The Kasempa District, Northern Rhodesia

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on similar desert ground. The line he followed obviously lay more or less parallel to the route. Yet this might easily have remained hidden from him even if approached within a few miles.

That it was the scent or local sense of his horse which enabled Hsüan-tsang in the end to reach the saving spring before succumbing to thirst and exhaustion, distinctly strengthens my belief in the authenticity of the record as presented by Hui-li. We have been told in it before how Hsüan-tsang, when preparing for his adventure at Kua-chou, had wisely, by exchange for his own, secured this horse from an "old barbarian" who had ridden it more than fifteen times to Hami and back (see above, p. 270). The remarkable way in which horses and camels in the desert can scent water and grazing for considerable distances, or correctly locate such places remembered from previous visits is too well known to need my personal testimony. But I may well record this as regards the fact that a horse trained to desert travel may in the cold of a Central Asian winter well go on for five days without water. On my crossing of the Taklamakan to the Keriya River end our few ponies could not be watered for fully four days (see 'Desert Cathay,' 2, pp. 391 *sqq.*); yet, judging from their condition when we at last struck the river, they might probably have held out for a couple of days longer. (It is true, they were never ridden on this desert crossing.) It must also be noted that the going on the uniform gravel slopes and plateaus of the Pei-shan is far less tiring to horses and to men, too, than the crossing of dune-covered areas in Taklamakan.

The accuracy of the narrative preserved in the 'Life' asserts itself to the end; for the two more days which it makes Hsüan-tsang spend *en route* before reaching Hami correspond exactly to the two marches now reckoned from Chang-liu-shui to Hami town, a distance of some 35 miles. Thus we close the story as handed down in the 'Life' with the gratifying assurance that even this initial chapter of the pilgrim's travels, which in view of the grave perils and quasi-miraculous escape it records might most readily have lent itself to exaggeration and fiction, has retained in Hui-li's narration the form in which the Master of the Law himself is likely to have told it.

THE KASEMPA DISTRICT, NORTHERN RHODESIA

F. H. Melland, Magistrate for the District

THE Kasempa district of Northern Rhodesia lies to the extreme north-west of the territory, with the Katanga Province of the Belgian Congo on its northern border, and on the west Portuguese Angola. The Barotse and Kafue districts of Northern Rhodesia form its southern and the Luangwa district its eastern boundary. In the last three

years before the war the Anglo-Belgian and Anglo-Portuguese Boundary Commissions were at work on the borders, and their results, when published, will add considerably to the accurate geographical knowledge of the district; but as they were concerned principally with the northern and western boundaries, some supplementary notes on the rest of the area may prove of interest.

The earlier explorers to visit this part of Africa were S. Porto, Livingstone and Capello, followed by Arnot and Gibbons; much useful work was done by them, but the district was more or less unknown until the late George Grey, guided by the Kaonde chief Kapijimpanga, discovered Kansanshi mine in 1897 or thereabouts (it was first registered in 1898); and Edmund Davis (in 1899) pegged the Jumbo and Buffalo mines. Administration came later, and the first record of a resident official appears in 1903, since when there have been government posts at Kasempa, Shilenda (abandoned), Kansanshi (transferred to Solwezi), and Kalualua (transferred to Mwinilunga).

The country is mostly of a gently undulating character, well wooded and watered. The highest point (near Taff Vale farm) is about 6000 feet, and the average altitude in the north is about 4500 feet, dropping considerably at its southern border by the Lunga (E.) and Kafue junction, where the country is more tropical and the familiar trees of the north are largely replaced by thorns, baobabs, and borassus palms. The temperature is very moderate, the maximum at Solwezi being 101° F. in October 1913, and next highest 97° F. in November 1917; the lowest registered there was 28° F., and 25° F. on the ground. Ice is found almost every year, and in the winter the hoar frost remains on the ground till 9 and 10 a.m. in the shade. No records are available of temperature in the south, but the maximum in the shade there is probably about 110° F. I have however seen thick ice right on the southern border. The rainfall is good and fairly regular. Early rains can be expected in October, and last till April. The greatest number of days in one year in which over 0.01 inch fell is 138, and the lowest 94. The maximum fall in a season at Solwezi is 69.11 inches in 1916-17, and the minimum 34.81 in the following year; the average being about 50 inches.

The rocks of the district, so I have been told by a colleague, are mainly metamorphic and igneous; owing to the action of carbonic acid the mica, felspar, hornblende, etc., are almost completely dissolved and carried away, leaving behind the less soluble silica, alumina, and iron, which form soil of a clayey nature. The soils are almost entirely residual, the configuration of the district being such that the gradient of the rivers increases rather than diminishes as it approaches the edges of the plateau; and the rivers have mostly no occasion to deposit their loads of silt and mud in the form of alluvial plains. The rains falling torrentially in their season scour the surface, carrying away much of the soil. The commonest soil is red—varying from 1 to 6 feet—and passing downwards into

yellowish-brown clay, which in turn passes into a greenish soil, overlying a greenish or bluish rock.

The chief geographical feature of the district is the source of the Zambezi. The river itself rises in the extreme north-west, and its early tributaries the Kabompo (with the Western Lunga) and Kafue (with the Eastern Lunga) all rise in the north of the district, and all assume con-

The Kasempa District, Northern Rhodesia

siderable volume before joining the main river. Besides these there are the tributaries of the rivers named, many of which are by no means insignificant, notably the Mumbezhi and Dongwe (to the Kabompo), the Mutanda and Luma (to the Eastern Lunga) and the Lufupa (to the Kafue). The rivers resemble all rivers in this part of Africa, and call for little comment. The Zambezi itself rises in a wooded dip, containing

several small springs, the water from which unites and forms a small stream; the numerous adjacent tributaries very soon make the parent river a fair size. The Western Lunga and the Kabompo, which are very much of a size at their junction, rise within a mile of each other, and meet some 250 miles to the south. The only real feature of outstanding merit is the gorge on the Kabompo, some 60 miles downstream from its source.

Few places in Northern Rhodesia are more worth visiting; everything is on a grand scale, whereas this country—with all its attractions—has mostly scenery of a monotonous mediocrity. There are of course notable exceptions, such as the Victoria Falls, the Kalambo fall at the other (north-east) end of the territory, the Chishimba fall, the Mtinondo and Luchenene cataracts; but grandeur is the exception, and for the most part “pretty” describes Northern Rhodesian scenery better than “grand.” This gorge is undoubtedly one of the exceptions, and it is also quite unexpected. The neighbourhood gives no hint of its existence; it does not advertise itself, and so it has remained unknown and unnoticed except by two or three Europeans. I myself had been six years in the district before I heard of it. The hills, cliffs, and rocks are all on a big scale; the timber is good; the candelabra euphorbia large and prominent. The river itself, big enough in its lower reaches, is here of small volume; but even it—save where it hides itself underground—makes the most of itself and looks big enough for its surroundings.

Arriving from upstream one comes on a small spur; northwards lies a fertile valley, wooded at intervals, the rest—in winter—gold with dry grass. The river enters the gorge through a cleft in this spur, and pauses for a moment in a still pool before rushing on. South of this pool the country rises for several hundred feet on both sides of the gorge, and through this jumble of hills the river tears its way. Proceeding downstream the way is steep and rocky, more up than down at first. Soon one can again approach the river and from a small kopje get a good view—again looking south. The plains are visible, though misty, through a cleft; on the right is a sheer precipice of 150 feet, and on the left a fine chimney. The total depth here is about 1000 feet. Half an hour on, the ground getting more and more rough, one comes to the top of a precipitous drop of 800 feet, down which a colleague of mine had descended to the river, and had obtained good photographs of a small waterfall. I followed in his footsteps, and my chagrin can be imagined when, on reaching the bottom, I found the gorge quite dry. The fall was there but not the water; the river-bed a mass of huge boulders and no more. At that time of the year (June) all the water was underground. The valley here is a magnificent setting, but the setting itself without the river is less effective, especially when one has just scrambled down 800 feet, and has to climb up again, at noon in the tropics. Immediately below the gorge the river is as still as a mill pond, and as it passes through dense woodland it gives no suggestion of the rough and tumble that begins just below, where a

LIMESTONE POOL NEAR SOURCE OF JIUNDU

WESTERN HALF OF BRIDGE NEAR MWINILUNGA

THE GORGE OF THE KABOMPO

series of fine cataracts occurs just before the river reaches the dull quiet of the plains. The whole length from the top of the gorge to the end of the cataracts is about $2\frac{1}{2}$ miles, and were it more accessible there is no doubt that this would be a show place for travellers.

In the south-west of the district are very dense forests known as *mavunda*; they spread at their worst for about 40 miles from north to south, and 60 to 80 from east to west; but in a slightly less impassable state they cover a much larger area. I have never seen any forest land so dense and tangled, and from the point of view of the traveller this density is aggravated by the fact that the soil is a fine white sand which makes walking (the only possible means of moving) extremely tiring. At times one can follow an elephant or buffalo track for a short way, which is a relief; but more often one has to cut one's way literally through the undergrowth. A narrow track is now cut most of the way from north to south, but between east and west there is no traffic of any kind to justify the expense of keeping up a track; and this forest area is quite uninhabited.

A change from the rolling woodlands of the north and the forest of the south-west is noticeable in the south-east corner, where flat open plains teeming with game (notably huge herds of wildebeeste) spread for a long way on either side of the rivers. The flora here is more tropical, and the ungainly baobab recalls memories of many other hot areas. Immediately north of this is hilly country, with shingly soil, the haunt of kudu.

The only other feature that calls for any comment is the salt pan at Kaimbwe, a little to the north of Kasempa. This is one of the few deposits of rich alluvial soil in the district, and is an extremely fertile spot. In it is a rich deposit of salt of good quality, and there are also mineralized hot springs, the waters of which have been found, on analysis, to be almost identical with those of Homburg.

Farming of any kind is hardly possible owing to the prevalence of tsetse fly, from which pest only the north-west of the district is free. In this corner there are two ranches, the larger of which (Taff Vale) is well placed on the border, near to the populous centre of Kambove in the Congo, and close to the route of the Lobito Bay Railway. Between 1907-12 a few farms existed near Kansanshi, but the cattle eventually succumbed to fly, and the farms were abandoned.

Mining is the only industry; and at one time hopes were entertained that many mines would be working in the district. The area enclosed by the Kabompo and the Western Lunga is a reserve—Lewanika used to work a copper-mine there on the Kasanjiko—as is an area near the Dongwe, which also contains copper. Various properties, mostly copper or gold, have been worked experimentally at different times on the south-east and on the north of Kasempa, especially in the area between Kasempa and Kaimbwe, but so far nothing really payable has been discovered. The one mine that has been proved is Kansanshi, which lies

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only 15 miles from the Congo border: this has been worked since 1898. There are old native workings about 15 feet deep all along the outcrop, and a considerable amount of copper must have been extracted in the past. The lode appears to be very rich, and the copper ore contains also a good percentage of gold and a little silver. One shaft has been sunk to 250 feet, but a subterranean river then let the water in and work has been at a standstill in it for many years. Other shafts have been sunk down to 100 feet. Limestone is abundant near by at the Chafuguma quarries; and lime and charcoal (burnt locally) are used as fluxes; for all the copper is smelted on the spot and taken by traction engine to the railway 80 miles away. This mine closed on the outbreak of war, but will reopen shortly; it is owned by the Rhodesia-Katanga Junction Railway and Mineral Company, to whom it was transferred by the parent company, Tanganyika Concessions Ltd.

Kansanshi mine is the only industry employing any Europeans, and the rest of the white population of the district consists of a few officials, traders, and missionaries. The last named are represented by two societies, the Plymouth Brethren (Garanganze) Mission, who have a station, largely used as a sanatorium, at Kaleng'i Hill in the north-west corner, whence a good view can be obtained showing Belgian and Portuguese as well as Rhodesian territory; and the South Africa General Mission, who are established at Chisalala, east of Solwezi, and at Musonwedzi, west of Kasempa.

The native inhabitants of the district are, with one small possible exception, fairly recent immigrants. The exception is the remnant of a swamp tribe on the Lufupa River called the Ba-Usanga. They are a branch of the Wa-Twa under chief Jimbo; but they have been so harried by the Mankoya from the south and the Bakaonde from the north that they are now only a very small community. Of the rest the Alunda and Andembo are predominant in the west and north-west, with a few Valuena. In the middle north are a few Baluba; in the south Mambwera, and along the north-eastern and eastern borders Balamba. The whole centre is inhabited by Bakaonde, who are numerically the principal tribe in the district: they are connected with the Basanga, and are a branch of the big Luba family that spread over this part of Africa from the north-west some three to five centuries ago. The tribe is composed of three parts. The northern section came to their present home from the south-east across the Luenge (Kafue) River, and there is a tradition that in coming here they were returning "to their old home." The cause of the move from the south-east was apparently pressure from the Balenge or Baila. This migration took place under Kasongo or his successor Kapiji—of the *walonga* (river) totem—and had been preceded by a small migration of another branch under Mushima—*walembe* (bees) totem—who settled on the tributaries of the Lualaba—Chimfwamfwa, Muyafunshi and Mufwa—in the Congo.

After Mushima's and Kasongo's people had settled on the ground between the Congo-Zambezi watershed and the Luma River, another migration began, direct from the north this time, under Msake, a chief of the Batemba; these were of the *wowa* (mushroom) totem. They found the country that they first entered already occupied by Kapiji, who informed them that they must go further on; this they did and settled originally on the sources of the Mafwe and Luma rivers, on the borders of the Mambwera country, whom they soon drove further south. At this time they dropped the name Batemba and were called Bakaonde, probably in the first case by the Mambwera.

The last section, a small one, came from the south-west. They too call themselves Bakaonde, and state that they have always spoken the same dialect. They came, under Ntambo Chipembe, from the Kabompo-Zambezi junction, being driven thence by the Baluyi; they followed the Kabompo upstream and settled on its upper reaches, and along its tributary the Muzangezhi, a little after Mushima had arrived at the Muyafunshi. They were of two totems, the *luo* (monkey) and *bapumpi* (hunting dogs).

There are many minor differences between these sections; for instance, the second, the most recent migrant from the north, has more words akin to Chiluba than the first or third; and again there are important differences in their customs.

The most probable theory is that some sections of the Basanga split off and went in different directions, spreading as far as the countries of the Baila and Baluyi; that they were driven back and reunited in what is now the centre of the Kasempa district; but though they share one name and talk (more or less) one dialect they have never recognized one paramount chief, except their foreign overlord Musokantanda. This tribal tendency to split up is visible at all subsequent stages in their history, and is emphasized by the lack of primogeniture; when one Kasonso died he was succeeded by four nephews who divided his people, and were co-equal.

One must next consider their western neighbours, the Alunda, and the Lunda chief Musokantanda, who is the paramount chief of all these people east of the Western Lunga. The early history is on the border between mythology and history, and it is impossible to sift one from the other; but the following condensed account is as near as I have been able to get to an accepted version: I know of many divergent stories. Some time about the first half of the seventeenth century a woman called Lukokeshya Mang'anda was living on the Kazhilezhi stream (a tributary of the Lulua) about 7° S. and 23° E. Beyond her even mythology does not appear to go, but as the Alunda succession is in the direct line from father to son, it is reasonable to suppose that some chief had died, and—leaving no son—was succeeded by his daughter, who became chief of the Alunda. A man called Chivinda wa Katele came from Kasongo and stayed at her

village; she married him and gave him the *lukano* (hereditary insignia) and renamed him Mwachiamvu (Muata Jamvo). The results of their union were a daughter, Mang'anda Kalazhi, and six sons, Mutewa, Chiembeembe (later called Kazembe Mutanda), Kazembe Panchinda, Musokantanda (Chipaiya), Shinde, and Kanongesha. To cut a long story short Mutewa ultimately succeeded Mwachiamvu and took that title, and the other five sons came to Kasanga (about 8° to 12° S., and 25° to 27° E.), settling on the Mukulezhi, a tributary of the Luji which flows into the Lualaba. Chiembeembe then developed cannibal tastes, cutting off human hands which he mixed with game meat; and rather than join him in cannibalism the other four brothers returned to Mwachiamvu, rechristening Chiembeembe as Kazembe Mutanda before they left him. Mwachiamvu II. received them and allocated to each a country. To Kazembe Panchinda he gave the country of the WaUzi by the Luapula, about 29° E., where his successor still is; to Musokantanda fell the country of the Bakaonde, about 24° to 28° E.; to Kanongesha fell the Andembo and Mambwera (the Western Lunga being his border with Musokantanda); Shinde was given the country (Ikondo) west of Kanongesha by the Upper Kasai; and Kazembe Mutanda ultimately settled on the Lukozhi, a tributary of the Kasai. All the successors of these chiefs still look upon Mwachiamvu as their overlord, and the present Mwachiamvu has toured Kanongesha's and Musokantanda's realms as recently as 1918.

Thus it was that Musokantanda became paramount chief of the Bakaonde. The second Musokantanda (Ilunga) defeated the Kaonde chief Mushima on the Muyafunshi, and forced him to pay tribute. Kapiji paid tribute without fighting; as his successor said to me, "Kapiji said to himself, 'If Mushima could not resist Ilunga, how could I?' so he thought it better to pay tribute, and live peacefully, east of the Mutanda, under the suzerainty of Ilunga. So it was too when the white man came and conquered Mwenda's (Msiri's) country: we Bakaonde said in our hearts, 'If Mwenda cannot resist the white man, how can we Bakaonde do so?' consequently we made no resistance, and pay tax to you." The present Musokantanda (Kazhi) is the thirteenth of his line, and has had a somewhat chequered career. The third and the twelfth were the only two to live on the Zambezi (Rhodesian) side of the watershed, till this one moved across in April 1916.

The Alunda differ from the Bakaonde in many important ways: for example, the former generally succeed direct from father to son, the latter always indirectly in the female line. (The only exception to this is in the Ntambo chieftainship, the third section of the Kaonde, where the Alunda forced their own direct succession on the Kaonde chiefs.) Again, the Alunda practise circumcision, which the Kaonde do not. Differences like this, as well as in the languages, seem to point to a distinct difference of origin.

ON THE SOLWEZI RIVER

LOWER END OF KABOMPO GORGE

OFFICIAL'S HOUSE AT KASEMPA

NATIVES MAKING BRICKS

As for the other tribes in the district, the Andembo are under Kanongesha, who lives in Portuguese Angola. The last Kanongesha died in 1917, and I saw most of the claimants and principal members of the tribe in 1918, but they could not arrive at a settlement as to the succession. Since then Mwachiamvu has also failed to arrange it. The leading chief of the Balamba is probably Shiwukinga, but there are others of about the same rank: they recognize Musokantanda as their overlord. The Mambwera have three branches, the Mankoya, the Masasa,—the “Bamasasha” of Gibbons and Quick,—and the Balukolwe. The chief of the first is Mutondo; of the second Kahari, whose predecessor used to live on the site of the present Kasempa till driven south by the second section of the Bakaonde; while the third group are under Fumika and sub-chief Pompora. The small group of Baluba are under Lubango.

The only other tribes that seem to have had any footing here are two: first, the Bayeke, who under Mwenda (Msiri) raided the eastern part of the district, and collected tribute—“We gave presents to Mwenda” is the euphemistic description of the tribute used nowadays. At one time the Bayeke had a chance of ousting Musokantanda as overlord, but their influence proved to be only fleeting. Secondly, the Batemba and Basanga under their chiefs Katanga, Ngalu, and Ntenke have at times raided their cousins from the north, but have never penetrated far south.

It will be seen from this brief historical survey that the district has a mixture of inhabitants, but that practically all (except a few in the south under the chief of the Marotse) are under the two Lunda chiefs Musokantanda and Kanongesha, and are practically all of the Lunda or Luba families. In the west the natives live chiefly on cassava and the small red millet. In the rest of the district the staple crop is Kaffir corn, largely supplemented by maize; with sweet potatoes, ground nuts, beans, lentils, pumpkins, cucumber, tomatoes, etc., as subsidiary crops; tobacco being also largely cultivated. Fungi, honey, caterpillars, wild roots and fruits, meat and fish are also used to vary their diet. There are very few industries of any kind; copper was formerly worked, but now a little iron working is all that is done, and nothing else in the nature of an industry can be found. Huts are mostly rectangular in the west, and circular in the east; in the centre may be seen both types.

The health of the natives is fairly good. There is very little scurvy, and what there is may be due to want of fresh vegetables and potash salts. Leprosy exists, but each case is recorded, and there is nothing in the history of any case to point to any influence of fish or fish oil. A fair number of cases of consumption have been recorded; and scantiness of food, especially of fat, can be traced in most cases, as it can in the numerous cases of pleurisy and pneumonia. Small-pox epidemics have occurred; there is record of one case of tetanus, and one of (possibly) tetany. The Spanish influenza of 1918-19 visited the district, and the mortality therefrom was heavy. Insanity is not at all uncommon; mania with homicidal

tendencies being distinctly more prevalent than among other tribes known to me. Besides actual cases of homicide and attempted homicide, similar mania is noticeable in assaults, arson, etc. In the many cases I have tried when mania was the apparent reason of the crime, I have found no history of immediate or chronic intemperance in alcohol or any drug. I have only met with two or three cases of idiocy.

The fauna of the district is interesting. Big game abounds. Elephant are fairly common, though ivory is small and tusks of above 30 lbs. are rare. Rhinoceros exist but are very scarce; I have seen no spoor of them myself, and have only heard of two in eight years. Hippopotamus are very plentiful, especially in the Eastern Lunga and Lufupa. Eland are more common than in any other part of Africa with which I am acquainted, and the heads are exceptionally good. Sable antelope are very common also, and the horns are probably finer here than anywhere else except in the neighbouring territory of Angola. Roan are rather scarce. Wildebeeste are extremely common in the south-eastern third of the district; kudu (few), waterbuck, puku, mpala, lechwe, sitatunga, bushbuck (common), reedbuck, zebra, white-backed duiker, duiker, steinbuck, oribi, klipspringer, bushpig, warthog, lion, leopard, cheetah, hyæna, jackal, hunting dog, porcupine (very common), otter, serval, civet, wild cat, honey badger, antbear complete more or less the list of the bigger mammals. The blue monkey, so prized for its skin, is fairly common in parts; but the colobus, though plentiful near by on the Upper Kasai, has not been reported. The study of the smaller mammals and fishes would probably be worth doing, especially along the watershed. The fishes are fairly varied, and the tiger fish on the Kabompo give good sport. Guinea-fowl, duck, goose, francolin, koorhan are well distributed, and make a pleasant change in diet to game meat.

Travelling in the district must be done on bicycles, in a machila or a bush car or on foot, accompanied by native carriers. The Bakaonde are excellent carriers. No roads exist as yet, but good scuffled paths for cycles connect not only the different government posts, but almost every village. Except for the south-west corner in the *mavunda* forests, there is no difficulty anywhere; and even there I have travelled with my wife and young children. My travelling averages 1000 miles a year, and my wife has always been able to accompany me on her bicycle (except in the *mavunda*). There are canoes on the big rivers, and the smaller ones are nearly all bridged; it is, however, a good plan to carry a machila for use in swamps and at bad crossings, it comes in useful for putting odd things into, and its presence may save trouble. In the cold season mosquitoes are very rare; tsetse fly is troublesome in parts all the year, but in the winter is not bad in most places. Food for carriers is generally easily obtained from April to September, when it begins to get scarce; and from November to January it is unprocurable in parts, and must be carried. The water supply is, generally, excellent, and gives no difficulty; but one

should make inquiry as to this in October and November when some streams run dry. Dysentery being endemic in parts, the water for drinking should be boiled.

The country can be entered from Lusaka or from Broken Hill in the south-east, or from Elisabethville in the north. A good tour, with variety, can be enjoyed by entering from either of these directions and working down to the Kabompo, and thence by the Kabompo and Zambezi in canoes to the Barotse district and down the river to Livingstone. The best time would be to start from the railway in June, spend July, August, and September in the district, and go down by river in October; it is hot then for the valley, but I believe there is always a breeze on the river. The months chosen are best for weather, for water supply, and for evading difficulties of food supply. The only other warning that need be given to intending travellers is that except at Kansanshi practically no European supplies can be obtained anywhere in the district.

Note on Names.—The owner of Taff Vale and Frykberg's Farms has recently interchanged their names. They are shown on the map and referred to in this paper with their original attribution.

The Kaonde give exceptional prominence to the sound zh (= French j as in Mumbezhi), which is not general in Africa.

Names in this paper are spelled carefully according to the R.G.S. system. In the following instances it seems to my ear that the usual spelling is not correct. I have written: Luangwa, *not* Loangwa; Mafwe, *not* Mafwi; Kaleng'i, *not* Kalene; Mumbezhi, *not* Mombezi.

APPENDIX.

LIST OF GAME AND OTHER ANIMALS.

<i>English.</i>	<i>Kaonde.</i>		<i>English.</i>	<i>Kaonde.</i>
Elephant	Nzofu		Bushbuck	Ngulungu
Bull elephant	Nkungulu		White-backed duiker	Chikunji
Cow elephant	Chikumbe,	Ching-	Duiker	Kashya
	'ombe		Oribi	Katung'u manyika,
				Katung'unyika
Tuskless elephant	Ng'ungwa		Kudu	Nsontwa
One-tusk elephant	Chipekwe		Bushpig	Nguluwe
Rhinoceros	Chilangwa		Warthog	Mpengi
Hippopotamus	Chovwe		Zebra	Mbishi, Ngolo, Chin-
Buffalo	Mbo			galika
Bull buffalo	Ng'ombe		Klipspringer	Kashya mitumba
Cow buffalo	Inang'ombe		Sitatunga	Mbundu
Eland	Nsefu		Bluebuck	Kabuluku
Bull eland	Mpundu		Reedbuck	Kawazhi, Mbazhi
Cow eland	Kakombe		Stembuck (?)	Ching'omba
Roan	Ntengu		Lion (or any large	Bokwe
Hartebeeste	Nkonzhi		carnivor)	
Wildebeeste	Chimfulwe		Lion	Ntambo
Sable	Mfumbu		Leopard	Chisumpa
Sable (old bull)	Kanshije		Cheetah	Chisekesa, Chisen-
Waterbuck	Mukambi			gantambo
Puku	Nsewula, Nchila		Hyæna	Mungolwe
Mpala	Mpala		Jackal	Lubwala
Lechwe	Honge, Nja			

<i>English.</i>	<i>Kaonde.</i>	<i>English.</i>	<i>Kaonde.</i>
Hunting dog	Musuka	Flying squirrel	Lumembe
Crocodile	Chiwele, Ng'andu	Grey squirrel	Luyeye
Porcupine	Nungu	Small mongoose	Mumbuluma
Otter	Mushingo, Chibawe	Barred mongoose	Nkala
Serval	Muzuzhi	Baboon	Mpombo
Civet	Katumpa, Mfungwe	Grey monkey	Nsoko, Nkolwe
Lynx	Mbwang'ong'o	Blue monkey	Mbere
Wild cat	Kabonzo	Colobus	Mpulumba
Genet	Nshimba	Land monitor	Mubulu
Honey badger	Kambole, Kankwa	Water monitor	Nsamba
Ant bear	Mpumpa	Snake (generic)	Murovu
Tree cony (<i>Procavia</i> <i>mima</i>)	Chibila	Python	Lumwengo
Grey lemur	Mpongo	Black mamba	Mvubushi
Lesser lemur ("bush baby")	Katonto	Puff adder	Chipiji, Makata

THE NEW BOUNDARIES OF AUSTRIA

Map following p. 328.

THE Geographical definitions in the Treaty of Saint Germain-en-Laye, signed on September 10, contrast sharply with the definition of the German boundaries, discussed in the *Journal* for August last. The German boundaries, in so far as they were new, were made in the main from fragments of old administrative boundaries, conditioned almost entirely by race. Except on the restored Rhine boundary they had little to do with topography, and especially they were not watershed boundaries, so tempting, and sometimes so tricky. In the Austrian treaty, on the other hand, watersheds play a leading part, and the boundary, especially in the south, is of first-rate geographical interest. Before considering it in detail, there are some general characteristics to be mentioned.

In style of definition it follows the Treaty of Versailles very closely, but avoids the misleading punctuation and division of clause on which we remarked. International boundaries are now called Frontiers uniformly, except once by accident in clause 29, and in the legend of the map attached. In the use of a different word for an international and an internal administrative boundary the English text thus conforms with the others, using frontier and administrative boundary for the French *frontière* and *limite administrative*, the Italian *frontiera* and *confine amministrativo*. One may nevertheless regret that the requirements of trilingual treaties have destroyed a distinction in political terminology which was useful and was becoming established in England. More serious is the uncertain use of the word "delimitation." In recent authoritative English use, delimitation has meant the definition of the boundary by words of the treaty and demarcation its definition on the ground by pillars or other marks. The English text has often the phrase "a line to be fixed on the ground," as the equivalent of the French "une ligne à déterminer sur le terrain" and the Italian "una linea de determinare sopra luogo." In the legend of the