specks of stars and planets, all of which will be reflected in the calm lake, so that the steamer will seem to be carving her way through a liquid universe.

In a native village near to a great river there are three Europeans in a hut. Although styled generically a "hut" this native dwelling is of considerable size, with a high-peaked thatched roof like a broad-mouthed funnel in shape, the straggling ends of the thatch coming down to within a couple of feet of the ground and so, to some extent, shielding from the sun the raised verandah of grey mud which runs half round the outside. But the low-hanging thatch screens the doorway into the hut, making the interior dark even though the European occupants have broken small holes in the clay walls to let in a little more light from the shaded verandah. Inside, the rafters of palm ribs, which form the structure of the roof, are all shiny cockroach-black with the smoke of many months which has ascended to the roof and found its way out through the thatch. Cobwebs, covered with soot, hang from the rafters.

Of the three white men inside this hut two are well and hearty—faces red, and arms sun-tanned—and are seated upon empty provision cases: the third is sick unto death, with dull eyes, haggard cheeks and—if there is daylight enough to see it by—a complexion of yellowish-grey. He is stretched on a low camp bed, is dressed in a dirty sleeping suit, and partially covered by two trade blankets of garish red, blue and yellow, one of which slips untidily to the dusty floor of hardened earth. The two healthy men are smoking pipes vigorously; but the smell of strong Boer tobacco is not sufficient to disguise the nauseous odours of the sick room, and the fumes of whisky, which arise both from an uncorked bottle and from the leavings of whisky and water in two enamelled-iron cups.

By the sick man's bedside on a deal box is an enamelled-iron basin containing grey gruel-like chicken broth, in which large bits of ship's biscuit are floating. The soup has been made evidently without skill or care, for it has the yellow chicken fat floating on the top and even an occasional drowned feather attached to the sodden remnants of fowl. Also, there are a cup containing strong whisky and water (untouched), a long-necked bottle of lime juice, and a phial of Quinine pills.

The sick man turns ever and anon to the further side of the bed to vomit, and after one of these attacks he groans with the agony of futile nausea. "Cheer up, old chap!" says one of his companions, "we sent yesterday morning to the doctor-man at the mission station: it is only about thirty miles away and he ought to be here this afternoon." The doorway is darkened for a moment but not with the doctor's advent. A negro girl has stooped under the thatch to enter through the low doorway and for a moment obscures the dubious light refracted from the small piece of blazing sun-lit ground visible under the eaves. "Here, *git*, you black slut," shouts one of the men (he with the sandy beard and pockmarked face), lifting up a short whip of hippopotamus hide to enforce his remark. "Hold on," says the other healthy one, a tall brawny Cornishman, with dark eyes and black beard, "it is only his girl; harmless enough too, poor thing, considering she has known him more 'n a fortnight. It's wonderful what these nigger girls 'll do for a white man."

"There are all sorts of girls, there is every kind of girl,
There are some that are foolish, and many that are wise,
You can trust them all, no doubt, but be careful to look out
For the harmless little girlie with the downcast eyes."

sings the pockmarked man, in reminiscence of a smoking concert he attended months ago at Salisbury, before he and his companions tramped northwards across the Zambezi in search of gold and any other profitable discoveries they might make in the unknown North.

The woman, who has taken little or no notice of the other men, has seated herself on the floor near the sick man's bed and is fanning away the flies from his death-like face. He scarcely notices this attention, continuing as before to roll his head languidly across the rolled-up coat which serves as pillow.

Outside the hut it is a bright world enough—a sky of pure cobalt, with white cumulus clouds moving across it before a pleasant breeze. Except where these clouds cast a momentary shadow there is a flood of sunshine, making the dry thatched roofs of the round haycock houses glitter; and as to the bare beaten ground of the village site, in this strong glare of sunshine you would hardly realise it is mere red clay: it has an effulgent blaze of flame-tinted white except where objects cast on it circumscribed shadows of a purple black.

Two or three native curs, of the usual fox-coloured, pariah type, lie sleeping or grubbing for fleas in the sunshine. A lank, wretched-looking mangy bitch, with open sores on her ears and fly-infested dugs, trails herself wearily from hut to hut, seeking food, but only to be repulsed by kicks from unseen feet, or missiles hurled by unseen hands. Little chocolate-coloured children are playing in the dust, or baking in the sun clay images they have made with dust and water. Most of the houses have attached to them a woman's compound at the back, fenced in with a high reed fence. If you entered this compound from the verandah, or peeped over the high fence, you would see cheerful garrulous women engaged in preparing food. A steady "thud, thud!" "thud, thud!" comes from one group of hearty girls with plump upstanding breasts who, glistening with perspiration, are alternately pounding corn in a wooden mortar shaped like a dice box. Each in turn, as she takes the pestle, spits on her hands and thumps the heavy piece of wood up and down on the bruised corn. Another woman is grinding meal on the surface of a large flat stone by means of a smaller stone which is smooth and round; again, another wife with the aid of other flattened stones bruises green herbs mixed with oil and salt into a savoury spinach. In all the compounds and about the streets are hens and broods of chickens. Mongrel game-cocks are sheltering themselves from the heat under shaded verandahs, which they share with plump goats of small size and diverse colours—white, black, chestnut, grey; black and white, white and chestnut, grey and white. The sun-smitten village at high noon is silent but for the low-toned talk of the women, of the "thud, thud" of the corn-mortars, the baaing and bleating of an imprisoned kid, or the sudden yelp of the half-starved bitch when a missile strikes her.

Beyond the collection of haycock huts (occupying perhaps a half square mile in area), is a fringe of bananas, and beyond the bananas from one point of view the glint of a river, and across the river a belt of black-green forest. In other directions, away from the water-side is red rising ground sprinkled with scrubby thin-foliaged trees, among which here and there grows a huge gouty baobab, showing at this season digitate leaves like a horse-chestnut's, and large tarnished white flowers that depend by a straight string-like stalk from the pink and glabrous branches.

Noon declines to afternoon. The two men who are whole still remain in



the hut; the sick man is obviously sicker than before. His face is an obscure yellow, he has ceased to vomit, he is no longer restless, he lies in a stupor, breathing stertorously. The black-bearded man smokes, and reads a tattered novelette, glancing from time to time uneasily at the one who lies so ill, but trying to still his anxiety by assuring himself "that the poor beggar has got to sleep at last." The man with the red hair and pockmarked cheeks sings snatches of music-hall songs at intervals and drinks whisky and water, trying hard to keep up his courage. For he is in a cold-sweating dread of death by fever—a death which can come so quickly. A month ago there were four of them, all in riotous health, revelling in the excitements of exploring a new country, confident that they had found traces of gold, merrily slaughtering buffalo, eland, kudu and sable; sometimes after elephant with the thought of the hundreds of pounds' worth of ivory they might secure with a few lucky shots; killing "hippo" in the river and collecting their great curved tusks for subsequent sale at a far-off trading station; trafficking with the natives in the flesh of all the beasts they slew and getting in exchange the unwholesome native meal, bunches of plantains, calabashes of honey, red peppers, rice, sugar cane, fowls, eggs, and goat's milk. They had not treated the natives badly, and the natives in a kind of way liked these rough pioneers who offered no violence beyond an occasional kick, who were successful in sport and consequently generous in meat distribution, and who gave them occasional "tots" of "kachaso,"¹ and paid for the temporary allotment of native wives in pinches of gunpowder, handfuls of caps, yards of cloth, old blankets and clasp knives. Yes; a month ago they were having a very good time, they were not even hampered by the slight restraints over their natural instincts which might exist in Mashonaland. They had found obvious signs of payable gold—"an ounce to the ton if only machinery could be got up there for crushing the rock"—they would return to the south and float a company; meantime they had intended to see a little more of this bounteous land blessed with an abundant rainfall, a rich soil, a luxuriant vegetation, a friendly people, grand sport, and heaps of food; and then, all at once, one of them after a bottle of whisky overnight and a drenching in a thunderstorm next day, complains of a bad pain in his back. A few hours afterwards he commences to vomit, passes black-water, turns bright yellow, falls into a stupor, and in two days is dead. "Was it the whisky, or the wetting, or neither? It could not be the whisky; good liquor was what was wanted to counteract this deadly climate; no, it could not be the whisky; on the contrary," thought the man who turns these thoughts over musingly in his mind, "he himself must take more whisky to keep his spirits up. When old Sampson was better and could be carried in a hammock, they would all make straight for the Lake and the steamers and so pass out of the country, perhaps returning to work the gold, perhaps not."

The heat of the afternoon increases. The man on the bed still snores, the woman still fans, Blackbeard has fallen asleep over his novelette and Redhead over his whisky and water. The silence of the village is suddenly broken by a sound of voices and the tramp of feet. Blackbeard wakes up, rubs his eyes and staggers out into the sunshine to greet a thin wiry European with bright eyes and a decided manner. "Oh . . . you are the Mission doctor, aren't you? Come in—in here. He is pretty bad, poor chap, but I expect you will do him a lot of good." . . .

It is early evening. The two mining prospectors have left the hut, advised

¹ Fire-water—whisky.

by the doctor to chuck their whisky bottles into the river and go out shooting. The former piece of advice they have not followed, but the latter they have gladly adopted, frightened at the aspect of their dying comrade, and only too glad to leave the responsibility of his care to the Mission doctor, who for two hours has tried all he knows to restore the patient to consciousness, without success. The woman has helped him as far as she was able, the doctor much too anxious about his patient to concern himself about the propriety of her position in the case. Outside the hut there is a cheerful noise of the awakening village settling down to its evening meal. Flights of spurwinged geese, black storks and white egrets pass in varied flocks and phalanxes across the rosy western sky. But inside, by the light of two candles stuck in bottles, which the doctor has lit to replace the daylight, it may be seen that his patient is nearing the end; yet as the end comes there is a momentary return to consciousness. The stertorous breathing has given way to a scarcely perceptible respiration, and as the doctor applies further means of restoration a sudden brightness and light of recognition come into the dull eyes. The expiring man tries to raise his head—cannot! and to speak—but no sound comes from his whitened lips, then one long drawn bubbling sigh and the end has come.

A great, untidy, Arab town near the shores of a lake, the blue waters of which can be seen over the unequal ground of the village outskirts and through a fringe of wind-blown banana trees. On one of the little squares of blue water thus framed in by dark-green fronds may be seen part of a dau at anchor with a tall, clumsy, brown mast, thick rigging, and a hull somewhat gaudily



THE "SULTAN'S BARAZA"

Painted in black and pink. We are sitting under the broad verandah of a large house, a house which is in reality nothing but a structure of timber and lath covered with a thick coating of black mud; but the mud has been so well laid on and is so smooth, time-worn and shiny as to have the appearance of very dark stone. The roof is of thatch, descending from some forty feet above the ground to scarcely more than five feet over the edge of the verandah. This verandah only occupies one side of the house and is large enough to be—what it is—an outer hall

of audience;¹ fifteen feet broad and with a raised dais of polished mud on either side of the passage which crosses the verandah to enter the main dwelling. As the interior rooms of this house are mostly unfurnished with windows and only derive their light from the central passage (which has an open door at either end) they are quite dark inside and even in the daytime little Arab lamps (earthenware saucers filled with oil and with cotton wicks) have to be lighted to see one's way about.

¹ Called by Zanzibaris "baraza."

In front of the house, in the open public square, is a fine cocoanut tree which has been planted from a cocoanut brought from the East Coast of Africa. Across the square a ramshackle building is pointed out as the Mosque, and Arabs of all shades—of negro blackness and of European whiteness—are walking backwards and forwards through the blazing sunshine to perform their ablutions in the court of the Mosque, or to enter the building to pray.

The Sultan of the place, in one of whose houses we are tarrying (in imagination) is about to have his noontide meal, and asks us to join. He himself is seated on a mattress placed on a mud bench against the wall under the verandah, and is clothed in a long, white garment reaching down to his heels, over which he wears a sleeveless, orange-coloured waistcoat richly embroidered with silver, a shawl-sash wound round his waist, and over one shoulder a light Indian cloth of chequered pattern brightly fringed. Through the shawl waistband peep out the hilt and part of the scabbard of one of those ornamental curved daggers which are worn at Zanzibar and in the Persian Gulf; this hilt and scabbard are of richly-chased silver.

The Sultan has a face which in some respects is prepossessing. It is certainly not cruel though he is known to have done many cruel things. The once fine eyes are somewhat clouded with premature age and the exhaustion of a polygamist; but there are a sensitiveness and refinement about the purple-lipped mouth and well-shaped chin, the outlines of which can be seen through the thin grey beard. The hands have slender, knotted fingers and the nails are short and exquisitely kept.

The taking of food is preceded by the washing of hands. Attendants—who are either black coast Arabs, gorgeously habited in embroidered garments of black, silver and gold, or else dirty, blear-eyed, negro boys, scarcely clothed at all and with grey, scurvy skins (the dirtiest and stupidest-looking of these boys is the Sultan's factotum in the household and carries his keys on a string round his lean neck) come to us with brass ewers and basins. The ewers are long-spouted, like coffee pots. Water is poured over our hands, which after rinsing we dry as best we can on our pocket handkerchiefs, while the Sultan wipes his on his Indian cloth which is slung over his shoulder and is used indifferently as napkin and handkerchief. Then a brass platter of large size, covered with a pyramid of steaming rice, is placed on the dais and alongside it an earthenware pot (very hot) containing curried chicken. The Sultan having rolled up a ball of rice between his fingers and dipped it into the curry, invites us to do the same. Our fingers are scalded by the rice; but it must be admitted that the flavour of the curry is excellent. When this course is finished a bowl of pigeons stewed with lentils is brought on, and this also is eaten by the aid of our fingers. For drink we have cold, pure water from an earthenware cooler, and the milk of unripe cocoanuts.

The meal finishes with bananas and roasted ground nuts. Then more washing of hands and we recline on some dirty cushions or on lion skins, whilst the Sultan gives audience to messengers, courtiers and new arrivals. Some of these last-named glance suspiciously at us and are not disposed to be very communicative about their recent experiences in the presence of Europeans. The Sultan sees this and enjoys the humour of the situation. He is himself indifferent to the slave trade, having secured his modest competence years ago and now caring for nothing more than the friendship of European potentates, which will enable him to finish his days in peace and tranquillity. After he is gone he knows that in all probability there will be no other Sultan in his

place, but a European official. In his heart of hearts, of course, he sees no harm in the slave trade. He is well aware that he is entertaining at one and the same time European officials of high standing and five or six powerful Arab slave dealers, and that his large, rambling metropolis of several square miles in area harbours simultaneously not only the Europeans and their porters, servants, and escort, but perhaps three hundred raw slaves from the Luálaba. But he is not going to give his compatriots away unless they make fools of themselves by any attempt to molest the Europeans, in which case, and in any case if it comes to a choice of sides, he will take the part of the European. In his dull way this unlettered man, who has read little else than the Koran and a few Arab books of obscenities, or of fortune-telling, has grasped the fact that from their own inherent faults and centuries of wrong-doing, Islam and Arab civilisation must yield the first place to the religion and influence of the European. He has no prejudice against Christianity—on the contrary, perhaps a greater belief in its supernatural character than some of the Englishmen he entertains from time to time—but if his inchoate thoughts could be interpreted in one sentence it would be “Not in our time, O Lord!” The change must come but may it come after his death. Meantime he hopes that you will not drive home too far the logic of your rule. When he is gone the Christian missionary may come and build there, but while he lasts he prefers to see nothing but the ramshackle mosques of his own faith and to have his half-caste children taught in the Arab fashion. He points out some to you who are sitting in the verandah of an opposite hut, under the shade of a knot of papaw trees; a hideous old negroid Arab with a dark skin and pockmarked face is teaching them to read. Each child has a smooth wooden board with a long handle, something like a hand-mirror in shape. The surface of this board is whitened with a thin coating of porcelain clay; and Arab letters, verses of the Koran and sentences for parsing are written on it by means of a reed pen dipped in ink or by a piece of charcoal.

There is a certain pathos about this uneducated old coast Arab who has been a notable man in his day as conqueror and slave raider but who has had sufficient appreciation of the value of well-doing not to be always a slave raider, who has sought to inspire a certain amount of affection among the populations he enslaved. These in time have come to regard him as their natural sovereign, though the older generation can remember his first appearance in the country as an Arab adventurer at the head of a band of slayers. His soldiers, most of them now recruited from amongst his negro subjects, cheerfully raid the territories of other chiefs in the interior, but slave raiding within his own especial kingdom has long since ceased and a certain degree of order and security has been established. Let us set off against the crimes of his early manhood the good he has done subsequently by introducing from Zanzibar the coconut-palm, the lime tree, the orange, good white rice, onions, cucumbers and other useful products of the East; by sternly repressing cannibalism, abolishing witchcraft trials, improving the architecture, and teaching many simple arts and inducing the negroes to clothe their somewhat extravagant nudity in seemly, tasteful garments.

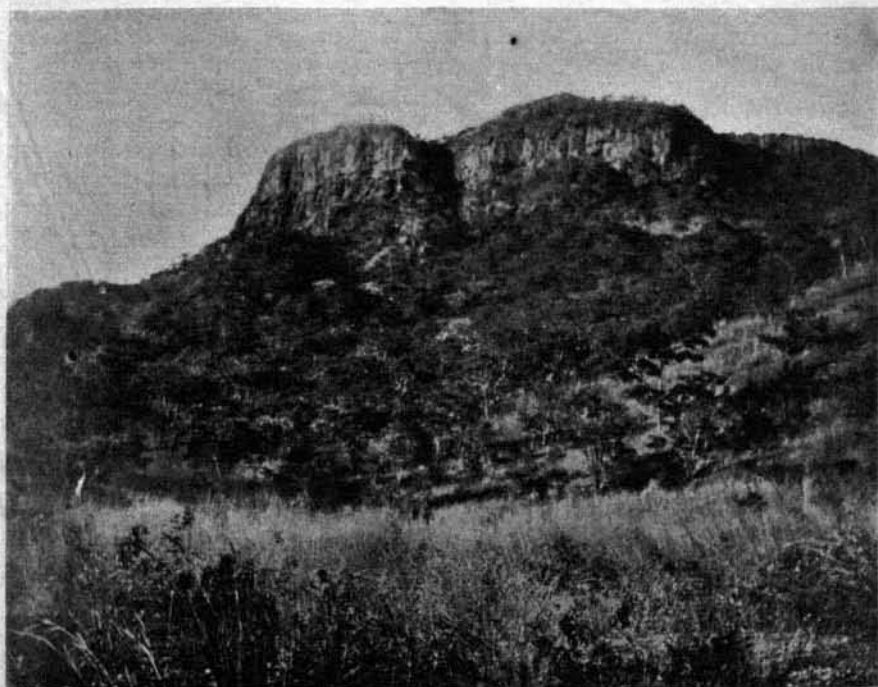
He has known Livingstone and may even have secured a good word from that Apostle of Africa for hospitality and for relative humanity, as compared to other and wickeder Arabs. This casual mention of him in the book of the great “Dottori”¹ will cause him a childish pleasure if you point it out. “Has

¹ The name by which Livingstone is almost universally known in Central Africa.

the 'Quini' read this book?" he asks. "Yes," you reply. "Then the Queen has seen my name?" and this reflection apparently causes him much satisfaction, for he repeats the observation to himself at intervals and even forces it on the attention of a sullen-looking black-browed Maskat Arab who is waiting in the *baraza* to settle with the Sultan the amount of tribute he must pay for the passage of his slave and ivory caravan across the territory and over the lake by means of the Sultan's daus.

I will transport you to the south end of Lake Tanganyika.

In the background to this scene is a fine mountain which, like most Central African mountains, presents from below the appearance of a cake that has been

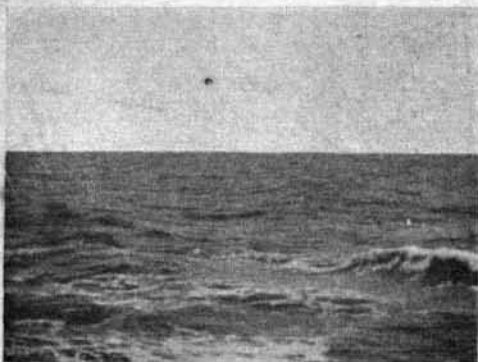


MOUNT KAPEMBA, TANGANYIKA

cut and is crumbling. There is first of all the granite wall of undulating outline bearing a thin line of trees along its crest. Then half-way down its slope begins below the bare shining rock walls a ribbed slope of debris, which slope is covered with luxuriant purple-green forest: the whole *estompé* with a film of blue atmosphere, which sets it back to its proper place in the distance, so that if you half close your eyes the general effect of this mountain mass is a greyish purple.

As if in abrupt contrast to this upreared mass of rocks and trees towering at least 4000 feet into the sky is a slice of bright green swamp, separating the mountain slopes from the lake water. The foreground to this picture is the broad estuary of a river at its entrance to Tanganyika. On your right hand

you have a spit of yellow sand which separates the unruffled mirror of this calm water from the boisterous waves of the open lake. These are greenish blue with brown marblings and muddy white crests where they are receiving the alluvium of the river; and fierce indigo streaked with blazing white foam where the lake is open, deep and wind-swept. On your left hand the estuary of this



ON TANGANYIKA

river (where the water is a speckless mirror of the blue sky and its cream-white grey-shadowed clouds) is studded with many green islets of papyrus and girt with hedges of tall reeds—the reeds with the white plumes and pointed dagger leaves that I have once or twice before described.

This conjunction of mountain, river, marsh, estuary, sandspit, open lake and papyrus tangle brings about such a congeries of bird life that I have thought it worth the trouble to bring you all the way to Tanganyika to gaze at this huge aviary. And although on many of these journeys

you are supposed to be looking on the scene with the eye of the spirit and not of the flesh, and therefore able to see Nature undisturbed by the presence of man, still on this spot you might stand in actuality, as I have stood, and, provided you did not fire a gun, see this collection of birds as though they were enclosed in some vast Zoological Gardens. For some cause or other has brought the fish down from the upper reaches of the stream or up from the lake. The water of the estuary is of unruffled smoothness. Most waterbirds detest the rough waves of the open lake, or the current of a rapid stream; even now if you turn your eyes lakewards the only birds you will see are small grey gulls with black barred faces and black tipped wings and the large scissor-billed terns (grey and white with crimson beaks) flying with seeming aimlessness over the troubled waters. But in the estuary, what an assemblage! There are pelicans of grey, white and salmon pink, with yellow pouches, riding the water like swans, replete with fish and idly floating. Egyptian geese (fawn-coloured, white, and green-bronze); spur winged geese (bronze-green, white shouldered, white flecked, and red cheeked); African teal (coloured much like the English teal); a small jet black pochard with a black crest and yellow eyes; whistling tree duck (which are black and white, zebra-barred, and chestnut); other tree ducks (chestnut and white); that huge *Sarcidiornis* (a monstrous duck with a knobbed beak, a spurred wing, and a beautiful plumage of white and bronzed-blue with a green-blue speculum in the secondaries of the wing). All these ducks and geese hang about the fringe of the reeds and the papyrus. The ducks are diving for fish, but the geese are more inclined to browse off the water-weed. Every now and then there is a disturbance, and the reflexions of the water are broken by a thousand ripples as the ducks scutter over the surface or the geese rise with much clamour for a circling flight. Farthest away of all the birds (for they are always shy) is a long file of rosy flamingoes sifting the water for small fish and molluscs. They are so far off that their movements are

scarcely perceptible; against the green background of the marsh they look like a vast fringe of pale pink azaleas in full blossom.

Small bronze-green cormorants are plunging into the water for fish, diving and swimming under water, and flying away. Fish-catching on a more modest scale and quite close to where we stand is being carried on by black and white Ceryle kingfishers, who with their bodies nearly erect and the head and beak directed downwards will poise themselves in the air with rapidly fluttering wings and then dart unerringly head foremost on some tiny fish under the surface of the water.

On the sandspit two dainty crowned cranes are pacing the sand and the scattered wiry grass looking for locusts. Even at this distance—and especially if you use a glass—you can distinguish the details of their coloration. It will be seen that they have a short, finely-shaped beak of slatey black, a large eye of bluish grey, surrounded by a black ring; and the cheeks covered with bare porcelain-like skin, pure white, which is much enhanced by an edging of crimson developing below the throat into two bright crimson wattles. The head is fitly crowned with a large aigrette of golden filaments, tipped with black. The neck with its long hackles is dove grey. The back and the breast are slate colour, the mass of the wing is snow white, and its huge broadened pinions are reddish chocolate, the white secondaries being prolonged into a beautiful golden fringe hanging gracefully over the chocolate quill feathers.

The quacking of the ducks, the loud cries of the geese and the compound sound of splashings and divings and scuttering flights across the water, are dominated from time to time by the ear-piercing screams of a fish eagle, perched on one of the taller poles of a fishing weir. The bird is as full of fish as he can hold, but yet seems annoyed at the guzzling that is going on around him, and so relieves his feelings at odd moments by piercing yells. He is a handsome bird—head and neck and breast snow white, the rest of the plumage chocolate brown.

Add to the foregoing enumeration of birds stilt plovers of black and white; spur-winged plovers with yellow wattles; curlew; sandpipers; crimson-beaked pratincoles; sacred ibis (pure white and indigo-purple); hagedash ibis (iridescent-blue, green, and red-bronze); gallinules (verditer blue with red beaks); black water-rails with lemon beaks and white pencillings; black coots; other rails that are blue and green with turned-up white tails; squacco herons (white and fawn-coloured); large grey herons; purple-slate-coloured herons; bluish-gray egrets; white egrets; large egrets with feathery plumes; small egrets with snowy bodies and yellow beaks; Goliath herons (nut-brown and pinkish-grey); small black storks, with open and serrated beaks; monstrous bare-headed marabu storks; and dainty lily-trotters¹ (black and white, golden-yellow and chocolate-brown); and you will still only have got half way through the enumeration of this extraordinary congregation of water birds at the estuary of the river Lofu, on the south coast of Tanganyika.

Civilisation.—We are going to spend a Sunday at Blantyre, a European settlement in the Shire Highlands. Except for the name, however, there is no similarity between the little manufacturing town, which was Livingstone's birth-place, and the chief focus of European interests here in South Central Africa. These are the characteristics of the African Blantyre on a bright Sunday

¹ *Parra Africana*.

morning in May :—A glorious blue sky; floods of sunshine; a cool breeze and a sparkling freshness in the atmosphere which reminds one of Capetown; clean red roads, neat brick houses, purple mountains, and much greenery.*

The organ is giving forth a hymn of Mendelssohn's by way of introit as we enter the church, and as, simultaneously, the choir and clergy take their places. The Norman architecture of the interior, the stained glass windows, the embroidered altar cloths, the brass lecterns and their eagles, the carved altar rails, the oak pulpit, the well-appointed seats with scarlet cushions—even the sunlight checked in its exuberance by passing through the diamond panes of the tinted windows—produce an effect on the newcomer of absolute astonishment. He requires to fix his eyes on the black choir in their scarlet and white vestments to realise that he is in Africa and not in Edinburgh or Regent's Park. The congregation consists mainly of Europeans and the service is in English. [The natives will assemble at other hours when worship is conducted in their own language.] A short service with good music, well sung by the black choir, and a quarter of an hour's sermon: then we are out once more in the sunny square, in a temperature not hotter than a mild summer's day at home, exchanging greetings with many acquaintances, almost all of whom are habited in such clothes as they would wear on a Sunday in Scotland. Some of the men turn out in black coats, light trousers, top hats, patent leather boots, white spats and brown gloves; and the ladies are wearing silk blouses and cloth skirts, with all the furbelows and puffs and pinchings and swellings which were the height of the fashion in London not more than four months ago, for there is an almost pathetic desire on the part of the Blantyre settlers to keep in touch with civilisation.¹

In the bare, open space which so fittingly surrounds this handsome church, groups of mission boys are standing, respectably clothed in not badly-fitting European garments and wearing black felt hats. They are conversing in low tones, a little afraid of having their remarks overheard by the critical Europeans. They have a slight tendency to giggle, of which they are conscious and somewhat ashamed. A long file of mission girls, modestly and becomingly clad in scarlet and white, crosses the square to the native quarters of the mission under the guidance of a lady in dove-grey with a black bonnet and a grass-green parasol. By way of quaint contrast to these reclaimed guardians of the flock is the aboriginal wolf in the persons of some Angoni carriers who, forgetting or ignoring that Sunday was a day of rest with the European, are bringing up loads from the Upper Shire. Stark naked, all but a tiny square of hide or a kilt of tiger-cat tails, with supple, lithe bodies of glistening chocolate (shiny with perspiration), with the hair of their heads screwed up into curious little tufts by means of straw, they glide past the church with their burdens, alternately shy and inquisitive—ready to drop the burden and dart away if a European should address them roughly; on the other hand gazing with all their eyes at the wonderfully dressed white women, and the obviously powerful "wafumo"² amongst the white men. A smartly-uniformed negro policeman in yellow khaki and black fez hurries them off the scene, shocked at their nudity, which was his own condition a year ago.

A good-looking Sikh soldier—over on a day's leave from the neighbouring garrison, or else accompanying some official as orderly—loiters respectfully on the fringe of the European crowd. He is in undress and wears a huge blush-rose turban, a loose snow-white shirt, a fawn-coloured waistcoat, white pajamas

¹ Blantyre in fact is like an Indian Hill Station.

² Chiefs.

(baggy over the hips but tight-fitting round the calves) and pointed Persian shoes of crimson leather. His long, black beard has been rolled up after the fashion of the Sikhs, so that it makes a tidy fringe round the jaws from ear to ear; and the black moustache is fiercely curled.

We walk away home over a smooth road that is vinous-red, as all the earth is hereabout. First there is an avenue of sombre cypresses mixed with shimmering eucalyptus; then the road will be bordered by bananas or by the gardens of Europeans' houses, with neat fences. In all directions other roads branch off, and above the greenery of Indian corn patches, of banana-groves, of plantations of conifers, acacias, and eucalyptus, or clumps of Misuko trees, can be seen the house-roofs of grey corrugated iron, or rose-pink, where that iron has been coloured with anti-corrosive paint.

Bright moonlight. In a *Hyphæne* palm forest. Out of the shadow of the trees it is almost as bright as day, every detail can be seen in the dry grass—even the colours of some few flowers blooming in spite of the dry weather. The effect is that of a photograph—a little too much devoid of half-tones, being sharply divided into bright lights, full of minute detail and deep grey shadows, like blots, in which no detail can be described. It is clear that this forest lies far from the haunts of man, for all the palm stems still retain the jagged stems of withered fronds. This gives them an untidy and forbidding aspect; for these grey mid-ribs stick out at an angle of forty degrees from the main trunk. The faded leaf filaments have long since disappeared from the extremities of the dead fronds which themselves are so dry and so lightly attached to the stem that a few blows from a stout pole would knock them off and the palm trunk would be left bare and smooth. This is the condition of almost all palms near a native village in Africa because the natives climb them for the fruit, or more often for the sap which they tap at the summit and make into a fermented drink. Therefore whenever in tropical Africa you find palms in a forest retaining their old fronds from the ground upwards you may know that indigenous man is nowhere near.

Each palm is surmounted by a graceful crown of fan-shaped leaves in an almost symmetrical oval mass, radiating from the summit as from a centre. The fruit which is clustered thickly on racemes is—seen by daylight—a bright chestnut brown and the size of a Jaffa orange. This brown husk covering an ivory nut is faintly sweet to the taste and is adored by elephants. It is on that account that I have brought you here to see with the eye of the spirit a herd of these survivors of past geological epochs.

Somehow or other, it seems more fitting that we should see the wild elephant by moonlight at the present day. He is like a ghost revisiting the glimpses of the moon—this huge grey bulk, wrinkled even in babyhood, with his monstrous nose, his monstrous ears and his extravagant incisor teeth.

There! I have hypnotised you, and having suggested the idea of "elephants" you declare that you really begin to see huge forms assuming definite outline and *chiaro-scuro* from out of the shadows of the palms. Now you hear the noise they make—an occasional reverberating rattle through the proboscis as they examine objects on the ground half seriously, half playfully; and the swishing they make as they pass through the herbage; or the rustle of branches which are being plucked to be eaten. But they are chiefly bent on the ginger-bread nuts of the palms and to attain this, where they hang out of reach, they will pause occasionally to butt the palm trees with their flattened foreheads.

The dried stems and the dead fronds crash down before this jarring blow. If the fruit does not fall and the tree is not tilted over at an angle [its crown within reach of the animal's trunk], then the great beast will either strive to drag it down with his proboscis or to kneel and uproot it with his tusks. The elephants pause every now and then in their feasting, the mothers to suckle the little ones from the two great paps between the fore-legs, a huge bull to caress a young female amorously with his twining trunk, or the childless cows to make semblance of fighting, and the half-grown young to chase each other with shrill trumpeting.

But the moon is dropping over to the west. You did not think the moonlight could be exceeded in brightness. Yet in the advent of day it is only after all a betterment of night. Before the first pale pink light of early dawn the moonlight seems an unreality. In a few minutes the moon is no more luminous than a round of dirty paper and with the yellow radiance of day the elephants cease their gambollings and feasting, form into line, and swing into one of those long marches which will carry them over sixty miles of forest, plain and mountain to the next halting place in their seeming-purposeful journey.

There has been a war. The black man trained and taught by the Arab has been fighting the black man officered and directed by the European and, not unnaturally, has got the worst of it. But the fight has been a stiff one. We have had to take that walled town in the red plain, behind which are gleams of water and stretches of green swamp interspersed with clumps of raphia palms. There has been the preliminary bombardment, the straw huts within the red walls have gone up in orange flame and mighty columns of smoke [transparent black and opaque yellow according to the material burning] into the heavens above and are now falling in a gentle rain of black wisps. Here and there a barrel of gunpowder has exploded, or the bursting of a shell has elicited a terrible cry from an otherwise stolid, silent enemy. Then there has been the first charge up to the clay walls and the inevitable casualties from the enemy's fusillade directed through the loop-holes. A white officer has fallen forward on his face, revolver in hand, biting the dust literally. He is not dead, he announces cheerfully, "Only my arm smashed, I think"; but a Sikh who is attempting to arrange for his transport to the doctor out of the range of the enemy's fire, is shot through the heart, and with the last dying instinct swerves his fall to avoid falling on the officer's shattered arm. The bulk of the small force of white men, Sikhs, and negro soldiers in khaki uniforms and black fezzes, has either scaled the clay rampart or has shattered a gateway and burst into the stronghold, and the officer can now swoon away comfortably without much risk of dying, as the doctor can be seen in the distance hurrying up his little band of native hospital assistants and a couple of hammocks for the transport of wounded men. A tremendous rattle of musketry is going on. The native guns go off seldom now, but make a loud reverberating boom from the quantity of powder with which they are charged; the Snider rifles, on the other hand, give short cracks. From some of the unburnt housetops in the more distant part of the town the enemy is still keeping up a dropping fire, and in fact as we stand in imagination over the wounded officer we can hear overhead that curious "ping," that singing sound of bullets travelling high above our heads. We are not out of but under the enemy's range. Gradually the gun fire ceases, though every now and then a few more clacking shots will be heard, until the victory is complete and absolute, and the place is wholly taken.

When there is no longer any doubt about the result the native allies, who have hung on the outskirts of the white man's camp, dash forward in skirmishing order to cut off the fugitives. They are a motley crowd, these "friendlies," armed with flint-locks, muzzle-loading guns, old pistols, or with spear and assegai, bow and arrow. It would be difficult to tell them from the opposing force—for the auxiliaries of the Arab are often own brothers to the white man's helpers—but that each "friendly" has a large piece of white cloth tied round the upper part of his left arm. The chief efforts of the Europeans and the Sikhs are now directed towards restraining these inconvenient allies who would seek to perpetrate on the flying enemy, or on his wounded, the same barbarities that the Arabs and their followers recently inflicted on the tribes allied with the European—which barbarities are the cause of the white man's presence here to-day with a country at his back to help him.

War is always horrible, even if it be waged in a righteous cause, and nowhere so horrible as in savage Africa. Let us, as a useful lesson, pick our way through this bombarded town as far as the heat of the still burning houses will permit. Here amongst the black ashes of a hut is a poor, domestic cat frizzled into a ghastly mummy and close to her are numerous broiled rats: all alike were unable to escape in time from the burning building. High above our heads—for some reason I think the saddest sight of all—are the homeless pigeons circling round and round unable to settle on the burning roof trees, dazed and stupefied with the smoke and occasionally falling down into the flames to die. Shrieking fowls are flying in all directions and after them excited "friendlies" or porters of the expedition in pursuit, heedless of the hot ashes under foot. Our first dead body: a negro soldier of the Administration, neatly clad, spick and span in spite of his scramble over the eight-foot wall. Soon after entering the town he must have been shot dead and he has fallen on his back still grasping his rifle and, strange to say, with a faint smile of triumph and no look of pain whatever on the face. A little distance beyond him lies a wretched savage who has been killed by a shell. His stomach has been torn out and his head split in two. Here and there a black arm or leg or a dead face with wide-open eyes may be descried amongst the débris of the huts, indicating the presence of others who have fallen in the fight. The doctor will presently come and search the shattered huts in case there may be any wounded and living requiring attention.

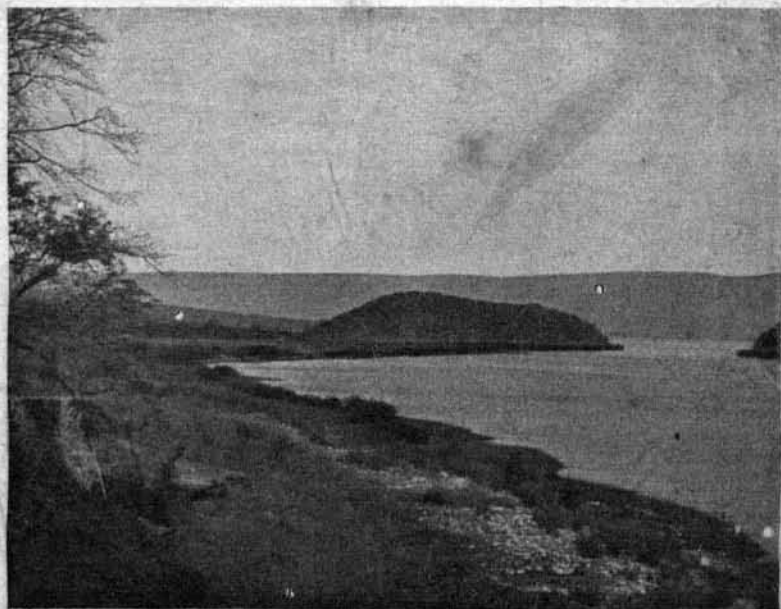
We have now reached the centremost stronghold of the town, and it is seen that great as the conflagration appeared from the outside it has destroyed but a small portion of the town. The Sikhs are now busily engaged in isolating the burning huts and putting out the fire. The officers have been examining the large houses around the Sultan's compound and have brought to light an extraordinary number of wretched women and children most of them slaves—the adults both men and women—still weighted with the slave stick.¹

Many of these slaves are entirely naked and utterly barbarous, and all are whimpering, not with joy at the prospect of freedom but in the imminent dread that they will be immediately killed and eaten by the white men, that being the idea implanted in their minds by the Arab. A little apart from the great mass

¹ The slave stick is usually a young tree of heavy wood barked and all the branches removed with the exception of a bifurcation at the end. Into this bifurcation the slave's neck is thrust and the two ends of the stick are united by an iron band at the back of his neck so that this heavy log is attached to the front of the man's body. In this condition he is quite unable to run away.

of still fettered slaves is an Arab prisoner, his hands tied behind his back, kneeling or reclining with his ankles also fastened. There is a slight wound on his forehead; his face bears the expression of a caged wolf, his pale yellow skin is livid with pain, fear, and hatred. He has lost his round, white cap or fez, or turban, and his bald head looks mean and out of keeping with his careful clothes, which though soiled in warfare are still neat and presentable. Round his neck in a dirty cloth bag hangs a copy of the Koran.

From such a scene as this I walked away once over the battlefield. The fight was ended, but we were only just starting to look for the wounded. It was early afternoon; a lovely day, bright sunshine, pale blue sky. A cool breeze had blown away the smoke; apart from the scene of the chief struggle in the captured town there was no indication that war was being waged. In a secluded part of the precincts amid the scattered vegetation of the village outskirts I suddenly came across the body of a fine-looking Angoni, not many minutes dead. He might have been fighting on our side; he might have been hired by the Arabs as one of their raiders, but someone had killed him with a bullet through the head and he had fallen in his tracks, in all his panoply of war, scarcely conscious of the object for which he fought. His right hand still grasped the stabbing spear, his left still held the ox-hide shield. His throwing spears had flown from his hand and were scattered on the ground. Grimmiest sight of all—four vultures had already arrived on the scene to examine him. Two birds promenaded up and down with a watchful eye, ready on noting any sign of returning consciousness to take their departure; another bird, somewhat bolder, stood on one leg and inspected him as might a thoughtful surgeon; and the fourth whirled in circles on out-spread pinions round the body, wishing to settle but frightened, in case after all it was a swoon and not a death.



NIAMKOLO; SOUTH END OF TANGANYIKA



HIS LAST FIGHT

We are going to climb a mountain. First there are the low foothills to surmount. The soil is red and hard; the grass is scattered and in yellow wisps, and the many wild flowers are drooping, for it is the end of the dry season. The trees are in foliage, though the rains have not yet fallen, and the young leaves at this stage are seldom green, but the most beautiful shades of carmine pink, of pinkish yellow, of greenish mauve, and even inky purple. Here and there sprays of foliage are in a more advanced development, and are green with a bluish bloom, or of the brightest emerald. But the height of the trees is not great, and their leaves, though large, are scattered in a tufty growth that yields but a feeble patchwork of shade from the hot sun; the branches are coarse, and thick, and seldom straight, they look just like the branches of trees drawn from imagination by amateur water-colour artists. In many cases the bark is still black and sooty with the scorching of the recent bush fires. The general impression of all this vegetation, though one is forced to admire the individual tints of the newly-opened leaves, is disappointing. It is scrubby. The landscape has not the dignity of a blasted heath, or the simplicity of a sandy desert; its succession of undulations of low scattered forest of such a harlequin variation of tints is such as to produce no general effect of definite form and settled colour on the eye. But this is a good game country. As you plod along the hard red path, baked almost into brick by the blazing sun acting on the red mud of the rainy season, you will suddenly catch sight of a splendid sable antelope with ringed horns, almost in a half oval, a black and white face, a glossy black body, white stomach, fringed and tufted tail, and heavy black mane; or, it may be, his beautiful female of almost equal bulk, but with smaller horns, and with all the markings and coloration chestnut and white instead of white and black. Unless you are very quick with your rifle, the beast will soon be hid and almost undiscoverable amongst the low trees and bushes.

The path is broken here and there by seams of granite. Every now and then there is a regular scramble over wayworn rocks; granite boulders are more and more interspersed amongst the red clay. Between the boulders grow aloes with fleshy leaves of green, spotted with red, and long flower spikes of crimson which end in coral-coloured flower buds—butts which open grudgingly at the tip; the edges of the sprawling aloe leaves are dented, and in their tendency to redness sometimes all green is merged in a deep vinous tint.

Now there is less scrub, and the trees as we ascend become larger and more inclined to stand in clumps; their foliage is thicker. We are approaching a stream, and its course is marked by a forest of a different type, fig trees of various species, tall parinariums (a tree which bears a purple plum), huge-leaved gomphias, and velvet-foliaged albizzias. On either side of the stream, also, there is a jungle of bamboos, and the path descends from out of the weary glare of the white sunlight on the red clay into a cool, moist, green tunnel through the numberless spear-heads of bamboo leaves. There are many ferns on either side of the stream bank and beautiful carmine lilies¹ are growing by the water's edge, but as the rains are still withheld there is but a thin film of water slipping down over the grey rocks and brown pebbles, and the stream may be easily crossed from stepping stone to stepping stone. Then a clamber up the opposite bank and through the bamboo out once more into the scorching sunshine, and so on and on along a winding path through a native village

¹ See illustration, page 211.

CHAPTER II.

PHYSICAL GEOGRAPHY

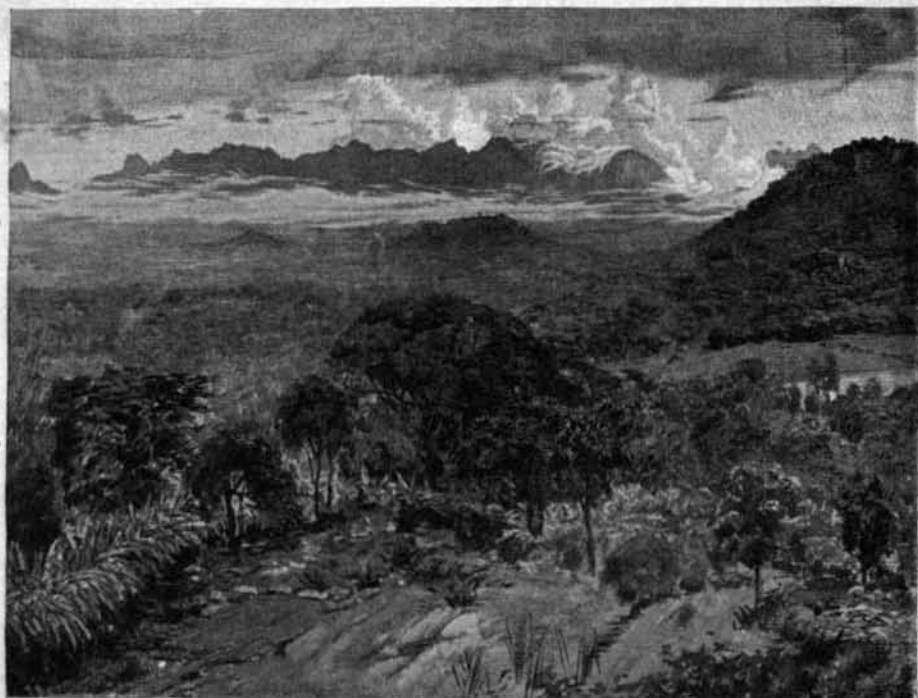
IN looking through the pictures I have tried to paint in the preceding chapter to illustrate the scenery of British Central Africa, it will be noticed that I have made no mention of any desert, of any open sandy tract or stony region devoid of vegetation. The fact is that so far as my own researches and those of other explorers go, British Central Africa, east of the Kafue river, holds no desert, no stretch of country that is not more or less covered with abundant vegetation. Here and there on the line of water parting between the river systems there may be a little harsh scenery where the trees are poor and scrubby and the plants grow in scattered tufts. But, take it as a whole, the eastern half of British Central Africa is very well clothed with vegetation, especially in the Nyasa province. There is nowhere any large continuous area of thick tropical forest such as one sees in Western Africa, but in favoured districts where the soil is permeated with many springs there may be an occasional patch of woodland quite West African in character, and not only containing oil palms, of the genus *Eleis* (which are usually thought to be peculiarly characteristic of West Africa), but also not a few birds and mammals hitherto considered to be confined in their range to the West African region. From this and other facts, I am sometimes led to believe that



FOREST ON MOUNT CHOLO, BRITISH CENTRAL AFRICA

the whole of Africa was once covered with more or less dense forest, but that the climate in the eastern half of the continent being drier than in the west, the ravages of the bush fires started by man have made greater headway than the reparatory influence of nature. Only in specially favoured tracts enjoying exceptional rainfall or else provided with underground springs could the forest remain always green and full of sap all the year round, and thus be able to choke out the fire or, in the wet season, to make sufficient growth to repair the ravages sustained by bush fires.

We have therefore a well clothed country to deal with; but our abundant vegetation is undoubtedly the cause of malarial fever. The essentially healthy



THE MLANJE RANGE, SEEN FROM ZOMBA AFTER RAINFALL

portions of tropical Africa are those like Somaliland, much of the Sudan, a good deal of East Africa and all South West Africa, where the rainfall is trifling and vegetation is mainly confined to the banks of rivers.

From observations made and records kept by various officials throughout the Protectorate proper and the adjoining regions under the sway of the British South Africa Company I should compute the average rainfall of the greater part of British Central Africa at 50 inches per annum. But this average fluctuates somewhat (according to the remembrances of white men longest in the country and the traditions of the natives); and I should say that the rainfall ranged from 35 inches in years of extreme drought to 60 inches in years of excessive rainfall. There are certainly traces of a larger rainfall having once prevailed in these countries in past ages. In travelling about British Central

Africa one is constantly encountering marshes which even in native tradition (to say nothing of the geographical evidence) were once large lakes. Again, there are fertile depressions which are no longer marshes. Dry stream valleys mark the courses of once powerful torrents. This tendency towards decreased rainfall is undoubtedly due, in my opinion, to the action of man. It is scarcely exaggeration to say that had British Central Africa been left for another couple of hundred years simply and solely to the black man and the black man had continued to exist without thought for the future as he does at present, this country would have become treeless, as many portions of it were becoming when we embarked on its administration. Livingstone describes in his *Last Journals* the process that is going on in Manyema, to the west of Tanganyika, a country once covered with the densest forest. The natives make clearings for



NATIVE CLEARING IN FOREST COUNTRY

their plantations. They cut down the trees, leave them to dry and then set fire to them and sow their crops amongst the fertilising ashes. The same type of forest never grows up again. It is replaced by grass or by a growth of scrubby trees—trees of a kind which can to a greater extent resist the annual scorching of the bush fires. Besides this wanton destruction of forest for the growing of food crops (and as a rule the native merely grows one crop of corn and then moves off to another patch of virgin soil, leaving the old plantation to be covered with grass and weeds) the annual bush fires play a considerable and (if unchecked) an increasing part in the disforestation of the country. Even where large continuous areas of dense forest remain, so evergreen and full of sap as not to burn easily, each year the raging fire will sear and dry and kill those trees which are on the forest outskirts. The next year these dead trees are consumed by the fire which again dries up and kills another rank; so year by year the forest diminishes in area to extinction, unless protected by happening to grow in

a deep valley with abrupt cliffs; though this condition of course restricts its area of growth.

Still, although we must, I think, admit a certain diminution in rainfall owing to the decrease of forest or other causes, the rate at which this decrease is going on has been exaggerated, and as we come to know the country better and our records grow with years of occupation, we see that there are signs of cycles of greater and less rain dependent on atmospheric conditions which we have not yet realised. The marks on the rocks show that during some ages there has been a slight—but a very slight—fall in Lake Nyasa, varied by periods of extraordinary diminution as for instance some seventy years ago when according to the natives' traditions the north end of the lake became so shallow between Deep Bay and Amelia Bay that a chief and his men waded across where it is now many fathoms deep. The highest watermark on these polished rocks is perhaps at most six feet above the present high levels of the lake in good rainy seasons. In years of relative drought Lake Nyasa may be as much as six feet below its best rainy season average. This means, of course, that instead of there being nine feet of water on the bar of the Shire where that river quits the lake there are only three feet; consequently the navigability of the Shire in the dry season becomes much embarrassed and in these bad years it can only be

navigated all the year round by vessels not drawing more than one and a half feet. Yet we know that in the later "fifties" and early "sixties" Livingstone constantly travelled up and down the Shire on a vessel drawing five feet. Even in the year 1889 the *James Stevenson* which draws about three feet of water was able to navigate the Shire through almost all the year up to the Murchison falls, while vessels of five feet draught have in like manner navigated the Upper Shire above the falls. But from 1891 till 1896 the Shire fell lower and lower until at last not even Chiromo was the limit of navigation from the sea, but the Pinda rapids near the Zambezi, while the Upper Shire was practically divided into a few navigable stretches with very shallow water in between. But after the rainy season of 1895-96 Lake Nyasa rose to a height which had not been

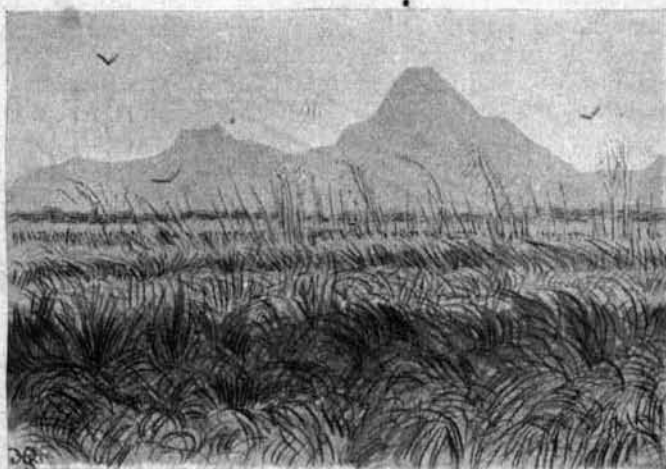


THE SHIRE AT CHIKWAWA
JUST BELOW THE MURCHISON FALLS

reached for many years and is apparently still continuing to rise. The result is that the Lower Shire is now as navigable as it was in Livingstone's day, while on the Upper Shire many of our low-lying stations are threatened by the flood

Similar fluctuations are recorded of Tanganyika; while in the case of Bangweolo and Mweru fluctuations of level would also seem to occur in cycles. The differences between Livingstone's map of Bangweolo and the map made by Giraud, the observations of Mr. Joseph Thomson, Mr. Alfred Sharpe, and Mr. Poulett Weatherley of the same lake may all be reconciled by this theory of a few feet fluctuation in its rise and fall. A few feet, more or less, would make the vast lake of M. Giraud the "restricted open water" of Livingstone, and the wide marsh with a few open pools conjectured by Sharpe and Thomson.¹

Of course the average rainfall I have quoted must not be taken as the rainfall of each part of British Central Africa. So far as our observations go some districts receive no more than 35 inches per annum.² These again, especially if they contain mountains of great height like Mlanje, may record a rainfall exceeding 100 inches. A rainfall of 60 inches is common.



PINDA MOUNTAIN AND PINDA MARSH, LOWER SHIRE

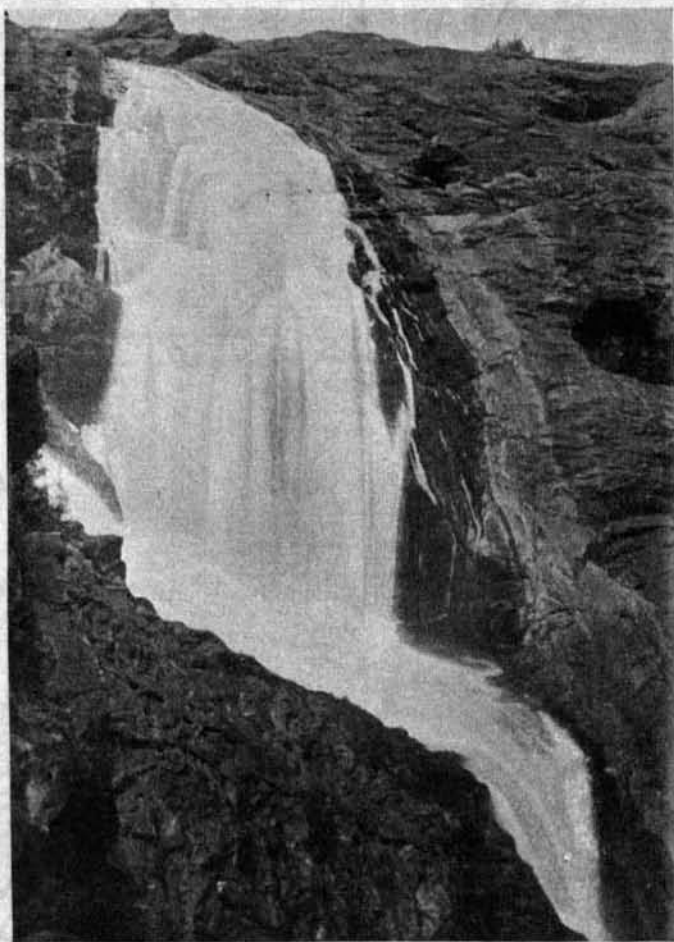
In consequence of this fairly good supply of rain the country is well watered by perennial streams and rivers. At the extreme end of the dry season there are streams which dry up though water can almost always be found a short distance below the surface. Still compared to other parts of East Central Africa the bulk of our rivers and rivulets may be described as perennial, that is to say containing running water all the year round. This is not surprising as so much of the country is mountainous and in these highlands the rain is spread a little less unequally over the area. It may safely be said that above altitudes of 4000 feet (and a large proportion of the land is above 4000 feet) no month passes without a fall of rain. Even at Zomba where the altitude is only 3000 feet it is a rare occurrence for no rain to fall in any given month.

But the year is clearly divided into seasons of rain and drought. The rainy season generally begins at the end of the month of November and heavy rains fall in December. There is often a short lull about Christmas time, but

¹ Since this passage was penned Mr. Poulett Weatherley, the explorer and sportsman, has thoroughly circumnavigated and mapped it. His observations concur rather with those of Livingstone than of Giraud.

² A small patch at the south end of Lake Nyasa in one year only received 26.62 inches of rain.

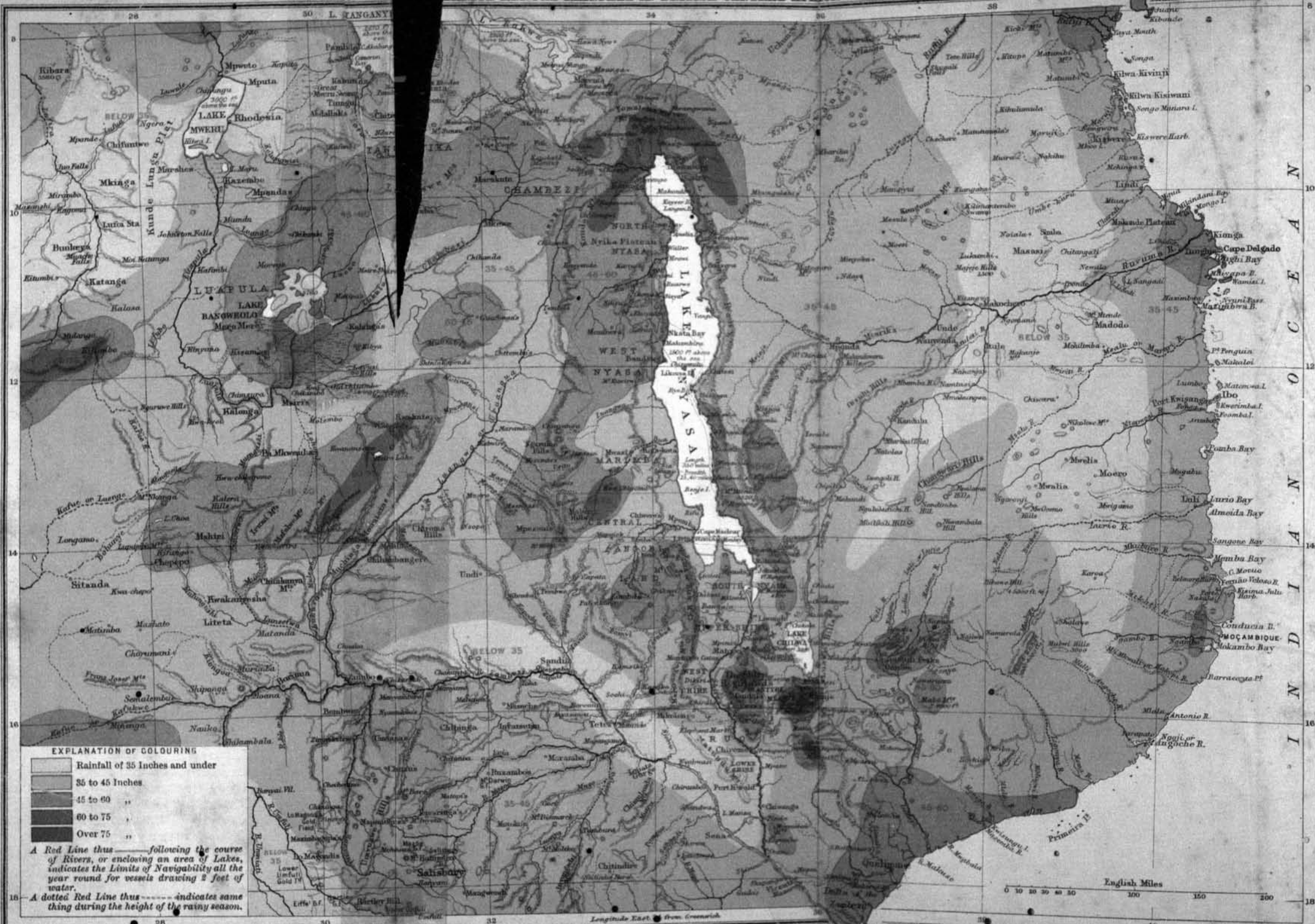
early in January the rains recommence and become torrential, continuing to fall very heavily until the end of March. April is a delightful month as it is in Europe, of alternate showers and sunshine. A little rain falls in May and an occasional shower in June. July is the height of the winter—cold, dry, sparkling—but is never without a few drops of rain. In August there will sometimes be a week's rain of a decided character, especially in the highlands. A shower



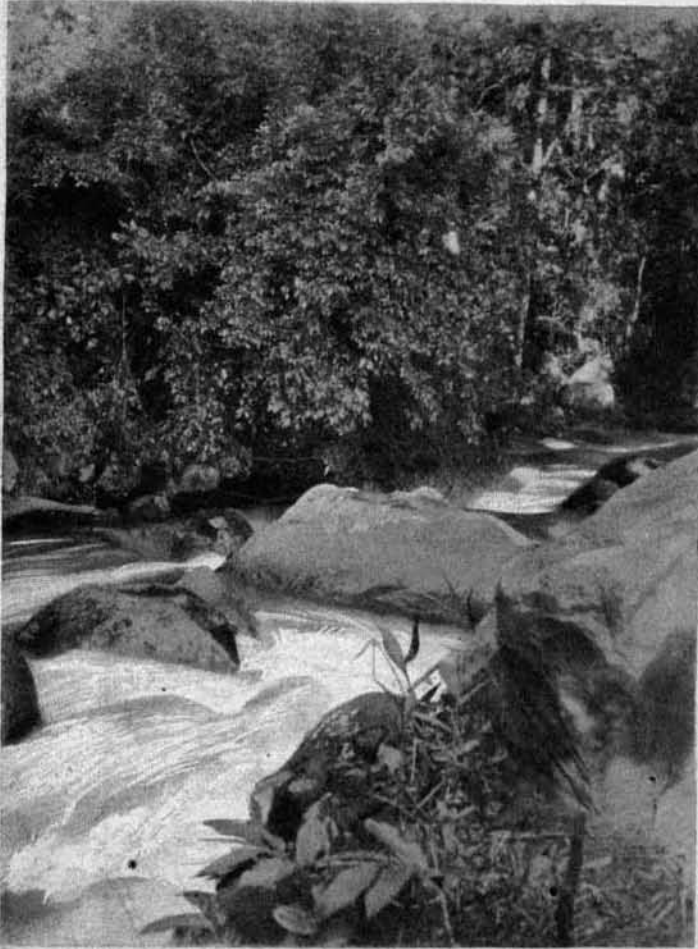
PART OF THE FALLS OF THE RUO AT ZOA

or two will follow in September. October is quite the driest month and in lowlands passes without a drop of rain, though in the highlands there may be an occasional thunder storm. Towards the close of November (the first half being terribly hot and dry) the big rains recommence.

As regards temperature there is considerable variation also dependent on altitude. In the valley of the Shire, on the south coast of Lake Nyasa, in the great Luangwa Valley and on the Central Zambezi, the heat is frightful just



before the rains, registering occasionally temperatures as high as 118° in the shade, though at night time falling to 85° , thus rendering it possible to live. In the height of the rainy season the range of the thermometer is not so high, but the heat is often more unbearable owing to its greater uniformity and the moistness of the temperature. In the months of January, February, and March the thermometer may be 100° in the daytime and only fall to 85° or 90° at night.



A MOUNTAIN STREAM IN CENTRAL AFRICA

But on the high plateaux and amongst the mountains—and these high districts after all represent the bulk of our territory—the temperature is at all times much more tolerable. Such a place as Zomba¹ for instance may be taken as a fair sample of the British Central Africa climate. Here during the cold season from May till September we have a day temperature not exceeding 75° and a night temperature ranging from 40° to 60° . In the months of September,

¹ Altitude 3000 feet above the sea.

October, November the day temperature may rise to 98° and fall at night to 65° . During the height of the rainy season the day temperature ranges from 75° to 95° and the night from 65° to 80° .

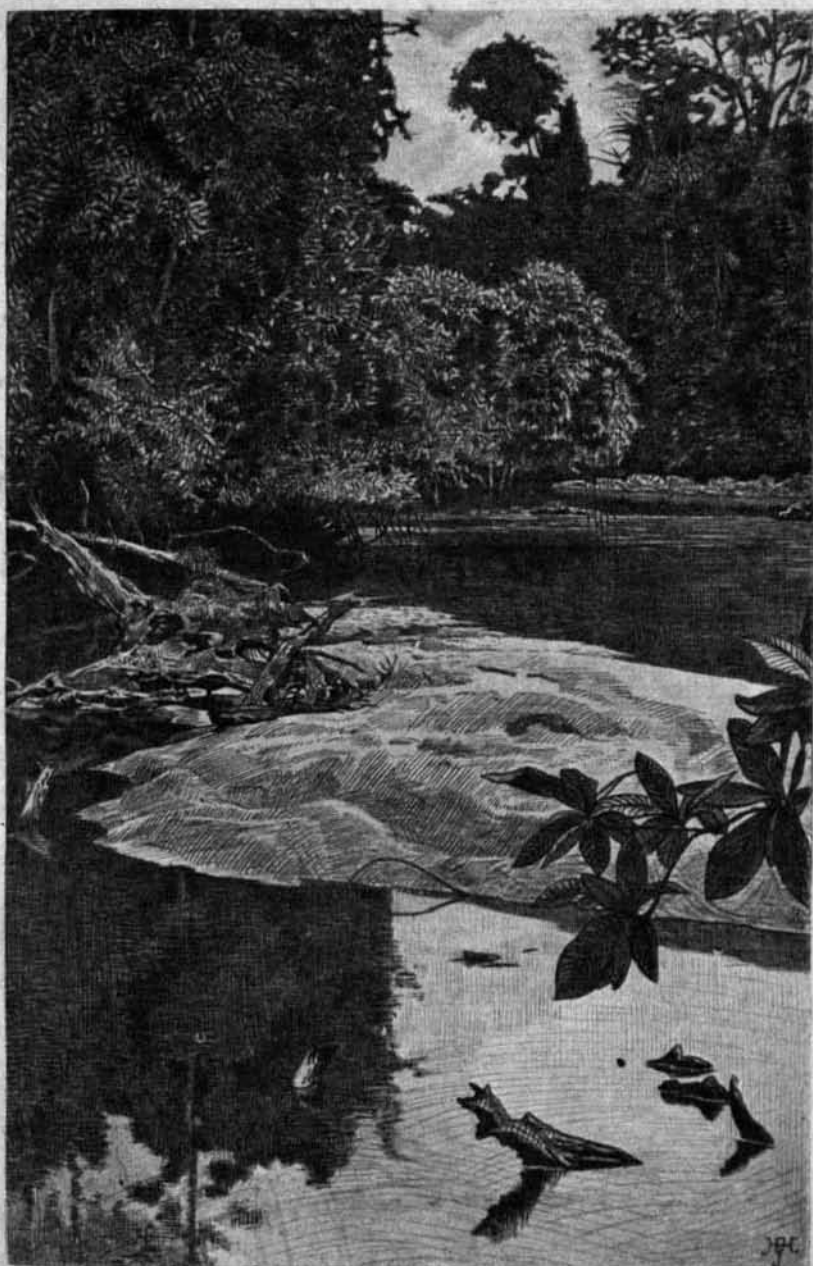
In the rainy season the wind usually blows from a northerly direction and is what one may call a benign wind, being warm and wet. During the dry season the cursed south-easter prevails. This hated wind comes up from the South Pole and is cold and dry. It is the equivalent of our east wind in England and produces much the same effects on health when it blows strongly. In the excessively dry months of September, October, and November this wind blowing across large areas of burnt plain—where the bush fires have destroyed the vegetation and the sun has baked the soil—has a bad effect on cultivated crops. It scres the leaves and causes many delicate plants to wither. Happily it soon loses its effect by passing over the mountains which are always attended by watery vapour. When the south wind prevails there is a curious mistiness in the atmosphere. This is partly caused by the diffused smoke of the bush fires, but it is also due to some other causes not yet explained. At this time of the year mists often prevail to a striking extent in the early morning. These are similar to the "smokes" which are so marked a feature in the dry season on the



FIRST VIEW OF MLANJE MOUNTAIN FROM LOWER SHIRE

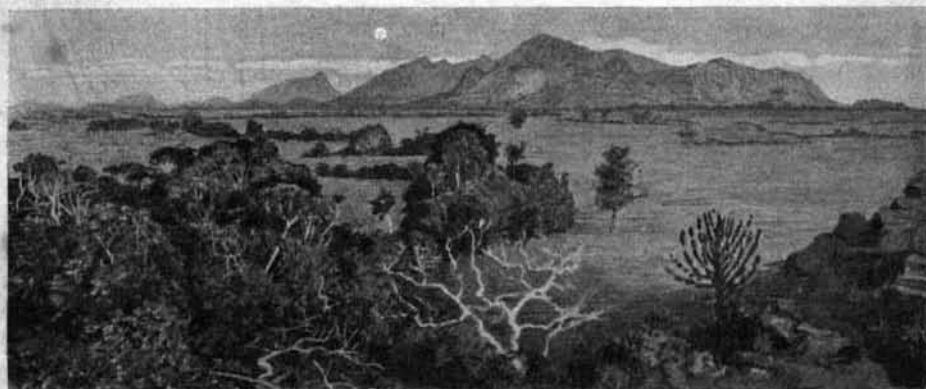
West Coast of Africa. One understands how these dense fogs occur on any large river or lake, for instance. The temperature of the water is much higher than that of the air in the early morning, and so one may see clouds and vapour rising from the water surface, just as though it were boiling, and these gradually form low dense fogs which, minus the addition of smoke, are quite as thick as those we are accustomed to in the Thames Valley, which no doubt arise from the same cause.

One of the accompanying maps will give some idea of the distribution of the rainfall, and the names, length, and navigability of the more important streams. It might be mentioned that almost all the streams given in this map are perennial as far as our knowledge of them goes. Another map gives the relative height of the land and the names and altitudes of the principal mountain ranges. Only a few of these latter require special mention. So far as we yet know the highest mountain in British Central Africa is Mlanje, at its extreme south-eastern corner. Mlanje consists of a huge plateau from which again rise mountain peaks representing ancient volcanoes. It reaches at its highest point an altitude of 9683 feet. The summit was scaled by Mr Sharpe and Captain Manning in 1895. Much of the up-reared mass, which is about 200 square miles in area, exceeds an altitude of 6000 feet and is eminently habitable. The Shire Highlands—or the district between the Ruw, the Shire



ON THE UPPER RUO

and Lake Chilwa—are a mass of beautiful hills ranging from 3000 feet to nearly 7000 feet in height. The highest mountain in the Shire Highlands is Mount Zomba. This is a smaller mass than Mlanje but very similar to it in shape and arrangement. Like Mlanje it is a large plateau but its higher peaks are rather the up-reared edges of the plateau (like the rim of a dish) than independent cones that rise from the centre. The highest point of Zomba is computed to attain an altitude of 6900 odd feet. It may turn out on more careful investigation to actually reach 7000 feet. In Southern Angoniland, in the south-western portion of the Protectorate, Mount Dedza is computed at 7000 feet and other high mountains like Chongoni are not far off in altitude. In the mountains to the west of Lake Nyasa the higher peaks of the lofty Nyika plateau reach to over 8000 feet in height. The average altitude of the Nyika plateau is 7000 feet. One or two points on the Nyasa-Tanganyika plateau may touch 7000 feet and likewise in the northern part of the Muchinga (Lukinga) mountains west of the river Luangwa. Elsewhere



THE MLANJE RANGE FROM THE TUCHILA PLAIN

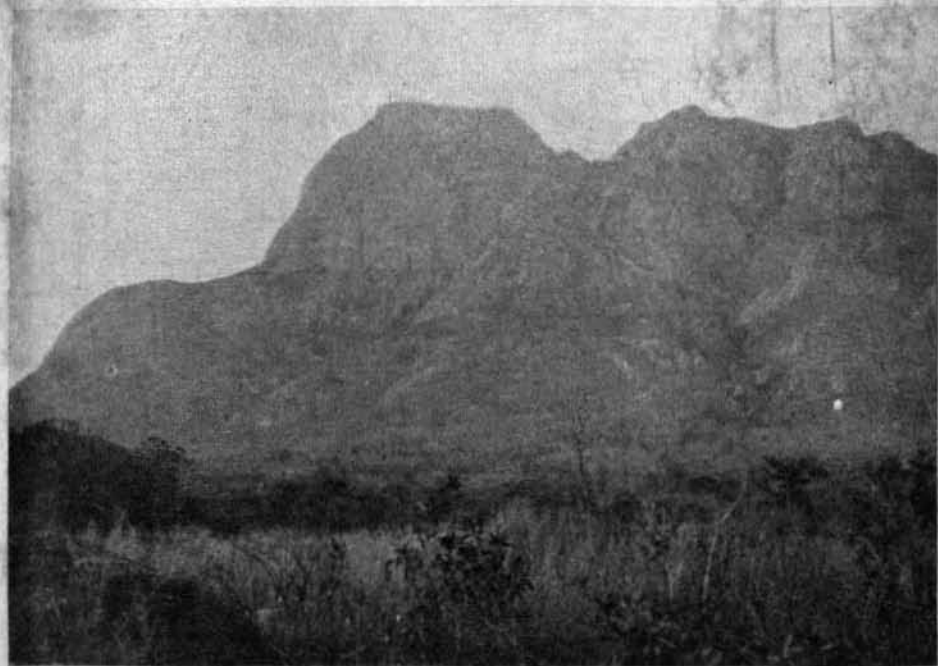
in British Central Africa, in the basin of the Kafue and Lunsefwa rivers, and to the west of Lake Bangweolo there is probably no greater altitude than 6000 feet.

Although they are not in British territory and therefore not within the scope of this book, a passing mention should be made of the Livingstone Mountains which border the north-east coast of Lake Nyasa and extend under various names to the south end of Lake Rakwa. They reach to altitudes which possibly slightly exceed that of Mlanje and come very near to 10,000 feet.

This is pre-eminently a country of great lakes. Lake Tanganyika is over 400 miles in length, with a breadth varying from 60 to 30 miles. Lake Nyasa is 360 miles long with a greatest breadth of 40 miles and a least breadth of 15. Lake Bangweolo¹ is of such uncertain area that it is useless to give any guess at the

¹ The name of Bangweolo is quite unknown to the natives, and must have been given by Livingstone under some misapprehension. By the surrounding peoples it is known as "Liamba," or "Mweru," or "Nyanja": more often as "Mweru." Mr. Alfred Sharpe conjectures that the name "Bangweolo" may have arisen from the combination of "Pa-mweru" or "Pa-mwelu" ("r" and "l" are interchangeable in most African dialects) meaning "at Mweru." The natives are very much addicted to prefixing the locative prefix "Pa" to names of places. In the same way Livingstone

mileage of its open surface but it must contain at least 1500 square miles of navigable water. Lake Mweru is about 68 miles long by 24 broad. Lake Chilwa in the extreme south-east is also of varying extent according to the rainy season or dry season; but it is as a rule about 50 miles long by 15 broad. The salt lake Mweru which lies between the great Mweru Lake and Tanganyika is chiefly a marsh with a few open pools about 35 miles long by 20 broad. North of Lake Chilwa and separated from it by only a few miles of sandy ridge is Lake Chiuta, the source of the river Lujenda. Chiuta is about 40 miles long with a breadth which nowhere exceeds eight miles and sometimes shrinks to two. In the Lubisa country to the west of the



CHAMBI PEAK, MLANJE

Luangwa there is a small mountain lakelet about 40 square miles in area, which was called Lake Moir by its discoverer, Mr. Joseph Thomson. Lastly, may be mentioned Lake Malombe through which the Upper Shire flows. This lake had an area in 1893 of about 100 square miles; but in 1894 and in the succeeding years a large sand island grew up in the centre which became covered with reeds, and the lake as I last saw it was little more than a broad channel of the Shire divided by an enormous, flat, reed-covered island from a narrower channel or back-water to the west. There is every sign that in spite of the great rise in Lake Nyasa this island will hold its own. We shall then witness the remarkable

himself called the lakelet Malombe, "Pa-Malombe." The root "*-eru*," or "*-elu*," is a very old Bantu word for "open water." With a different prefix it reappears far to the North as "*Rueru*," one of the native names of the Albert Nyanza. It would seem to be connected with the root "*white*." It might be mentioned, however, that Mr. Poulett Weatherley appears to have heard the name "*Bangweulu*" in use.

MAP SHOWING OROGRAPHICAL FEATURES IN BRITISH CENTRAL AFRICA & ADJOINING COUNTRIES



J. G. Bartholomew.

Compiled from data supplied by Sir H. H. Johnston, K.C.B.

fact that in a little more than a year a lake which has existed beyond the memory of man has suddenly been resolved into a sandy marsh and a broad river channel.

I think I have enumerated all the known permanent lakes of the country, though I should not be surprised if travellers who read this book came forward and said, "You have forgotten such and such a lake in the Chambezi Valley, or the small lakelet between Chilwa and Mlanje, or the great sheet of open water on the Upper Tutchila, or such and such a lake in the Luangwa Basin." None of these sheets of water, however, as far as is yet known, have any permanent existence. They are only the creation of the rainy season floods. Seen at that time, of course, their existence is recorded; in the dry season they would be found either not to exist at all or to be confined to a patch of marsh. There were lakes at one time, undoubtedly, near the junction of the Ruvo and the Shire (the Elephant Marsh) and at the junction of the Shire and Zambezi (Morambala Marsh); but in the course of time the alluvium of the rivers, together, even,

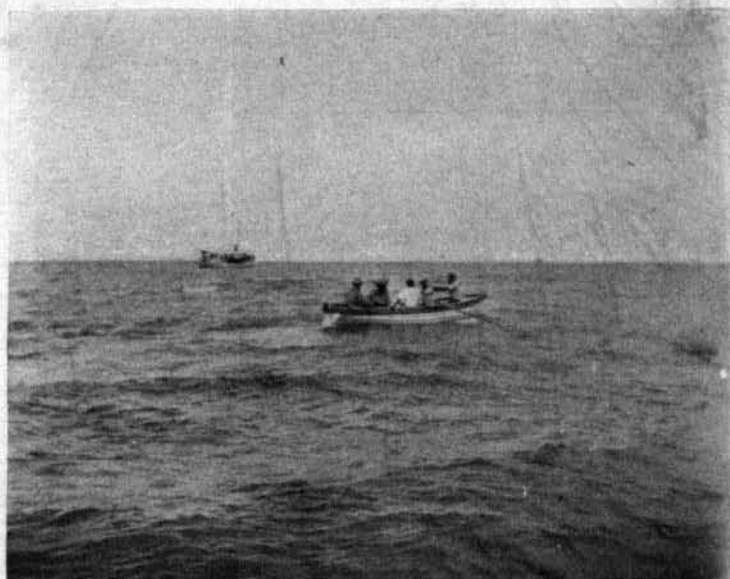


THE LIKUBULA GORGE, MLANJE

with a slight upheaval of the ground, or more probably still the deeper cutting of the river-channel have turned these former lakes into marshes or vast extents of dry alluvial soil. In like manner Nyasa was evidently united not many centuries ago with Lake Malombe; and it may be, also, that Lake Chilwa was joined with Lake Chiuta and was then the head waters of the great Lujenda-Ruvuma river. Much of the decrease in volume of the great lakes must be attributed to a slow and slight process of upheaval which has caused their waters to more rapidly drain away; but the disappearance of these shallow lakes along the courses of the rivers is chiefly due to the rivers having in course of time cut their channels deeper, so that the lakes which formerly represented their overflow have their bottoms now removed even above flood limit.

The geology of British Central Africa would appear to be relatively simple. The commonest formation, perhaps, is a mixture of metamorphic rocks, *grauwacke*, clay-slates, gneiss and schists. This prevails over much of the country lying between the west of Lake Nyasa and the Luapula River, on the Nyasa-Tanganyika plateau, in parts of the Shire Highlands, and north of the Zambezi. The valleys of the great and sluggish rivers, however, (the Shire,

the Chambezi, the Luangwa) contain an upper stratum of alluvial deposit where the valleys are broad and the rocks do not strike through. The principal mountain ranges are mostly granite; and granite with its upper layers often rotten and even turned into red ferruginous clay constitutes the formation of much of the Shire Highlands. There is an outcrop of sandstone on the north-west and north-east coasts of Lake Nyasa (Mount Waller and the hills of Amelia Bay are examples); a little way back from the lake shore at the north end (in German territory); to the west of the River Shire near the Portuguese frontier; at the south end of Tanganyika; and all round about Lake Mweru and in the countries adjoining the River Luapula. Volcanic lavas and tuffs are present on parts of the upper plateau of Mlanje and at the north end of Lake



ON LAKE NYASA

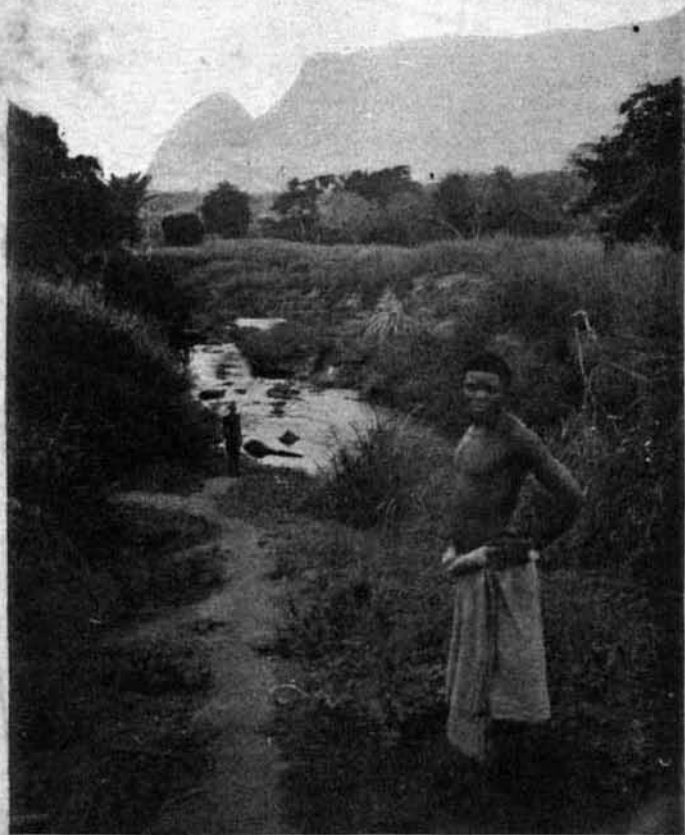
Nyasa. There is a good deal of quartz in the mountains to the west of Lake Nyasa, especially to the south-west, and in parts of the Shire Highlands (such as Mlanje). The low flat hills in the Upper Shire district are composed of marble which yields a very good building lime. Much the same lime is also obtained from places on the west coast of Lake Nyasa, where there must be likewise a kind of limestone amongst the low hills near the lake shore. The surface of much of the low-lying country on the banks of the Upper Shire is little else than a deposit of the shells of molluscs mixed with black vegetable earth.

This black "cotton" soil, which is usually extremely rich for cultivation, and is so much valued in India, is found plentifully in many stream valleys and depressions, especially in the Nyasaland provinces, and is classed by me as alluvium.

On the east coast of Lake Nyasa, a few miles inland from Msumbo and Chisanga (Stations of the Universities Mission), a soap stone has been found by

Commander Cullen, R.N.R.,¹ who had noticed that the natives made use of this stone in building the mission church at Chisanga. This soap stone, according to Commander Cullen, is the same as that found in parts of Europe and used as a lubricant packing by engineers. When prepared for this purpose it is worth £8 a ton. It is quite easily worked, can be cut with a knife, and is not much—if at all—affected by weather.

In the sandstone formation of the West Shire district and round the northern half of Lake Nyasa, coal is found. On the surface it is a little shaley, but there



THE LICHENVA RIVER, MLANJE

is evidence that good combustible coal lies underneath. In the Marimba and Central Angoniland districts, also in the mountains of the West Nyasa coast region, and in parts of the Shire Highlands, a gold-bearing quartz exists.² Alluvial gold is reported to exist on the Northern Angoni plateau, in the West Nyasa district, and at the head-waters of the River Bua (Central Angoniland), just within the Protectorate. In the valleys of the rivers flowing south to the Zambezi, (in Mpezeni's country) gold really does exist, and was worked at Misale by the half-caste Portuguese in the last, and in part of the present century. Although there are many reports that payable gold has been found in

¹ Senior Naval Officer in the service of the B.C.A. Administration.

² Between Nkata Bay and Sisya. The reef here is said to have slate walls.