

TANGANYIKA NOTES AND RECORDS

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APRIL
1941
No. 11

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JOHNSON REPRINT CORPORATION JOHNSON REPRINT COMPANY LTD.
111 Fifth Avenue, New York, N. Y. 10003 Berkeley Square House, London, W.1

First reprinting, 1968, Johnson Reprint Corporation
Printed in the United States of America

PUBLISHED HALF YEARLY

Tanganyika Notes and Records

Editor : A. SILLERY

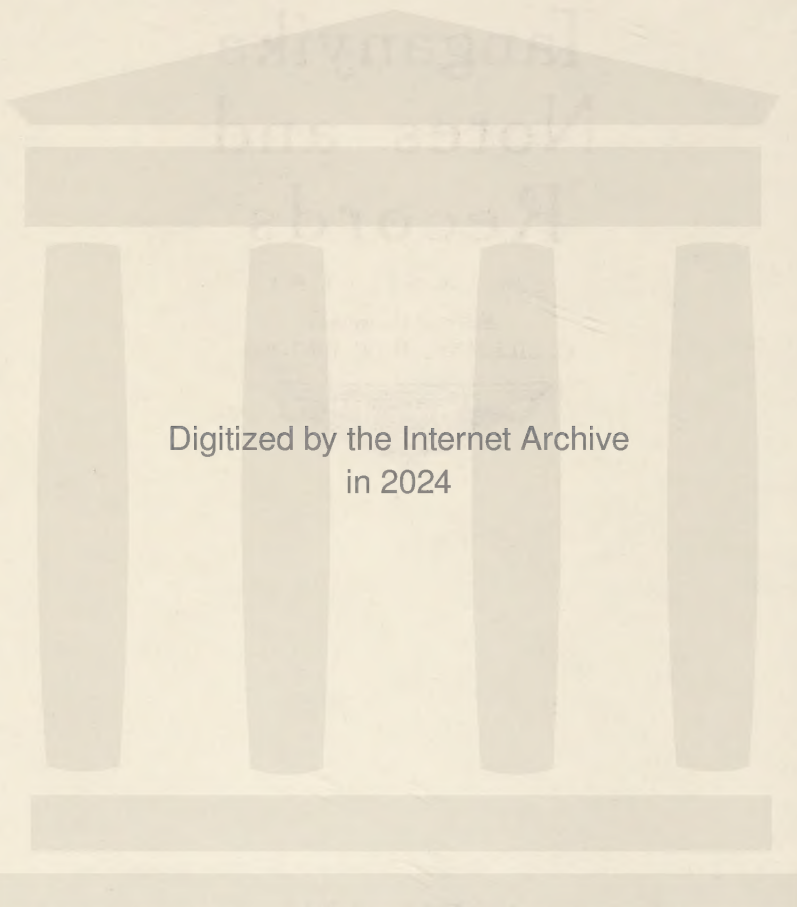
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PUBLISHED AT THE SECRETARIAT DAR ES SALAAM



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Editorial Note

WITH this issue of *Tanganyika Notes and Records* we publish a CUMULATIVE INDEX covering the first ten numbers of the Journal from 1936 to 1940. It is hoped that this index will be welcomed by our readers and will increase the usefulness of our efforts to those engaged on the study of Tanganyika Territory.

This stock-taking also affords an opportunity for analysing the nature and scope of the material we have offered in the past, and for classifying our contributors. The following table shows in detail the result of this analysis:—

No.	Class	Number of Pages	Per cent of Total
1	History and Archæology	264	25·5
2	Ethnography, Folklore and Native Agriculture ...	244	23·5
3	Ornithology	124	12
4	Geography, Geology, Meteorology and Hydrology ...	118	11·4
5	Fishing	71	6·8
6	Forestry and Horticulture	58	5·6
7	Medical	56	5·4
8	Book Reviews	40	3·8
9	Zoology	22	2·1
10	Editorial and Correspondence	21	2
11	Short Stories, etc.	20	1·9
Total		1,038	100%

Thus it will be seen that History (including Archæology) and Ethnography (including Native Agriculture) lead the way as, we believe, should be the case, with approximately one-quarter each; Ornithology and the Physical Sciences follow with one-eighth each; while the last quarter is made up of a variety of subjects of which Fishing takes first place with nearly seven per cent.

As regards our contributors we find that roughly two-thirds are officials of the Tanganyika Territory Government, and one-third non-officials, including officials' wives—who have contributed forty-three pages or four per cent—and Africans who, it is most gratifying to remark, account for seventy-five pages, or just over seven per cent. A full third of the non-official contributions stands to the credit of Mr Arthur E. Robinson, F.R.A.N.T.H.I.; and Mr R. E. Moreau, of Amani, heads the official contributors with seventy pages or nearly seven per cent.

Notes on the Shirazi of East Africa

By E. C. Baker

TRADITION relates that in the tenth century A.D. seven dhow-loads of Persians left Shiraz for the Azanian coast as the result of a quarrel between their leaders and the Sultan of Muscat. Each dhow landed its crew at a different spot on the coast and the immigrants who were, and still are, known as Shirazi spread up and down the East African coast and obtained land by barter or by marrying the women of the tribes whom they found in occupation of the areas in which they settled.

These notes refer mainly to the Shirazi of Pangani and especially to those settled in the Mkwaja area of that district but since this branch came, according to its legends, from Paté via Kilwa and Zanzibar one would expect to find a similar, if not identical, social structure among all the Shirazi of East Africa. Though I have not had a great deal to do with these people except in the Tanga and, to a lesser extent, the Dar es Salaam districts I have no doubt that this was the case, but the organization has for the most part been unable to stand up to modern conditions and it is only in backwaters such as Mkwaja that one finds it in any way approaching its original form. Even here there has been no tribal Diwan, or Jumbe, since the last died in 1927; for his son, though elected Jumbe, is only looked on as a Government nominee as he has not, or had not when I last met him, sufficient means to meet the expenses which must be incurred when a tribal Jumbe is appointed.

So far as the Tanga Province is concerned, the Shirazi first established themselves at Uzimia (near the Mkwaja-Sadani boundary) and thence extended to Ushongo, Buyuni, Mkwaja, Kipumbwe, Bweni and Pangani. Their social organization was then carried to Tambarani and Tongoni and at a much later date, and with less enthusiasm, to Tanga.

The Shirazi lands were divided into clan areas or jumbeates which were grouped into federations. The Tanga federation contained fifteen jumbeates, that of Bagamoyo twelve and the Pangani group five. The names of the Pangani Jumbeates and the local titles of the Jumbes who ruled them were as follows:—

JUMBEATE						TITLE OF JUMBE
Kipumbwe (including Mkwaja)	...	...	...	...	...	Diwan la Simba.
Pangani	...	...	...	...	...	Mwinyimkoma.
Kumba (the western part of Pangani town)	...	...	...	...	...	Mwinyikumba.
Bweni (the village on the south bank of the Pangani)	...	...	...	...	...	Mwinyibweni.
Ushongo	...	...	...	...	...	Mungiya.

These jumbeates were known as the *viti vitano*, or five chairs, from the fact that the Jumbes used the old Arab chairs, made of ebony and inlaid with ivory, as their thrones. The throne of the Diwans of Mkwaja was burnt by the Arabs, who made war on Sadani and then followed the coast raiding and pillaging until they came to Mkwaja in the reign of Diwan Suwakali II. What became of the other thrones I do not know. The *viti vitano* are also, but more rarely, referred to as the *vivanda vitano* or the five plots of land.

Prior to the occupation of the country by Europeans the population was much more scattered than it is now for the only occupations, other than trading in ivory and slaves, were domestic handicrafts and agriculture and space was needed for a man and his dependents to cultivate their coco-palm plantations and food patches. The never-ending family feuds also tended to split up the clans and settle them in small units. Nevertheless, each little colony was related to its neighbours in the same jumbeate and, often, to residents in neighbouring areas.

It was the custom of the Jumbes to preserve their genealogical trees but though they guarded them jealously, the only two which I have been able to trace are those of Mkwaja and Mtangata, the others having been destroyed by fire or rats. I think it was Stigand who, in his "Land of Zinj," commented on the fact that the Jumbes are very averse to showing these manuscripts to any one and the last Diwan of Mkwaja told me that the reason for this was a fear that if the contents were made public outsiders might claim kinship with the Jumbe and intrigue in order to obtain the throne. Probably, too, they were kept secret so that the custodian might evade any awkward questions on the subject of relationship or the legitimacy of an individual.

The Diwans first settled at Kipumbwe, a village north of Mkwaja, and though they trace their descent from a Shirazi named Aman, they attach far more importance to an ancestress named Mwanafakihija whom they regard as the mother of the clan. This woman was a daughter of Mwinyihija, son of Diwan Suwakali I by his wife Mwanasha Ndugumbi, and I can only conjecture that Ndugumbi was an Mzigua who by her marriage brought her family's lands into the hands of the Shirazi and that her daughter Mwanafakihija, a Shirazi on her father's side, consolidated the bond between immigrants and indigenes and so attained the position of mother of the clan.

As stated above, the Jumbes of the *viti vitano* formed a federation. They consulted each other on matters of importance but I have no record of their ever having combined together as a fighting force. The Liwali of Pangani had no power over them. Each Jumbe acted in consort with his councillors who were appointed when he himself was inducted, always sat in *baraza* with him and

voiced their opinions before any decision could be arrived at. The titles of these officers were :—

- | | | | |
|----------------|-----|-----|--|
| 1. Waziri | ... | ... | The Vizier. |
| 2. Mwinyimkuu | ... | ... | The Chief Elder. |
| 3. Mwendakumbe | ... | ... | The Crier. |
| 4. Mwinyiamiri | ... | ... | The official who summoned the people to court. |

Subordinate to the Jumbes were the Akidas, who were young men chosen by the people. Usually each village had its Akida but in a large village there might be two of them, each looking after a ward. Their chief duty was to lead the young men on expeditions up-country in order to get the ivory and, to a lesser extent, the slaves on which the prosperity of the community depended. Expeditions from Mkwaja would travel inland and meet Nyamwezi ivory traders whom they escorted to the coast. On arrival they would guide them to the Indian traders and get their commission when the ivory was bartered for trade goods.

According to all accounts slave raiding was not indulged in as much as might have been expected. There is, indeed, a village named Makorera, about three miles from Mkwaja, which is still inhabited by the descendants of a colony of runaway slaves who are said to have fortified it against the Arabs though no trace of any defences is now visible. The Shirazi probably found this colony a useful buffer against the Zigua who inhabit the hinterland for they allowed runaways to pass safely through to the village and warned the inhabitants when the Arabs were about to make one of their periodic attempts to recover their human property. Nevertheless, Zigua used to bring slaves down to the coast for sale and the Shirazi themselves used to sell their maternal relatives of the younger generation as slaves in order to obtain money to defray expenses when they wished to become Jumbes. Also, when up country they or members of other tribes captured prisoners in a fight, they would march them through their devastated villages in order that they might be exchanged for female relatives who were taken to the coast where they were sold or kept as slaves. It is generally considered, however, that so far as the *viti vitano* were concerned, the chief object of the expeditions into the hinterland was to obtain ivory and not to raid for slaves.

When they were at home the Akidas carried out the instructions of the Jumbes and kept order generally. They also organized the tribal dances and since these dances are, in most areas, the only concrete evidence left of the former tribal organization or, at any rate, the only part of it which strikes the eye of a casual observer, the functions of the Akida are often considered to be purely recreational, and it is not realized that he held an important position in the social structure of the Shirazi.

Akidas were, and are, of both sexes and could not be installed without one of the opposite sex being appointed at the same time. The work of the female

Akidas was confined to the conduct of the dances and the social life of the village. (Hereafter, when mentioning an Akida the male will be implied unless otherwise stated.)

Originally each Akida had four officers under him but recently the number was increased to six, and subsequently to eight. The names of these officers were as follows :—

1. Waziri	...	...	The Vizier.
2. Tajiri	...	...	The Treasurer.
3. Makata	...	...	The Judge.
4. Hatibu	...	...	The Clerk.
5. Mkuu	...	...	The Headman.
6. Bali or Joji	...	...	?
7. Kijumbe	...	...	The little Jumbe.
8. Mwinyimtwana	...	...	? The controller of the slaves.

Female Akidas often have only seven (sometimes four) officers and it is said that no Mwinyimtwana is ever appointed.

When a Jumbe died his successor was chosen from amongst his relatives, indeed, it would have been impossible to have done otherwise for the whole clan was interrelated. A son might be chosen but, I gather, such a choice was rare, for it was not considered desirable that one branch of the family should rule indefinitely and, further, the heavy funeral expenses would often prohibit a son from finding the money necessary to defray the expenditure incurred on the appointment of a Jumbe. Though all near relatives contributed, the family of the Jumbe had to bear the lion's share. Cousins or nephews appear to have been a more usual choice. Wealth was a primary necessity since the Jumbe must, on appointment, incur considerable expenditure and only a small circle of relatives would be wealthy enough to warrant the appointment of one of their number for in a patriarchal society such as that of the Shirazi wealth naturally gravitated towards the head of the family.

The appointment of a Jumbe entailed a long ceremonial, every item of which must be validated by the payment of a sum of money the amount of which was more or less established by tradition. The elders must first be won over by *ubani*, which strictly means incense but here indicates a payment to obtain goodwill. Coastal natives who wish to settle on privately owned land will often pay *ubani* to the landlord and after having done so may live on his land rent free for as long as they please. Natives who were living under such conditions in Tanga Township could not understand the position when, during the depression, Arab and Indian landlords demanded ground rent from them.

The *mnong'ono* feast was eaten when the prospective Jumbe announced his impending appointment to his relatives and other expenses were the payment known as *puto* on the occasion of the dancing of the *Bati ngoma*, the *mwambachi* fee paid to those who collected the future subjects of the Jumbe to witness his installation, the *mshamara* or largesse to the people of the *viti*

vitano, the *panga* which was the sum due to the reigning Jumbes and Akidas of the *viti vitano*, and *mpambe*—a sum paid to the home-born female slaves who dance the *Kishina ngoma*.

A pilgrimage was made to the ancestral graves which were swept and garnished and on returning to the village another feast was made. Finally, when the day arrived for the installation ceremony, the Jumbe, wearing wooden clogs and shaded by an umbrella or canopy, was conducted to the graves of former Jumbes where he sat on his throne with his councillors on lower seats around him. Five elders, one from each of the *viti vitano*, washed his feet after which they placed the *kofia ya kalifiya*, or cap of office, on his head and wound a turban round it. He was then solemnly admonished by the elders and instructed in the way in which he should rule and he, in his turn, swore that he would rule justly and in accordance with precedent.

He was then placed on a *kilili* (a native bed turned upside down and spread with pillows and gaily coloured cloths) and was carried round the village, whilst a crier proclaimed his appointment and described the boundaries of his domain which were testified to by members of the *viti vitano*. Finally he was set down before the *ngoma kuu* or tribal drums which stood in front of his house. He remained indoors for seven days during which period a feast was made morning and evening for the people and when he emerged on the eighth day a big feast celebrated the conclusion of the ceremonies.

No one performed any act in the celebrations without reward and one detailed account gives the total expenditure as more than six hundred *reale* or, reckoning the *reale* at two shillings and eighty-five cents, over eighty-five pounds.

The funeral of a Jumbe was no less elaborate than his appointment. An interesting preliminary was the pretence that the Jumbe was not dead which can have deceived no one though every one played his part. An elder searched for the Jumbe throughout the village and finally returned to the deceased's house where he removed the turban and *kofia ya halifiya* from the corpse.

Five men, one from each of the *viti vitano*, dug the pit for catching the water used for washing the corpse and five men, similarly chosen, prepared the corpse for burial.

Mourning fees were paid to the *viti vitano* and also a fee in respect of the *kiunza*, or board on which the corpse rested whilst it was prepared for burial. *Upanga* was paid to the ruling Jumbes and Akidas and gifts were made to male and female home-born slaves who took part in the *ngoma kuu*. Numbers of outsiders arrived for the funeral and fowls, goats and cattle were seized from the villagers, without payment, for their entertainment.

The *tanga*, or wake, lasted for fourteen days, during which time ruling Jumbes discarded their turbans and the common people went bareheaded. The drums sounded morning and evening to call the people to eat and were also beaten whenever any important person entered the village. After fourteen

days when the period of mourning was ended a feast was made to celebrate the return to normal life and the people resumed their headcoverings and went about their usual pursuits.

The expenses incurred were considerable and it was often found convenient to read the *hitima* at some later date convenient to the relatives of the deceased.

The following note on the burial of the late Diwan of Mkwaja was taken from the Pangani District Book: After the Diwan's death his body was kept in the house for two days before the news of his death was published. On the second day a relative (who knew of the death) went round the village beating a drum and calling out, "Where is the Diwan?" to which the people replied that he was in the village. The relative stated that he had gone on a safari and suggested that they should all go to his house to find out if it was correct. On nearing the house the relative said that he knew the Diwan was sick and, on arrival, he dropped his drum and the people knew that the Diwan was dead. The turban, *kanzu* and umbrella were buried with the Diwan and on top of the grave was placed another umbrella together with a piece of cloth. Broken plates were also strewn on the grave to indicate that the deceased was an important person. For seven days after the death the males of the village had all to go bareheaded and with shaven heads.

No mention is made in this account of the preparation of the corpse for burial but the Diwan himself told me years ago that it was customary to place the body in brine in order to delay decomposition.

The tribal Akida was a very different person from the Akida who is to be found nowadays in the big towns and who is merely an official of a dance society which, though it may impose rules and regulations on its members, has little or no standing with the general public. The method of appointment is, however, still the same as it was before the post degenerated. Formerly bad character was a bar to election and new Akidas were only appointed on the death or retirement through old age of an established Akida though internal dissension was sometimes the cause of a new appointment by a rival faction provided the Diwan concurred.

A candidate for the post of Akida first resorted to divination and then, provided that the fates were propitious, went to the Jumbe or elders to whom he announced the fact that he wished to obtain the appointment and paid the fee known as *mnung'uniko* (c.f. *mnong'ono*—whispering). At a later date he was again called and after being questioned as to his financial stability, was made to show the "colour of his money." He paid the *chungulia*, a fee for the inspection of his cash, and the date was fixed for a big meeting when his formal appointment would take place. His officers had already been chosen by the elders and the female Akida and her retinue elected. Nowadays, however, the number of officers is often reduced and sometimes they are dispensed with altogether. If suitable persons are not forthcoming they can always be appointed later.

On the day fixed for the ceremonial appointment further disbursements were made. *Mshamara* was paid to the inhabitants of the area in which the new Akida lived, and mats were spread on which he and his officers sat supported on the knees of old officials of corresponding rank for which privilege he paid the *tandiko* fee. Should any one who was not an Akida and was not taking part in the ceremony, stand on the mats, he was fined. Whilst seated thus a former Akida washed the feet of the novice and was, of course, paid for his services. Silver chains called *mapunda* (sing : *punda*) were fastened round their right ankles and ostrich feathers (*unyari*) fastened on their shoulders, and fees were paid in respect of each. Visitors from afar were paid *puto* and certain elders received the *kibebwe* fee which took its name from the *kibebwe*, a cloth which they wore when organizing and controlling the *ngoma*. Persons from distant villages were also given a small sum, *ushahidi*, in order that they might declare to those living near their homes that the new officers had been duly appointed and named according to their ranks, and a paid crier warned the people of the home village that they must, in future, avoid calling them by their old names. The writer's cook, born Selemani bin Sultan, is now Akida Dola bin Sultan, and one of his servants whose baptismal name was Ali has been named Tajiri and Waziri in succession. An unspecified period of grace was given during which no notice would be taken if a man called one of them by his old name by accident, but if any one miscalled one of them maliciously during that period he would be fined; and when every one had had time to get used to the new nomenclature one who forgot would be fined likewise.

After being named, the new Akida and his officers remain in seclusion for seven days during which time elaborate food is eaten by them and by those present in the village and *goma* or *bengwa* is danced each day. When the period of seclusion is ended the *unyari* are removed, but the *mapunda* may only be taken off the ankles after a special feast has been made and a fee paid to the witness to their removal. Men of an economical turn of mind often wear them for several years and so lay themselves open to the accusation of foppishness by Europeans who fail to recognize the meaning of the thin silver anklet.

I see that in the last paragraph I have lapsed from the past into the present tense. Though the role of the Akida has degenerated from that of a leader of safari to that of a prominent official in an *ngoma* the ritual connected with his appointment is as it always was and only the expense incurred has diminished. According to one account the total expenses of an Akida and his officers used to amount to approximately six hundred shillings, but nowadays it may be two hundred shillings or possibly less.

After removing the *mapunda* the Akida and his staff must, on the appropriate day, indulge in the ritual bathe in the sea. This bathe is a yearly affair and is supposed to remove all the troubles of the old year. On the first day of the eighth month of the Mohammedan year a number of Swahilis of both sexes may be seen going to the sea shore to bathe, and judging by the frequent

reference to the Digo in connection with this annual ablution the custom may have originated in that tribe. I am told, however, that the newly appointed Akida and his retinue bathe on the eleventh day of the fourth month.

The tribal Jumbe used to receive the revenue derived from a tax amounting to six *reale* per *frasila* on all ivory coming into his area from up-country and if an elephant was killed or died on the lands over which he ruled one of the tusks was handed to him. Flotsam and jetsam such as ambergris was brought to him and if the finder wished to redeem it he had to pay five *reale*. Further, travellers paid for the privilege of passing through his country and alien merchants, i.e. Indians, paid five *reale* for the "door" of their shop. The revenue accruing from these sources was divided into three portions. One of these was retained by the Jumbe, one given to the priests and the third set aside for expenditure on miscellaneous services, such as the maintenance of paupers or the alleviation of distress due to famine or other causes.

The Jumbes also received the *panga* fee which was paid when a new officer was appointed or when a marriage or death occurred in his area. He also took the hump of every head of cattle slaughtered in his jumbeate and much importance appears to have been attached to this perquisite. Elderly Shirazi, when discussing with me the possibility of reviving the post of tribal Jumbe have, on more than one occasion, stated that if no hump was forthcoming there could be no tribal Jumbe.

The Akidas and their staff received the *panga* fee and the Akidas of the *ngoma* do so still occasionally but, so far as I know, they received no other lawful remuneration though their pickings must, in the old days, have been considerable. The dance societies used until recently to make efforts to resurrect the old discipline and to collect *panga* but they were always splitting into cliques and the younger Akidas whom I know, consider that the expense incurred on their appointment was a very poor investment.

Some description must be given of the *ngoma* which have frequently been mentioned in these notes. The singing was accompanied by five instruments which were named as follows:—

1. *Ngoma Kuu*. Two large double-ended drums.
2. *Siwa*. A large wooden horn.
3. *Matoasi*. Cymbals.
4. *Msapata*. A conical drum.
5. *Kishina*. A small double-ended drum.

The two *ngoma kuu* may be seen in almost any Shirazi village lying on the veranda of one of the houses, and are regarded with some reverence by the more conservative of the people for they are supposed to have magical properties and to sound without human agency when any disaster is about to take place. They are mentioned by Ingrams who states: "The regalia of the Mwenyi Mkuu are still in existence, and consist of two beautiful carved drums and two wooden horns called *siwa*, which are now housed in the Zanzibar Museum."⁽¹⁾

⁽¹⁾ "Zanzibar, its History and its People," by W. H. Ingrams, page 152.

With regard to the *siwa* he also states: "A Babylonian cylinder shows the Assyrian Hercules, Nin, wrestling with an ox, and then, crowned with the horns of the ox, wrestling with a lion, and it is generally considered that this is the origin of the horn as a sign of Chiefship. As such a symbol the horn is common in East Africa among the descendants of the Persian Zinj Empire."⁽²⁾

The dances which accompanied the *ngoma*, which were usually more in the nature of rhythmic exercise than dances, are still practised whenever these *ngoma* are danced, as they are on the appointment of an Akida or other important occasion. The translations of the following songs to which the *ngomas* were danced were prepared for me by the Rev. B. J. Ratcliffe, Secretary of the Inter-Territorial Language Committee:—

Ngoma kuu :

1. *Enyi mamba mwalia mno, nipeni mwanangu niende, mamba wengi mno.*
You crocodiles are crying fiercely, give me my son and let me go, you are too many.
That is: You people who have come to the mourning, you are too many, give me my corpse (dead).
2. *Mwanao kalia mno: kendele mayungi kule.*
Your child has cried fiercely: he has gone there to the water lilies.
3. *Nde pwani kavue lema mkunga kanamba chome.*
I have been to the shore to clear the fish-trap: an eel said to me, "Stab me!"

Kishina :

1. *Naungire Msangazi naungire Ahe! nirawile kwa Luguru nihongere.*
I crossed the River Msangazi and ah! I have come to the Luguru people, I am safe.
That is: My child has entered the marriage state successfully.
2. *Asakwaye pala kingodo kikaliala, asakwaye pala.*
The one that is hunted is the gazelle when the castanet is played, the one hunted is gazelle.
That is: You are the person that is looked for in this affair.
3. *Kijiba cha mchongoma sende njiani chanichoma, nichechemi nikaole ngoma.*
A little bramble thorn pricked me while walking on the road, but I limped to see the dance.
That is: Although I was hurt by a bramble thorn, my desire was to see the dance, so I limped until I reached (nothing could keep me from the dance).

⁽²⁾ *Ibid*, page 46.

Msapata :

1. *Acha tuwambie kweli, wa Utondwe wa Buyuni muwa boko; msambe kamo twiga tando kamokomo kaboko.*

Let us tell the truth to the people of Utondwe, Buyunis are hippos and not giraffes. Far less the little hippos.

That is : Let us tell the truth to the people of Utondwe, Buyunis are not to be trusted—they are hopeless.

2. *Mwari kaumbwaji mtazame pua na mromo, mwari kaumbwaji.*

How created the bride, look at her nose and lip, see how the bride is fashioned !

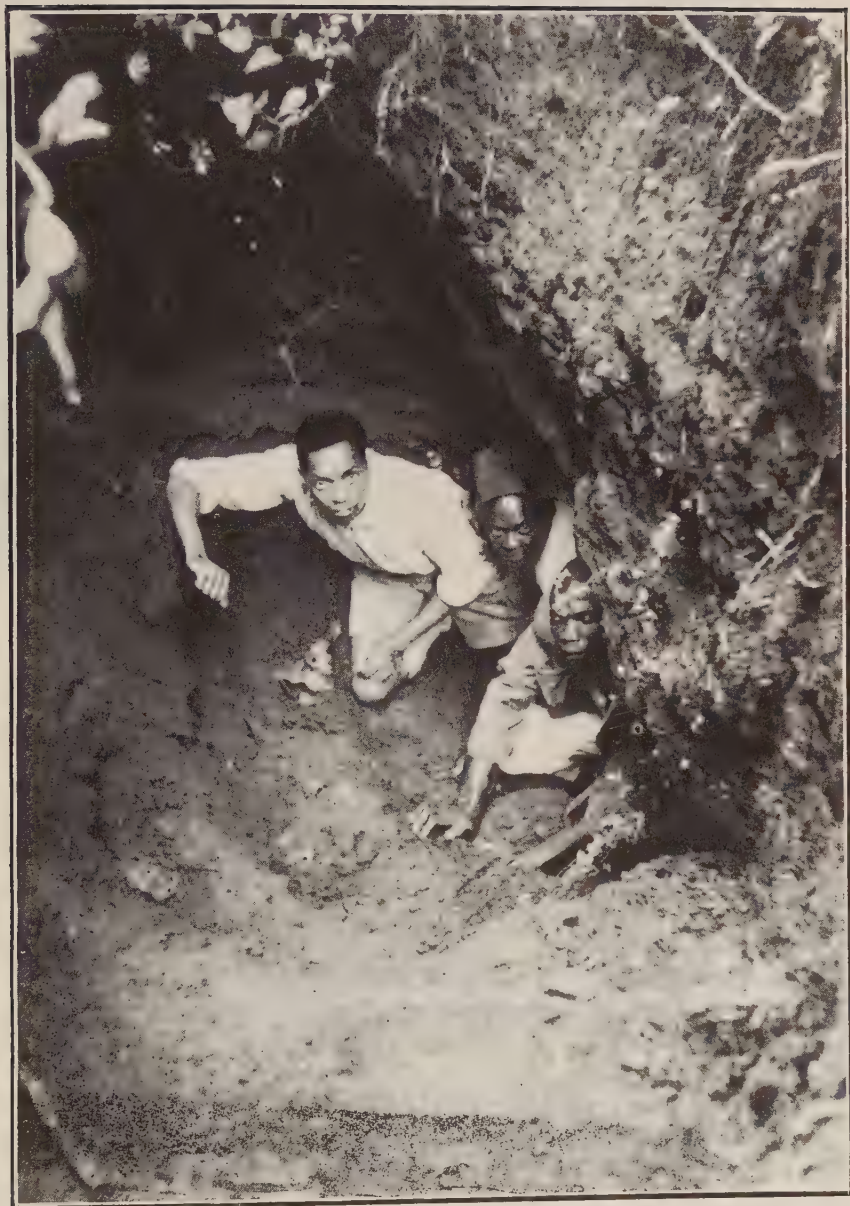
That is : After what manner is the bride fashioned, see her nose and lip !

3. *Sina piga yangu darabini, nyama kunawesha baharini: kuumwa ni kuro dawa nini.*

I used a telescope, you have finished the animals in the sea : if you are bitten by the medicinal stick what is the cure.

That is : I have searched exhaustively (as though with a telescope) (microscope) but can find nothing else—you, you have finished up everything. Now what will you do if the last resort fails, how can you escape?

With the advent of Europeans, slave-raiding was prohibited and the shooting of elephant strictly controlled so that the Shirazi, deprived of their main source of revenue, had to live on the profits accruing from the coconut industry eked out with fishing. The value of copra has decreased several hundreds per cent since the last war and the coastal people have left their villages in order to become wage-earners, or remain at home living on a scale which too often compares unfavourably with that of the up-country African. The Germans, who naturally wanted young and vigorous men to control the tribal elements, relegated the Jumbes to the status of village headmen and appointed Akidas over areas often quite unrelated to the old jumbeates which were, in any case, too small to form economic units under modern conditions. When the last tribal Jembe died the only surviving portion of the old system was to be found in the Shirazi dance associations presided over by their Akidas, and the possibility of forming these associations into guilds for the control and general betterment of African communities in townships was considered. But the attempt to weld them into the modern social structure came too late and was frustrated by the large number of the associations (for the Shirazi *ngoma* was copied by every tribe or federation of tribes which came to work in the towns), the haphazard election of members, the jealousy which often exists between different associations and the frequent occurrence of disputes and cleavages within the association itself.



A tunnel entrance

These caves were
constructed
nearly a hun-
dred years ago



Cattle are still
kept hidden from
view, some hav-
ing never seen
normal sunlight



Stone wall defences at Kibosho (Jumbe Njalisho) used during the
German occupation



Section of Chagga village showing underground tunnels and cattle enclosures, kitchens and living quarters in time of warfare.
Note underground waterway

African Dugouts

By W. Wynn Jones, M.A

IN VIEW of modern Air Raid. Precautions it is of cogent interest that in the country of Uchagga on Mount Kilimanjaro underground refuges have been in existence for hundreds of years. Some of these have fallen into disrepair, but a few near the home of Chief Petro Marealle are still capable of exploration. Although no artificial means of support was used the chambers are still almost as they were constructed and comparatively little of the earthwork has fallen in.

In the days of inter-tribal warfare long before European occupation of Tanganyika there was, apart from the local clan quarrels, an increasing fear of other tribes. The Wachagga were accustomed to falling back into their mountain fastnesses when raided by outsiders, and as their cattle were comparatively few and therefore valuable, some means of hiding them had to be found. These dugouts were first constructed in Rombo's district and were definitely used about 1872 when the great Chief Rindi, or Niandara as foreigners called him, raided and plundered Central and Eastern Kilimanjaro. The best of these now existent are to be found at Marangu, where Mangi Marealle ruled and liberated his people from the invader. They are hidden from the casual visitor and it is thought that probably less than six Europeans have ever been in them. There were many of them formerly, but time and weathering have left only a few intact until now. They were built as near as possible to the family hut, so that in time of attack a hasty retreat could be made without going outside the confines of the ancestral bounds.

The approach is hidden in a banana grove and is reached by climbing down an incline of some fifteen feet to a tunnel which these days must be negotiated on hands and knees. After crawling along for about eight yards the tunnel opens up into a roomy cavern in which the cattle were housed. There is room to stand in this first chamber and though parts of the walls have fallen in there are indications that there was space enough for up to ten animals. Stocks of food were kept there and the cattle which even in normal times do not go outside the huts were well used to the darkness.

Leading from this is another tunnel which connects with a large living room. Here there are still to be seen the remains of fire places with chimney holes; recesses for food and utensils are recognizable in the walls. These rooms have semi-circular self-supporting roofs and the earth which is hard though somewhat damp has held for over seventy years. From the central one are passages going off into smaller chambers, some for stores for food and others for extra hiding places. Having entered the refuge the family was prepared to live there self-contained for weeks if necessary. Air shafts enabled a siege

to be withstood and as a rule these were so cunningly contrived that an enemy would seldom discover their existence.

Water supplies were not forgotten and with the Wachagga's genius for water preservation and control—as is seen in their extensive furrow systems still in use on Kilimanjaro—there were in some of the dugouts underground water trenches which flowed in and then out at a lower point on the mountain. As the walls of these structures are in earth there are no indications of mural drawings or tribal designs, and domestic utensils and furniture appear to have been used only in case of extreme emergency.

There is no sign at all outside of excavated earth, and this is explained by the fact that at the time of building the dugouts, all that was taken out was carried to points a mile or more away and scattered over the country to remove any traces of suspicious looking mounds.

The hiding places formed a successful dupe to invaders and were seldom discovered, as the secret of their existence was jealously guarded by the family and tribe. The retreats were, however, only part of the tribal defences for as more formidable enemies made their appearance large stone walls were built behind which the warriors stood while defending their homes. Parts of Marealle's built-up defences still remain at Marangu, but a better preserved wall, which was used to advantage by Sina against the Germans, is to be seen near Kibosho. This, and an outer wall which surrounded his stronghold, made an effective obstacle which was finally overcome under gunfire.

The photographs which show part of the underground refuges were taken recently by flashlight and show how nearly related are the primitive and modern methods of defence in time of war.

The Population Trend

By A. T. Culwick, M.B.E.

THE 1931 Tanganyika Census Report is an optimistic and cheerful document. Every one knows that this country is being held back by the sparseness of its population and the resulting smallness of its revenue, and looks forward to the benign cycle of more people, more production, more wealth, better social services, a rising standard of living and still more people, and the 1931 report assures us that this cycle has begun.

"The fecundity of African women," we read, "is well known, and it is to be expected that as soon as the many and various factors which have retarded the numerical growth of African peoples have been removed or at least diminished in effect, then the increase in the population will be continuous." It then goes on, "the increase in population revealed by the 1931 census is a tribute to the efforts which have been made in recent years to improve conditions of living and to eradicate disease and customs destructive to life. In addition to particular factors of this nature account must be taken of the general rise in the standard of living brought about by the development of communications and the increased facilities for the cultivation of economic crops and for employment for wages under good conditions." In other words we may confidently look forward at least to the two per cent annual increase (*vide* page 10 of the report) being maintained indefinitely, which of course means the doubling of the population per generation with presumably a corresponding increase in production and revenue.

The implications of such a population trend are obviously enormous, involving as they do the necessity for the most careful long-range planning in the social, political and economic spheres, and it therefore behoves us to treat the 1931 census report as a document of paramount importance and to examine it critically.

As stated in the report, "the need for economy precluded the employment of any but the normal administrative machinery," which resulted in a degree of inaccuracy of which no definite estimate is given. The actual counting was carried out by the native administrations. In 1938-39 I had reason to check a simple count of population made in Bukoba by what is supposed to be the most advanced native authority in Tanganyika, and found an error of approximately ten per cent. Few, if any, native administrations could hope to produce more accurate figures than those from Bukoba, while the great majority have neither the personnel nor the organization to reach even this degree of accuracy. We may therefore conclude that the counting errors involved in the 1931 census are at least ten per cent, probably more, while the 1928 count was almost certainly still less accurate.

The figure of 5.9 per cent given in the 1931 report for the increase in population between 1928 and 1931 is therefore considerably less than the errors of enumeration and is therefore meaningless. In other words, the 1931 census cannot be said to demonstrate any increase of population between 1928 and 1931. The report further states that both the 1913 and the 1921 counts were even less accurate than that of 1928, so we are forced to the inescapable conclusion that, so far as the official census figures go, there is no conclusive evidence that the population of Tanganyika is either increasing or decreasing.

Furthermore, we must remember that even if the evidence of an increase were reliable, it would not necessarily demonstrate a healthy state of affairs or prove that the population of the Territory is reproducing itself. It is not uncommon, for example, in England, to find an increasing population, due to the filling up of the elder age-grades, in an area where insufficient children are available to replace their parents. In such a case, and in the absence of other data, a total count may give a false sense of security, leading the unwary to believe that all is well when in fact a population landslide is imminent.

As mentioned above, it is a matter of considerable importance to those who guide our destinies to know what is happening. It makes, or should make, a great difference to policy whether the population thirty years hence will have grown at two per cent per annum to ten millions, or shrunk at the same rate to a mere three millions.

In 1937-38 a new method of studying population trends was worked out and applied to the Ulunga Valley. It was a method which, though it gave no indication of the total population, did provide a reliable idea of population trends. The data showed that on an average one thousand women now over fifty years old had given birth to 1,565 girls of whom only 727 lived long enough to reach puberty, representing a decline in population of twenty-seven per cent per generation. Nor is this, bad as it is, the whole picture. The figure of twenty-seven per cent only refers to the old women now alive, those who stayed the course and passed right through the reproductive period of life. They are in fact a sample selected for longevity, and for their generation as a whole we have to postulate an even lower net reproduction rate, and a greater decrease, to take into account the many women who died at a younger age, before they had finished child-bearing, and who thus reduced the average fertility of their generation.

Nor did one find anything to encourage a more optimistic view regarding the women aged thirty to fifty years, forty per cent of whom had no surviving children at all, and twenty-five per cent only one, though the age-grade twenty to thirty made a rather better showing. The only conclusions to be drawn from the figures were: (1) that the trend of population in the area had been downwards instead of upwards as was commonly thought from the census figures, and (2) that the present younger generation of mothers, who had made a slightly more promising beginning, might conceivably reverse this trend provided some other factor did not upset them.

Having done this work amongst some of the more primitive inhabitants of the Territory, people just beginning to reap the benefits of being drawn into the orbit of world economics, it was most interesting to study the population question in Eastern Bukoba where hundreds of thousands of pounds are made annually from the coffee crop and where a highly sophisticated people are ruled by chiefs who drive about in their own motor cars.

The Bukoba District is well served by social services. Communications are good. There is no lack of educational and medical facilities in the coffee belt, and one would expect to find a rapidly increasing population, since the factors which in olden days retarded the numerical growth of African populations have been very largely removed.

A large sampling experiment showed that the child mortality rate (birth to puberty) was only 370 per one thousand live births, as compared with 530 in Ulanga, but in spite of this no sign of natural increase could be found. The net reproduction rate for the women over fifty years old was .815, which, as in the case of Ulanga, is an optimum figure, and represents a population decrease of more than 18.5 per cent per generation, though how much more we cannot say.

Examination of the younger age-grades showed that the number of girls in the age-grade fourteen to nineteen years had decreased by at least twenty per cent during the last decade, and moreover that it will suffer a further decline of about eighteen per cent during the next decade, since the number of children now growing up is insufficient to maintain the fourteen to nineteen grade even at its present strength. The seriousness of the situation will be readily appreciated when it is realized that the percentage of females under the age of puberty is only twenty-one, whereas fifty per cent are over thirty years.

The Bukoba data show without a doubt that the root of the trouble is low fertility brought about by the high incidence of venereal disease, the position being made even worse than it might otherwise have been by nearly five-and-a-half per cent of the women of child-bearing age being absent from the district, carrying on the profession of prostitution elsewhere.

In these two instances, Ulanga and Bukoba, we see that the well-known fecundity of African women, talked about in the 1931 census report, is a myth. It is found neither amongst the primitive inhabitants of the former district nor yet amongst the sophisticated Bahaya of the latter, and, so far as I am aware, there is no reliable evidence of its existence in most other Tanganyika tribes. We all know cases of African women who have reared large numbers of children. These naturally attract attention and have probably given rise to the fecundity myth, the large number of women who have no children, or only one perhaps, being overlooked.

It is assumed in the 1931 census report that the *Pax Britannica* is conducive to a growth in population. To many this is axiomatic. It is considered almost

unpatriotic to question it, but with the case of Bukoba before us, can we be so sure?

The increase in population which the 1931 report purports to show, but as we have seen does not, is attributed amongst other things to "a general rise in the standard of living brought about by the development of communications and the increased facilities for the cultivation of economic crops and for employment for wages under good conditions." The living conditions of the wage-earner vary enormously, but even if they were ideal, it is difficult to see how the removal of a large number of men from their women folk, which is what happens in so many cases, can effectively lead to an increase in population. It is also questionable what effect the cash crop has had on population trends. True, the people have more money now than they had, but whether that results in natural increase depends very largely on how the money is spent. It is common knowledge that in the rural communities, which constitute the bulk of the population, very little of the cash return from native produce is spent on food, housing or anything else likely to bring about an increase in numbers.

The opening up of communications has undoubtedly brought many facilities within the reach of a large number who would otherwise have been deprived of them, but roads and railways are not an unmixed blessing to Africa. Trains and lorries frequently carry many more spirochaetes and gonococci than passengers or bales of merchandise, and contribute as much to the breaking up of Bantu society, and especially the Bantu home, as they do to increasing the material wealth of the people. If things go on as at present, I fail to see how one can expect anything but a rapid increase in venereal infections with a corresponding decrease in fertility and an increase in the abortion and child-mortality rates.

The *Pax Britanica* and our ideas regarding the freedom of the individual tend to contribute towards a decline in population in another way too. Before the European occupation of this Territory it was necessary as a general rule for natives to live together in fairly large groups for purposes of mutual protection. But that is all over now. Fear of attack has been banished. A man is free to live where he wills, and as a result large population units have broken up and scattered through the bush, providing ideal conditions for the spread of sleeping sickness. This alone has caused many deaths, and will involve many more and a lot of money, too, before the situation can be brought fully under control.

"But," it will be argued, "we have a medical organization to counteract all these less desirable consequences of bringing Western civilization to Africa." True, we have, but can it cope with the enormous task that has been set it? Government spends approximately £200,000 a year on medicine, both curative and preventive, only eleven shillings per square mile, only seventy-three cents per head, which, as any one can see, is a totally inadequate sum

for tackling a problem of such magnitude and complexity; but it is all we can afford. The native administrations do their little bit, £20,000's worth, and the missions help too, but even so it is unfortunately the case that only a mere fraction of the population of the Territory is within easy reach of medical assistance, by which I mean within two hours' walk of the hospital or dispensary, quite far enough to go when you feel ill. It is not really surprising that the general level of health amongst the natives is extremely low, how low we are only now discovering.

No, the cheery optimism of the 1931 census report is demonstrably unjustified. The increase it purports to show is less than the errors of enumeration and therefore means nothing at all, while such other evidence as we have at our disposal demonstrates that the African woman is far from fecund and, with venereal diseases spreading as the country is opened up, will probably become less so. We see that even in a fertile area like the Ulanga Valley the population has been losing ground for at least a generation, that the "blessings" of Western civilization are overshadowed by the spread of diseases likely to diminish fertility and to increase child deaths, and that there is as yet no adequate machinery for coping with the situation.

We have in short no single shred of evidence for believing that the population trend is, or will be, upwards; on the contrary, in the absence of further data, we must assume the reverse, and I think it highly probable indeed that unless effective action is taken to prevent the decline, the population of Tanganyika Territory will be only about four millions in 1970, and will have shrunk to perhaps roughly three millions by the end of the century.

Nutrition and Tanganyika

By W. D. Raymond

“When thou shalt besiege a city . . . in making war . . . thou shalt not destroy the trees thereof by forcing an axe against them . . . to employ them in the siege : only the trees which thou knowest that they be not trees for meat, thou shalt destroy and cut them down.” DEUT xx, 19-20.

IN 1855 when Pasteur commenced his study of the fermentation of beer it was not appreciated how widespread and various were the ferments underlying disease. Subsequent application of his work lead to the practice of asepsis in surgery and hygiene, and for sometime now the “germ theory” of disease has been so widely accepted that it has been the mainspring of modern medical progress. When Hopkins in 1912 showed that even if infection was absent pure foods alone could not support a healthy life, we began to appreciate the role nutrition plays in maintaining the resistance of the body to the attack of disease. The appalling conditions of sanitation in the early nineteenth century can be paralleled by those of malnutrition in the world to-day, but because this conception is recent it cannot be accepted as axiomatic. It is therefore desirable to describe briefly the effects of nutrition on health and the factors underlying adequate nutrition so that we may examine the problems in Tanganyika against this general background.

Owing to the short life span (two to three years) and the almost human nutritional requirements of the rat it is possible with their aid to arrive in a few years at tentative conclusions that would require several generations if similar observations were conducted on humans. For these reasons, a great deal of useful nutritional knowledge has been amassed by the use of the rat and other animals. Thus it has been found in American experiments spread over twenty-five years that when rats are fed on a carefully planned diet they have the maximum of vigour and vitality at all ages; and that they grow larger and live longer than rats not so fed. Those fed on defective diets show early signs of senility, poor health and deformity, the nature of which depends upon the particular dietary defect. In India a diet consisting of whole wheat, milk, green leaves, fruit and occasional meat (Sikh diet) when compared with one consisting of white bread, margarine, preserved vegetables and meat, jam and sweet tea (poor European diet) by feeding to rats for six months, revealed marked differences in the health of the two groups of animals. The mortality in the two groups was fifteen and forty-five per cent respectively. The survivors of the first colony were well grown, sleek-coated, strong and active. Those of the second colony were ill grown, weakly and listless. Those in the first group had one hundred and thirty-four young, all of which were reared to maturity. Those in the second group had eleven young, two of which died and the remaining nine were eaten by their parents. In another Indian experiment equal groups of rats were fed on unlimited quantities of typical

regional diets for a period of two and a half months. They then had the following mean weights :—

Diet	Mean body weight			Body weight gain in percentage	
Sikh	235	grammes	...	...	60
Pathan	230	"	...	...	58
Mahratta	225	"	...	...	54
Gurkha	200	"	...	...	40
Kanarese	185	"	...	...	35
Bengali	180	"	...	...	33
Madrassi	155	"	...	...	23

According to Indian authorities the incidence of leprosy, pulmonary tuberculosis, beri-beri, gastric and duodenal ulcer, diarrhoea and dysentery in various racial areas of India are roughly proportional to the value of the diets shown in the above table.

Hookworm infection is widespread in Tanganyika. Recently two American scientists placed puppies on a diet deficient in minerals, vitamins and protein. A group of the puppies received a supplement of iron. After forty-two days infective hookworm larvae were fed to the animals and they all died with no significant difference in the time of survival, degree of anaemia or infestation. But puppies fed on an adequate diet and given a similar dose of hookworm larvae survived.

Experiments on the rate of wound healing of scorbutic and non-scorbutic guinea-pigs have shown that the wounds of the latter heal quicker and more completely than those of the scorbutic animals. Sufficient evidence has been quoted above to show the inferences which can be made from experimental animals. Unfortunately experiments on humans are time consuming and difficult, their results are fragmentary, but a brief account will show that such evidence as is available from human studies confirms the conclusions arrived at above.

In England diet bears a close relationship to income in the lower wage groups. The following figures show the correlation between wages and death rate found in one English area :—

Family income	Death rate per mille		
Shs 25 to 35 per week	...	...	25·96
Shs 65 to 75 ,,	...	...	13·51
Above Shs 75 ,,	...	...	11·52

Less these results should be attributed to the better sanitary conditions prevailing in the higher income groups it can be recalled that in one large slum clearance scheme the removal of the population was followed by an increase in the mortality and morbidity rate due to the fact that the slightly increased rent burden left the population with less money to spend on food. Another investigator found the children of unemployed to be shorter in height and

lighter in weight than children of employed workers of similar status in the same area. In Australia two communities working on lead silver mines had different incomes. The less well-paid sent their children to the town school, the better-paid sent their children to the mines school. Medical examination of the two groups of children revealed these differences :—

	Children attending	
	Town school	Mines school
Nutritional anaemia ...	12 per cent ...	3·4 per cent
Active rickets ...	17 „ ...	10·3 „
Chronic infection ...	4 „ ...	1·7 „

Seventy-five children (aged five to fourteen years), all admitted after attaining three years of age to an institution, were compared with an equal number of children of identical age and sex distributed in the poor schools of the same town. The two groups were of comparable heredity but their diets differed markedly : that of the institution was good. Thirty-seven of the first group were found to be fit in every way whereas only seven of the second group reached that standard. There is considerable evidence to show that adequate nutrition in the early years of life is more important than in later ages and that not only physical efficiency but mental ability also may be influenced by the state of nutrition. Thus forty-one poorly-fed children, aged two to eight years, were given an adequate diet and compared with a similar group of adequately-fed children whose diet was unaltered during the period of test. The intelligence (I.Q.) of the first group, as shown by mental tests, rose ten points whereas that of the second group was unchanged. The investigator recorded his opinion that the intelligence of children more than four years of age was little affected by the experiment. The Imperial Economic Advisory Council in Part I of their report (Cmd. 6050 of 1939) devoted a chapter to malnutrition in the Colonial Empire and describe its effects on the incidence of many tropical diseases including malaria. The good results obtained by feeding milk supplements to school children and many other similar experiments could be instanced to prove the beneficial effects of adequate nutrition on health but sufficient evidence has been quoted to show the basis of the thesis.

Since nutrition in its modern sense is a young science there are differences of opinion among experts on the exact details of what is an adequate diet. Many experiments are still incomplete; new factors may still lie undiscovered : but in broad outline there is agreement as to the main facts. What are these facts? Adequate nutrition may be defined as that diet which will develop to the maximum man's inherited potentialities. This diet may be resolved into a number of factors and in order to understand the nature of the problem in Tanganyika it is necessary to describe these main factors. The main factors of an adequate diet are : adequate calories, protein, fat and carbohydrate, an adequate supply of minerals (of which we may example salt, calcium and iron), and an adequate supply of vitamins (of which the more important

are A, B, C, D and K). When a gross deficiency of any or one factor occurs the human body shows marked signs of distress and a diseased condition arises. These diseases are known as deficiency diseases but long before such diseases are manifest the resistance of the body to infection and other non-nutritional diseases is lowered. Thus two nutritional standards can in general be distinguished: the minimum standard or the lowest level of the various factors necessary to prevent the appearance of any signs of the deficiency diseases and the optimal standard or that level of nutrition which will promote the highest attainable standard of human efficiency. There is a marked difference in the the two levels except in the case of calories where it is roughly of the order of twenty per cent. Thus in Great Britain frank deficiency disease is comparatively rare but at least fifty per cent of the population fail to reach the optimal standard of nutrition. In Tanganyika deficiency diseases are not uncommon and for years to come our aim must be to attain the minimum standard since the optimal one is out of practical reach of the bulk of the population.

The following is a brief list of the main nutritional factors, the signs of a gross deficiency of these individual factors and the common richer sources of supply of the factors available in Tanganyika :—

Food factor			Signs of gross deficiency			Main sources of supply
Protein	...	...	Oedema	...	...	Beans, meat, fish.
Fat	...	...	—	...	...	Oilseeds, oils and fats.
Carbohydrate	...	...	Starvation	...	...	Cereals, tubers, bananas.
Calories	...	...	Starvation	...	...	Fat, protein, carbohydrate.
Salt	...	...	Cessation of growth	...	...	—
Calcium	...	...	Bone (teeth) diseases	...	...	Milk, leaves, bran.
Iron	...	...	Anaemia	...	...	Leaves.
Vitamin A	...	...	Night blindness, toad skin.	...	...	Milk, ghee, liver, leaves, red fruits.
Vitamin B ₁	...	...	Beri-beri, polyneuritis...	...	...	Germ of grain, seeds.
Vitamin B ₂ (P.P.)	...	...	Pellagra	...	...	Meat, leaves, yeast.
Vitamin C	...	...	Scurvy	...	...	Fruit, leaves, tubers.
Vitamin D	...	...	Rickets	...	...	Liver, milk, sunlight.
Vitamin K	...	...	Haemorrhage	...	...	Leaves.

The above table is only approximate in that many of the factors are thinly concentrated in a wide range of foodstuffs. While it is possible to express quantitatively in suitable units the amount of each of above factors required for different persons or groups of persons and given quantitative data of food intake to calculate whether any diet is adequate, it can be seen from the above table that qualitatively a good Tanganyika diet should include cereals, beans with some meat or fish, green leaves, fruit or tubers and milk or a source of calcium with sunlight.

There is a dearth of clinical, scientific and sociological data on Tanganyika : in its absence any description of the nutritional problems here must necessarily be incomplete but such information as we have points to certain well marked

deficiencies in the diet. These appear to be the vitamins A, B₂ and C as revealed by the reported occurrences of night blindness, pellagra and scurvy respectively; and calcium as shown by the analysis of daily African intakes which are in the region of 0.3 to 0.4 gramme whereas 0.5 gramme is the minimum amount required. Although this calcium deficiency is pronounced it cannot be recognized to correspond with any disease in the population. Certainly the African is small in stature and an increase would be expected to follow an augmented calcium supply but he seems to have shown a remarkable power of adjusting his metabolism to the lack of calcium. Meat and fish are also lacking from African diets but more study is required before the effects of these food shortages on the health of the population can be assessed.

From the table it has been shown that fruit and leaves should find a liberal application in African dietaries. Too often the African regards his fruit as a famine food, and his green leaves as a relish added only in the absence of meat to render his cereal more palatable. There is a real need for his re-education as to the functions fulfilled by fruit and green vegetables. Cooking as an African art is also almost non-existent and in both of these problems it is primarily the women who need instruction.

There is an absence of accurate data on the composition and nutritive value of many of the foodstuffs which are utilized by the indigenous population. Too often agricultural policy in ignorance of this data has been based on purely economic considerations and without regard to its effect on changing food habits and altering health of the population. The problem of an adequate food supply to the rural population is in part agricultural and in part educational. Green leaves and fruit are too lowly esteemed, supplies of fish, meat, calcium and, in some areas, salt are inadequate. It should not be impossible for administrative and agricultural policy to rectify these shortages and thus provide the elements for a solution of rural malnutrition but a major difficulty is likely to be encountered in the inertia of the peasant himself. Still the improvement consequent in the general health of a section of the population, largely out of range of medical aid, would undoubtedly repay the time and attention needed to solve the problem.

Turning to estate labour, little information is available except in respect of the sisal industry. Here the position is far from satisfactory but there are signs that an improvement is imminent. In the past the employer seems to have learnt his food policy from the misinformed African, whose main concern in a land of famines has been to fill his belly. The cheapest method of achieving this aim is to fill it with maize and beans. Dr A. McKenzie, describing the estate diets of the Morogoro area, wrote: "The standard estate ration as laid down was:—

Maize meal ...	24ozs daily.	Groundnuts ...	4ozs twice a week.
Beans ...	6 ,, ,,	Fish or meat ...	4 ,, ,,

This ration was issued at the end of each day's work. If the labourer was sick and attended the estate dressing station he usually received a half ration.

If he did not report sick no food was issued Pay was low and was on a daily basis, but the labourer was not normally paid until he had completed thirty days There was on most estates little possibility of buying a more varied diet than that supplied Fresh vegetables were usually impossible and meat when obtainable was at an almost prohibitive price (a pound of meat cost three-quarters of a day's pay). Food was, of course, issued uncooked and no provision was made for cooking facilities or fuel." What is the output of labour on such a diet? The daily task set is low when compared with standards on the Rand and in Europe and even this task was rarely completed daily. Absenteeism whether from sickness or apathy was common: "How frequently this occurred is shown by many managers offering a bonus to their labour if they would complete their thirty working days within a period of forty days. It was estimated that the average time taken was between forty-five and fifty-five days." Here then is chronic malnutrition with its boon companions inefficiency and ill-health. Since the employer values efficiency it should not be difficult to persuade him to improve the food of his employees and there are already signs that he begins to appreciate the true situation. The East African Command has set an excellent example in the feeding of the African ranks and it is to be hoped that when they return to Tanganyika their service will be rewarded by better dietary conditions in industry.

In the towns nutrition is greatly affected by purely economic considerations and a rise in the standard of living though often desirable is difficult to achieve. Unfortunately dishonest traders practice to an increasing degree the adulteration of native foodstuffs which reduces still more the often inadequate purchasing power of the African. While it should not be difficult to stop these dishonest practices more information is required concerning the purchasing power of the town dweller before his nutritional state can be described with any accuracy.

In conclusion perhaps I can suggest what steps appear desirable to achieve better nutrition for the natives of Tanganyika. These steps are:—

1. The investigation of the nutritional state of various sections of the population with a view to the formulation of economic methods for their improved nutrition.

2. The determination of the nutritive value of local food supplies and an agricultural policy designed to promote the growing of crops to bring better nutrition to the population.

3. The development of cheap, palatable and rich sources of such food factors as are generally lacking in the diet and the marketing of such preparations in packings and at prices within economic reach of the population and employers.

4. The education of the African—and especially the African woman—in the principles of correct nutrition.

5. The guidance of employers in planning a more informed policy towards their labour.

6. The scientific development of the soil on which the whole future of Tanganyika depends.

At present much of our man power is devoted to purely war-time aims but when peace comes it should find us prepared to advance nutritionally, rapidly—since the problem is urgent—but without those dislocations which so often have marred man's progress in the past. This end can only be achieved if plans are prepared in advance.

“ So runs my dream ; But what am I ?
An infant crying in the night ;
An infant crying for the light ;
And with no language but a cry.”

Musings from the Air

By C. Gillman, C.B.E.

The following pages are culled from the author's diaries of his flights over Africa. They have been selected with the primary aim to convey the many advantages that air travel offers to those anxious to increase their admiration and to widen their understanding of Nature's beauties and problems. They are summary impressions of long-distance flights.

I.—FLIGHT OVER RHODESIA

(October, 1932)

WHAT are the outstanding features of this my first great voyage through the air? First and foremost: I am utterly fascinated, the air has captured me, I now know what formerly I had only guessed, that to the geographer this additional angle from which to see and study the earth is essential if his synthesis is to be complete. And to Man, pure and simple, the Earth's beauty as revealed in entirely different shades, colours and groupings, is likewise essential; but all this does not mean that I agree with 11 to 12 hours rushed flying day after day. I would not, for example, delight in a flight of a week or more from Africa to England. The discomforts and accompanying strain, especially when the plane is full, are still too great, for the present at least. They would only spoil the pleasures which short flights have in store for all who have a soul and a mind ready to receive great revelations. But there can be no doubt that during these 1,115 miles between Mbeya and Bulawayo I have become a fuller, a more-sided man; I have literally been raised to a higher plane; and all is well . . .

Secondly, and with special regard to Central Africa, I have been impressed as never before with the vastness, with the hopelessness of its wilderness! Where, formerly, I had only imagined these wide, dreary, waterless savannahs and thorny wastes of which one sees only restricted expanses from hill—or even mountain—top, I have now seen them in all their awe-inspiring extent covering thousands, nay, tens of thousands of square miles, all visible simultaneously almost, through that combination of height and speed which only the aeroplane can give.

Thirdly, I have realized more than ever how arid, how indomitable, how stern and severe Nature opposes Man in his aspirations, misguided as they are by optimism based on lack of knowledge and, what is perhaps worse, on lack of will to know and learn!

Fourthly, and from the purely geomorphological point of view: I have now seen that both Rhodesias, although a few permanent streams do traverse

the thirsty country at long intervals, are not really so very much different from or more favourably endowed than the north-eastwards adjoining plateau regions.

I have also had an unexpectedly good opportunity for seeing and realizing in a most realistic way, the enormity of land occupation by the white-ant whose mounds have accompanied me on this 1,000 mile flight in the shape of never absent, countless millions of little round specks littering the savannah; mounds which, even where they have been levelled by hoe or plough in the more intensely cultivated areas of Southern Rhodesia, still show up from the air by a clearly distinguishable differentiation of soil colouring.

II.—AN ATTEMPT TO SUM UP MY FLIGHT FROM CAIRO TO DODOMA

(April, 1933)

The "Living Map".—On the occasion of my first long flight I had already clearly stated how essential the angle from the air is to the geographer's completion of his synthesis. Once again and, perhaps, more impressively even has this longer flight brought out this point: The synthesis, the final aim of all geographical effort of the human mind, means, of course, the grasp of the Earth's surface as a *whole*, and although many or most of the intricacies which make up this whole, by juxtaposition, by coordination, by mutual interaction, can only be understood by long and painstaking observation on the ground, such observation can and must, now that we have learned to fly, be supplemented by the wider vistas offered through bird-like travel through the air. Both space and time are integral elements in this widening of the view, the horizon of space being pushed further and further (visibility permitting) as one rises, and the succession of time, relative to space, is reduced as one gathers speed. The result is that "Living Map," that long, ever changing, broad ribbon which constantly glides away under one's gaze with our tiny dancing shadow far, far below to scale distance and height; how much that is new, how much that clarifies one's ideas does it not give us? A map, indeed, and yet how much more than the printed map, that mere approach to truth with its conventionality, its omissions on the one, its generalizations on the other hand, this "map" spread out beneath the flying eye so full of light and shade and colour, of moving change, of changing movement. A "Living Map" in the truest sense of the word and a constant memento to him who would try to unravel nature's secrets that his only chance of success lies in the full recognition, in the unwavering bowing to old Heraclitos' "*Panta Rhei*"; for only if we see this ever present flux shall we achieve emancipation from the shortcomings of our mind which, fearing the complications of the "whole," seeks futile shelter behind artificial, clumsy, untrue categories, divisions, classifications. And nothing, I believe, is more salutary, more helpful, towards this much needed purification from the sins of Linné than a joyful and grateful taking in of the "living map's" great lesson.

But more, much more than such purification of the intellectual side of our mind do we receive by pious contemplation of the "living map." Placed midway, so to speak, between the comparative narrowness of even this widest possible aspect of our tiny earth and the infinite vastness of the cosmos, gliding through, seeing and feeling that delicate medium wherein the emanations of earth and cosmos meet, that ever thinning atmosphere which so gradually and so beautifully fulfils the function of joining earth and heaven into a greater "whole"; does not, must not such raised position within the universe expanding in all directions around us stir our soul, that inseparable counterpart to our intellect, likewise into purer, truer visions; and does it not do so much easier and much more spontaneously than the prolonged fastings and meditations of saints and sages tied to the earth? And is not an integral part of this stirring of the soul linked up with the new beauty revealed to man-bird's drinking and drunken eye by the undreamt of lights and colours and patterns of the familiar things of his earth?

The Atmosphere.—I have already touched upon the atmosphere's rôle and helpfulness in the wider grasping of things of the beyond. To the geographer its pulsations and circulations form, together with internal tectonic forces of the earth, the most important foundations for his synthetic inductions. To "Avigation" (for once a good and useful contribution to English from across the Atlantic), its laws and vagaries are iron rules the disobedience of which spells disaster and death. In the shape of its only visible form, the clouds, it always has been and always will remain a source of endless thrills and delights to small and big children alike.

How often have I sat and watched these African clouds? And now that I can fly to them, through them, above them, I feel more at home with them than ever. Whether they lie in serried échelons as a tangible and apparently invulnerable screen between cosmos and earth; whether this screen, when one has penetrated into it, dissolves itself into a less formidable array of individual vapour-heaps from which blue windows open out into the cosmic depth and yawning apertures show green, brown, purple bits of earth; or whether as one rises still higher, it closes up again and becomes an endless sea of white and gold, they never cease to fascinate the eye, to gladden the heart with their ever changing beauty of colour and form. In their more sinister moods, when as storm-clouds the beauty of their high towering, bulging, grey-white cumuli, rising high from a fast approaching wall of impenetrable black, warns little man how small and insignificant he is in spite of all his daring; or when grim lightning tears the black to shreds, engendering fear in all but the stoutest heart, to be amongst them then is a lesson not easily forgotten.

Another aspect of flying in the atmosphere of tropical High Africa and one that he who is tender of skin or heart should not lightly dismiss, is the repeated and rapid change from hot to cold, from high to low pressure. Changes of

15 degrees centigrade in temperature and of 100 to 120 m/m in air pressure, within 10 to 15 minutes, are strains to which one's body must get accustomed.

The Cross-section.—How wonderfully the rapidity of long distance flights helps one in the study of geographical cross-sections. Helps one to realize the gradual change by which the regions of the earth melt one into another, thus creating that continuity which links even far distant lands together in the understanding mind of man. And all this becomes beautifully instructive when, as on this flight of mine, a few short days join Mediterranean lands across the desert belt and through the narrow zone of rains which wander with the sun, to the equatorial highlands of Central Africa.

Practically throughout, the "cross-section" of this flight from Lower Egypt to the great rifts of East Africa, lay over the Nile, that strange ribbon of life-spending water which carries part of the abundance of tropical downpours to the parched desert three thousand miles away. But as we fly along its present course we gather from the arrangement of the valley's kinks and bends, from the stretches on which the waters still actively carve their cataracts through upturned crust-blocks, and which alternate with vast swampy basins, that the great river has not always reached the land which it has turned into a granary during the last few thousand years, during the last few seconds of geological history. And in the south, in the tilt-block zone of upwarped "High Africa," we see how the jumble of scarps, whilst it has no doubt caused much of the water once tributary to the Congo now to flow northwards to the Nile, has on the other hand, robbed that mighty artery of many of its former headwaters by diverting some of the tributaries to the great central collecting basins into the sunken strips of the rift valleys, where they evaporate in shallow pans. Thus the very course of the great river which we follow draws our attention to the change of topography: Immense flat tablelands in the north, only slightly disturbed by the great tectonic forces which increase in strength and resulting roughness and freshness of relief as we approach the ever higher rising ground near the centre of the uplifted continent, where the crust is shattered on a gigantic scale, and huge volcanoes have risen from the deep.

But whereas it requires a trained eye and mind to follow this topographic change and to understand its meaning, the great change due to the arrangement of the climatic belts is clear throughout to every one: The very air through which we fly tells the tale: We leave behind us the uniform pale blue of an Egyptian spring sky, we race over the dust haze of the desert afraid lest a real dust storm should catch hold of us; we notice banks of cloud covering ever increasing patches of the horizon as we fly over the northern Sudan, and we bump into and through the heavy rains which at this time of year reach as far north as the Sudd region of the Bahr el Jebel; and finally we try to dodge the tropical heat storms with their lightning and cyclonic turmoil and the heavy blankets in which they veil the great mountains on the equator.

And still a little further south we find the earth of semi-arid Africa already in the clutches of beginning drought now that the rains have passed on their northward trek.

And vegetation, that truthful and reliable indicator of climate—much more reliable and much more embracing than the meteorological instruments of man—throws the image painted in a faint and shifting way on the sky by the clouds, on to the “living map” of the earth in bolder and more enduring hues; and no other feature, perhaps, shows as clearly, as unmistakably, the gradualness of change, the merging by almost imperceptible steps from the full desert, through scant thorn, steppe and savannah to the few patches of tropical rain forest that even semi-arid East Africa still harbours in a few most favoured localities. How beautifully does the rapid succession of all these changes make one comprehend the delicate adjustments of plants and plant communities to the slightest variations of climate and exposure, variations themselves so small that a whole array of instruments could not give us the data which a single glance from the air makes so perfectly obvious.

And with the change of vegetation change the habits, the dwellings, the congregations of man who, like everything that lives in the animal kingdom is, in the last resource, dependent on the plants which concoct in their tiny cell-laboratories, from air and soil and water the sustenance of our lives. Thus, when scanning from our lofty vantage point the activities of man, we find confirmed at every moment that great and beautiful causal nexus between rock and soil, climate, water, plant life and him; and more particularly does a cross-section through arid and semi-arid Africa bring out the importance of water in this elucidating string of terrestrial happenings. The high culture, the child of famine and struggle, which has grown up nourished by ever wider knowledge, and which has learned the art of using great stranger rivers to irrigate the thirsty soils of the desert; and after this for thousands of miles only primitive man, making as much as he can of a far from generous nature by nomadism in the drier, by shifting cultivation in the less dry regions; finally in the somewhat more humid lands near the equator, climatically very narrowly circumscribed, small areas of denser settlement, geographically speaking still oases, that is, places in the surrounding wilderness where for one reason or another water supplies suffice to maintain a more or less precarious existence, places where the fear of drought and famine is always present. And sprinkled throughout this long-drawn strip of human life where population density gradually changes from one hundred or more square miles per man to forty or fifty men per square mile, the white man sits, holding the wastes in the interest of his political ambitions or bearing “the white man’s burden” in the interest of his “savage” brethren.

“*Empty Africa*”.—During the whole flight I took constant notes of time, altitude and visibility and from these I have since computed, with a fair degree of accuracy, that during 2,007 minutes in the air I have overlooked

a total visible area of 720,000 square kilometres. I have, further, noted down in detail all traces seen of human occupation of the land and I have carefully compared with, and adjusted my observations to the facts as illustrated on the latest available maps. I have found the following :—

Taking "human occupation" in its very widest sense and computing areas very generously, I have been in sight of such occupation for 550 minutes, the extent of the seen "occupied" area being 53,000 square kilometres. Leaving out of my calculations pure nomadism and the extremely scattered occupation of the semi-desert (with only a minute fraction of one as the average population "density" per square kilometre), these figures are reduced to 450 minutes and 36,000 square kilometres. But even so the impression derived from these figures would not be a fair one as the very narrow strip of irrigated Nile banks between Cairo and Kosti and the equally narrow riverine settlements between Kodok and Malakal and at Bor contribute, with 250 flying minutes only 9,500 square kilometres or about one-fourth of the total occupied area. If, however, one allows only, say 30 minutes for these particular Nile engendered settlements, one obtains a more correct relative representation of the time/area ratio and a total flying time of 230 minutes for the 36,000 square kilometres of settled ground.

Expressed in percentages the naked facts are thus: Including nomads and scattered dwellers in the semi-desert only a little more than one-fourth (27·5 per cent) of the flying time from Cairo to Dodoma is spent in flying over the 7·5 per cent of the total land surface seen which is occupied by human beings. For real "settlement," of one sort or another, and mostly of a very precarious nature, full of toil and anxiety, these percentages are reduced to a little over one-tenth (11·5 per cent) of the flying time and to a bare 5 per cent of the earth's visible surface.

This numerical grasp of Africa's notorious "emptiness" teaches, of course, nothing new. What is new, however, is the realization that the time/space ratio of flying brings the old fact out so much more strikingly. And one other point: The route of the Imperial Airways is by no means a "bee-line" from the agricultural wealth of the Nile Delta to the gold of the Rand. It has, on the contrary, been deliberately and carefully chosen to connect, by very considerable and costly deviations, what is considered best and most promising in British High Africa; so that the traveller along this route cannot even console himself with the hope that he is merely being raced over a line designed solely for rapid through-communication and that "better country is sure to lie on the right or left somewhere below the horizon." The more people, therefore, hurry along this route with open eyes and hearts, the greater the chance and hope that they will one day find out this truth: That such scant contributions to human wealth and well-being as Africa, stern, hard, empty Africa can and will, no doubt, produce will be raised only if man commences to make appropriate use of the results of careful ground surveys of every kind and in every direction. And far from replacing such ground surveys, the

aeroplane and the spread of the flying habit will, on the contrary, help towards imbuing an ever growing number of thinking men with their necessity.

Our synthetical thinking, however, should not rest content with the building stones thus hewn from an analysis of present day facts. If it wishes to achieve the closest possible approach to the beauty of truth, this synthetical edifice must fall back to a large extent on building material dug out from the past : History must supplement Geography. Only then shall we grasp to the full that from the beginnings of civilization, which coincided with the retreat of the pleistocene ice-sheets from glacial Europe and Asia and with the beginning of a marked deterioration in the climate of pluvial Africa, this great and high continent has, at first, gradually and relatively become emptier and has, thereafter, remained empty throughout historical time. An understanding of this historical emptiness and of its physical causes will, I believe, lead to a better understanding of the present day emptiness against which even the weapons of technical man are proving of but little avail; certainly as long as they are wielded by a civilization which "invests" in order to gain "interest".

Poor, empty Africa, but, oh ! how rich in beauty and in much that stirs one's soul !

Ships That Have Passed

By G. G. Giffard

TIME moves on: sometime in 1920 from the deck of the *Lord Milner*—predecessor of the *Azania*—we watched the shore of Kenya recede as we laid course for Dar es Salaam, picking up at Zanzibar as passenger Tanganyika's first Director of Education. At that time by reason of the absence of other coastal communication, the *Governor's Yacht* maintained an intermittent passenger and freight service between here and Mombasa when not employed on her gubernatorial duties. In those days the entrance channel to Dar es Salaam harbour was still almost blocked by the *König*, a German ship of some seven thousand tons which had been sunk during the war and which, in conjunction with the floating dock—also sunk—the Germans had hoped would entirely block the entrance. The *König* was lying heeled over to starboard about where the swimming club now is, with her masts pointing to the Signal Station, and the very narrow channel left between her and the floating dock made passage for ships of any size a matter of some risk, in fact ships such as the *Llanstephan Castle* did not in those days enter the harbour. Under the supervision of the late Captain Ingles, R.N., she was later sufficiently "patched" to enable her to be floated off and towed down the creek where she was beached round the corner. (She is not to be confused with the *Tabora* which lies opposite the dockyard.) By the employment of the entire King's African Rifles garrison plus the willing aid of some hundreds of helpers the "dock" was next heaved nearer ashore to her present position. One other wreck then in harbour was the German gunboat *Moewe* which was later sold for scrap and broken up.⁽¹⁾

The *Lord Milner* has long since ceased voyaging and in her wake have followed not a few ships themselves now only a memory. A memory now and again awakened by chance remark or incident bringing with it not uninteresting speculation on the part these little ships played in the initial development of the Territory under British mandate. To most of us the arrival of a little ship meant the arrival of news from home. (In those days three weeks—like Elinor Glyn's novel of that name—was fast going for mail. Air mail was a thing unknown.)

Under the by no means colourless personality of its Commander ("Paddy" Woods) the log of the *Lord Milner* was seldom without incident. One

⁽¹⁾ Mention of the harbour entrance recalls to mind—though they have no connection with ships—those two enormous tortoises who lived and moved and had their being between the foreshore and the Mission building (now and then gate-crashing into Government House grounds); a joy to the children and not infrequently a sudden jar to the unobservant motorist taking the air. Their end is somewhat of a mystery but I seem to recall that a callous brute received a sentence of nine months for the wanton and brutal massacre of one of them.

remembers the race one early dawn down the coast of Zanzibar to beat the American freighter *Chapahua* into port. Achieved almost by inches only. Alas! the effort cost burnt out boiler tubes and much "bakshish" to amateur stokers and was the beginning—despite an abortive and costly attempt at whitewashing in Durban—of a cargo of trouble that led to the grave. It was from the *Lord Milner*, when she had unluckily strayed on to a sandbank, that an impetuous amateur salvage corps endeavoured to lighten ship by dumping overside her cargo of cotton seed fondly believed to be the property of Government. This was an error, for which Government eventually had to pay.

If nothing else, the *Lord Milner* pointed the need for regular coastal communication till such time as the authorities could provide better facilities for the loading and unloading at Dar es Salaam of ocean going ships and it was not surprising that more "little" ships appeared on the horizon. Messrs Cowasjee Dinshaw Brothers ran one if not two of which the *Tuna* was well known to all of us. The modern generation with its refrigerators and cold storage counters may find it difficult to believe the eager anticipation with which we looked for the arrival of these ships with their all too limited supplies of Bombay "Express" butter (three shillings and fifty cents per pound, good, bad or just rancid as luck might have it) and other luxuries. The *Tuna* disappeared from our ken with the others, but for many years after she could still be seen puffing her way out of Aden to the Somaliland litoral. Then we had those four ex-trawlers—released from the hazards of minesweeping—the *Cannanore*, *Calicut*, *Karachi* and *Nairobi*, run under the local agency of Messrs Karimjee Jivanjee & Co. A fifth plied between Lamu and Mombasa. Ill-luck dogged these North Sea craft. One came to grief near Lamu and another on the rocks at Kilindini and soon after the remaining three were withdrawn for service on the Malabar coast.

It must be mentioned that Zanzibar had for some time maintained connection with the mainland with two ships, the *Khalifa* and the *Cupid*, forerunners of the *El Hathera* and the *Al Said* of to-day. Its preferential tariff and the lack of bonded warehouse facilities in Tanganyika ports contributed to make Zanzibar an important storage centre for imported goods and a focal point of distribution down the coast by these little ships and to no small extent by dhow.

Another venture on this coast — albeit a short-lived one — was the Glendinning Steamship Company. This, I recollect, was a one ship concern, the "fleet" consisting of the old *Ipu*, known to all whose journeyings took them into Central Africa. Originally she maintained connection between the terminal port of Beira and Chinde, the Zambezi River port where one transhipped to the flat-bottomed river paddle steamers for Chindio or Port Herald. (A fascinating journey whose duration depended on how many sandbanks you struck or whether the river was in flood or not, in which event you either sailed on a "bee line" bearing past tree tops and the roofs of houses

or followed the more tortuous channel of the river proper. Some way up is the almost forgotten grave of Mrs Livingstone.)

Accommodation on the *Ipu* was over the propeller and in rough weather the effect on passengers was seldom in doubt. The Glendinning Steamship Company went out of business on a rock between Dar es Salaam and Tanga, news of which was brought to Dar es Salaam in the person of a perspiring Ruggles-Brise who had waded ashore and made his way through some thirty miles of bush. With the end of this venture our narrative should end also. By now the agencies of the ocean-going lines had established their own direct coastal communication and the *Ndovu*, *Kifaru*, *Tayari*, *Mohesi*, and others of too recent origin to need mentioning had come into service. We may perhaps be permitted to mention a French sloop which, after a courtesy call, took the wrong turning in the dark. Then there was the *Madal* which started off badly by coming in without waking the pilot and later caused the Foreign Office to raise queries because she happened to fly the flag of the little Principality of Monaco. She moved further south and took up a "beat" on the Portuguese East African coast.

The old cable ship *Sherard Osborne* may be remembered by some. She was followed by the *Lady Denison Pender* and after lying up in Durban for many years was sold at scrap prices to a syndicate who thought her circular tanks could be utilized in the deep sea fishing trade. Rotting plates and rotten food caused a serious mutiny on the way to Europe and destroyers and other men-of-war were rushed to the scene. After being "headlines" in the press for a day she disappeared from ken.

History of Mafia

By D. W. I. Piggott

FROM the earliest time the importance of Mafia has depended largely on its geographical position in relation to sea-borne trade. As an island offering sheltered anchorage in all weathers and protected by a wide channel from land invasion it became a useful link in the string of alien coastal settlements. It has been visited from time to time by travellers who have described their experiences, but as it was but a stage in the journey we get little information on the people and their doings. Lying off the Rufiji Delta and having no direct connection with up-country trade routes it could never attain the importance of Kilwa and many other coastal towns; had it held a slave market and exported ivory history might have had a different story to tell.

The Periplus of the Erythraean Sea, a kind of pilot's guide to the Indian Ocean of the first century A.D., refers to the Azanian coast as follows: "The voyage to all these farside market-towns is made from Egypt about the month of July . . . bringing the products of their own places, wheat, rice, clarified butter, sesame oil, cotton cloth and girdles and honey from the seed called sacchari. Some make the voyage especially to these market-towns, and others exchange their cargoes while sailing along the coast. This country is not subject to a king, but each market-town is ruled by its separate chief two days' sail beyond, there lies the very last market-town of the continent of Azania, which is called Rhapta, which has its name from the sewed boats already mentioned; in which there is ivory in great quantity and tortoise shell. Along this coast live men of piratical habits, very great in stature and under separate chiefs for each place. The Mapharitic Chief governs it under some ancient right that subjects it to the sovereignty of the State that is become first in Arabia . . . and these markets of Azania are the very last of the continent that stretches down on the right hand from Berenice, for beyond these places the unexplored ocean curves around towards the West, and running along by the regions to the south of Aethiopia and Libya and Africa it mingles with the Western sea."

The identity of Rhapta is uncertain but its importance suggests that it had an extensive caravan route for the purchasing of ivory up-country and it is not likely to have been on the Rufiji Delta.

About A.D. 600, when the Indian Ocean emerges from the darkness, it is seen to be studded with Asiatic merchant ships. Their furthest point southwards in Africa was Sofala and it is significant that beyond Sofala the monsoon is replaced by cold and more blustering weather. Malaysians and Javanese appear in Madagascar, though this is probably a case of earlier race migration

and not only trade connections. The discovery of Chinese coins dated from the eighth century shows that trade at least was carried on with the Far East. Rather later it is recorded in a tenth century chronicle that houses at Siraf on the Persian Gulf were built of wood from East Africa, perhaps an early indication of the flourishing trade in mangrove poles carried on between the Rufiji Delta and the Persian Gulf for house-building to this day.

There is a circumstantial story reminiscent of the Arabian Nights, of the arrival in East Africa from Shiraz of Ali bin Sultan Hassan bin Ali and his seven sons. They are said to have founded seven settlements on the East African coast, Ali bin Hassan himself landing at Kilwa. One of the sons, Bashat, settled in Mafia.

As the story was repeated by court chroniclers in Shiraz as well as in the Kilwa records there is probably some truth in it. However, the immigration did not stop at seven ships as there is a strong Shirazi element on the coast to this day. The Shirazi under Bashat found a native tribe called the Wambwera already in residence on Mafia. This tribe also occupied a considerable stretch of the mainland coast and Songo-Songo Island, near Kilwa. It is said locally that the Shirazi settled in the north of the island, where the Wambwera had their headquarters, and intermarried with them. The remains of an ancient mosque of Shirazi type at Muskitini could be seen until quite recently. There is another on Jibondo Island with the walls still standing, which is also attributed to them.

The Shirazi dominated the coast from their headquarters at Kilwa and were at their zenith from the eleventh to the thirteenth centuries, when their rule extended from north of Mombasa down to Sofala. Their chief source of wealth was the gold from Sofala but in addition they are said to have levied extortionate customs dues on all commerce passing Kilwa. Their relations with the Arabs is not altogether clear. Before their arrival the coast had been loosely controlled from Arabia and much of the trade was in Arab hands. When their power declined after the thirteenth century the greatness of Kilwa remained and she still controlled Sofala and the gold trade when the Portuguese arrived two centuries later. It seems that the Shirazi were gradually absorbed into the hotchpotch of local tribes whereas the Arabs, by continuous immigration, maintained their dominance and took over the reins of government.

It was during the long and prosperous period of Shirazi and Arab dominion before the arrival of the Portuguese that the town of Kisimani Mafia was founded, and perhaps also that of Kua. Their early history is not known and like Songo Manara near Kilwa Kisiwani, they form a virgin field for the archæologist. Unlike Songo Manara, however, the architectural and decorative features still to be seen are of a low standard and it seems to me possible that the existing ruins at Kua, at least, are of no great antiquity. An interesting point that may be significant is made by Burton in his description of a visit to Kilwa. He says that Songo Manara was described to him as having originally been inhabited by the Wadubuki, a Moslem clan, while local

tradition in Mafia also mentions the Wadebuli as the earliest inhabitants. Nothing seems to be known of them though they are similarly connected with Pemba and Zanzibar. It has been suggested that they came from Dhabol on the west coast of India. Kisimani Mafia ruins lie on the western tip of Mafia overlooking the delta whereas Kua is on Juani, a small island; very hot (hence the name) and rather inhospitable; the water supply also is poor. The relations between Kua and Kisimani Mafia may well have been hostile. Some say that the Shirazis founded Kisimani Mafia and were then driven out by the Arabs and settled at Kua where they were not likely to be disturbed.

The ruins at Kisimani Mafia cover only a few acres and can barely be traced on the hummocky grassland of a coconut plantation. The larger part of the town has been engulfed by the sea and the most interesting part remaining is the beach cliff which provides a useful section through the walls of some of the buildings. The story is that the town used to extend far across towards Bwejuu Island.

However that may have been, the assertion that the ruins can be seen below the sea must be contradicted once and for all. I visited the site at an equinoctial low springtide and found no trace of ruins on the sea-bottom. Furthermore the tidal range is over twelve feet and high water springs do not quite reach the original floor level of the remaining ruins, so it is therefore difficult to see what remains could exist at that depth unless there has been geological faulting in recent years. It is probable that the story arose from a ridge of coral on the edge of the reef close by (called Mwamba Ukuta). This ridge at extreme low water springs resembles an ancient derelict pier nearly a mile long and composed of huge old slabs of rock. These could well be converted by the eye of imagination into the work of giants of the past.

The Kua ruins cover a large area on the west of Juani and near to the shore. They appear not to have had a protecting wall. The buildings are rather roughly made and characterless; most of them are now only piles of rubble, but a few in the most influential part of the town still have standing walls. The archways are not interesting and there is no good dressed coral to give distinction to them. Opposite the town, and indeed all round Juani Island, the beach is rocky and the tide dries out some distance on bare coral so the population cannot have depended on sea trade, they must have cultivated extensively on the island. The soil is good, but rainfall is low. The ruins are heavily overgrown with bush and are periodically cleared to some extent.

The Portuguese first came into the picture when Vasco da Gama sighted the island on his famous voyage in 1498. Mafia was then under Kilwa and shortly after that town had been sacked by Almeida in 1505, it was itself conquered by Duarte Lemos (1508). No garrison was established and the Portuguese dominion was a fitful affair of expeditions to collect tribute and enforce obedience followed by long years of neglect. They needed the trade yet they were not able to maintain it without the help of the very Arabs and

Indians whom they had persecuted and killed. No wonder that these were times of lawlessness when Mafia, with a useful dhow fleet, supplemented what was left of her trade with piracy. The two centuries of Portuguese rule brought few advantages to offset the destruction of East African trade and the burning and pillaging of towns. It is true that they introduced manioc, maize and the pineapple, but the Arabs themselves had brought citrus fruit and had greatly extended the cultivation of palms, mtama, rice and beans. On the balance their arrival was a disaster to East Africa and order was not restored again until Sultan Said reunited the coast under his rule.

The next definite news of Mafia is a Portuguese report in 1635 that the island was subordinate to Kilwa and had a small fort and a garrison of twelve. This fort is reputed to have been near Kirongwe, but in 1893 Baumann could find no trace of it. Chole and Juani are recorded as paying an annual tribute of gum copal and coconut fibre so perhaps the town of Kisimani Mafia had already been destroyed. The nomenclature itself may be of significance as the first mention of "Mafia" Island is by the Portuguese, who called it "Monfia," and they probably heard the name in relation to the town of Mafia at Kisimani. The Swahili name for the island to this day is Chole, Chole Island itself being Chole Mjini and Mafia, Chole Shamba. It is at least possible, therefore, that the Portuguese found the headquarters of the islands at Kisimani Mafia and thereafter called the main island by that name.

In the early seventeenth century the structure of Portuguese imperialism was crumbling, the Persians had taken Hormuz in 1622 and in 1650 the Omani, recovering their energy under Imam Sultan bin Seif, ejected them from Muscat. The news of the Portuguese expulsion relit the old fires down the coast and Mombasa appealed to Sultan to rescue his fellow Moslems. In 1652 Sultan wiped out the Portuguese settlements at Pate and Zanzibar. Finally, in 1669, the Omani pushed their attack home with a new fleet as far as Mozambique. The Portuguese made one more bid for power but soon only Mombasa fort was left to them. This was reduced in a famous siege, lasting thirty-three months, in 1698. From now on the Omanese, under Ahmed bin Said, scion of the Albusaid dynasty, nominally held the coast as far as the Ruvuma.

The next important landmark in Mafia history is the invasion by the Sakalava from Madagascar in their war canoes. Local elders provide a circumstantial account of this as it was early in the nineteenth century. The invaders are said to have landed in eighty canoes, four men in each, on Jibondo Island where they lit great fires. They then sacked Kua on Juani Island and those who did not escape were killed or carried off as slaves. The population must have been large as Kua was then the chief town in Mafia, and a great number were killed or captured. The news was immediately sent to Zanzibar where an expedition was made up and sent to chase the invaders. They were found on a small island and defeated, the prisoners being brought triumphantly back to Mafia. The date of this event is difficult to estimate, but was in the days

of Sultan Said. Mafia was already under his control in 1812 as Prior reports at that time that an annual tribute of £1,500 was paid to Muscat (Zanzibar paid £12,000).

It must have been before 1838 because in that year Sultan Said, who was trying to extend his dominion ever further southwards, made a treaty with Queen Seneekoo of the Sakalava to protect her against the dreaded Hovas under Queen Ranavolana. Under this treaty Said was granted full domain over the little island of Nossi-be off Madagascar. Now the local tradition is that the invasion of Kua was by people from an island called Bukini and it is known that the natives' name for Nossi-be was Bookeen, so there seems little doubt about the identity of the two. The invasion, therefore, probably occurred between 1810 and 1835.

From 1840, when Sultan Said moved from Muscat to Zanzibar his control of the coast took real effect, the first since the arrival of the Portuguese. By 1846 he had established his garrisons down the coast and there were a dozen Baluchis at Kilwa, probably two or three in Mafia. Trade went up by leaps and bounds and in 1859 Zanzibar already exported more ivory, more cloves and more gum copal than any other place in the world. The numerous ancient gum copal trees in Mafia, with great scars on them, are witness to her share, until tapping was stopped by the Germans.

In 1850 Chole Island was visited by Krapf and he noticed that there was an important trade in cowrie-shells. These were bought at the rate of two measures to one of rice and were shipped by traders to the West Coast as currency. Probably Krapf made other interesting observations but unfortunately they are not at present available.

While Mafia was under Sultan Sayyid Said she was ruled by a succession of Liwalis appointed from Zanzibar. The headquarters were moved to Chole after the destruction of Kua. Chole Island was less than a square mile in area and when all the influential Arabs had built their town houses (of stone) nearly half the island was covered.

One of the Liwalis had had the unusually tidy mind for an Arab to cause the town to be measured out in parallel streets with cross-roads. There must have been some disgust locally at this disruption and undue orderliness but the design was followed. To this day the decayed ruins of Arab houses in this rather sad town, aptly described in the phrase "Troy was," are seen to follow a rectangular design. A compass survey has shown that the angles were not right angles but the intention was good, perhaps unique for its time in East Africa.

We now come to the entry of European countries into the political arena. From the beginning of the century American, French, German, and to a less extent British, traders had been using the coast. The Americans in some respect held the highest place, their "americani" proved the most popular cotton material and their captains were enterprising. This competitive trade,

together with the slave trade, had early brought European politics on its heels but it was not until late in the century that territorial rights were affected. Under the Treaty of 1890 Mafia, as well as Zanzibar and Pemba, were allotted to the British sphere. Subsequently, however, it was agreed that Germany should take Mafia in exchange for our claim to the Stephenson Road between Lakes Nyasa and Tanganyika. The island was purchased from Sultan Sayyid Ali for four million marks and was occupied in 1890. Headquarters were set up in Chole. A large two-storey Boma was built facing the sea with gaol, godowns, etc., all beside an immense promenade of lime mortar which remains in perfect condition to this day. The situation was excellent and the anchorage good for dhows, but with the opening of a regular coastal steamship service another harbour had to be found. Ras Kisimani was considered because of the deep water inshore, but eventually Kilindoni (the "look-out place") was chosen and the headquarters were moved there in 1913.

Life was carried on peacefully and uneventfully until the Great War when Mafia early became of importance to the British as a base for ships and aeroplanes to attack the *Königsberg*. The island was captured by a British Expeditionary Force landed from the *Kinfauns Castle* on the 10th January, 1915, at Ras Kisimani. The small German force was defeated at Ngombeni on the 11th of January and there was no further resistance. The *Königsberg* was then attacked in earnest and a local native described the times expressively when he said that the British ships turned night into day. After a short period of military rule the islands were administered under Zanzibar, though not as an integral part of that territory. They were handed over to Tanganyika Territory in November, 1922.

Some Account of the People Living under the Protection of Mount Mkungwe

By G. W. Hatchell

NOTES on Mkungwe Mountain and the Water Gypsies of the Malagarasi published in the June, 1940, issue of this journal brought to my mind information which I collected in 1925 about the history and customs of the people living under the protection of the Spirit of Mount Mkungwe. The country was then, and for all I know is still, known to strangers as Ubende or Ukabende much in the same way as the country of the Tukuyu valley at the north end of Lake Nyasa is known as Usokile and the people living in it as the Wasokile.

Ubende lay along the eastern shores of Lake Tanganyika from Karema to Lubugwe and inland as far as the Katavi Game Reserve. Its inhabitants comprised some eight or a dozen clans and the people of Karema village. It is probable that by now they have been organized into some convenient amalgamation. They could in those days be divided conveniently into two groups, namely, those having their origin in the Congo, across the lake, and those who had come south from the Malagarasi valley.

The Congolese group consisted of the Wasowa or Baholoholo divided into four sub-sections, two of which were located in the Ujiji Administrative District and two in the Ufipa District, the Waganza, the Wagalawa and the people of Karema village. In 1925 the boundary between the two administrative districts was situated just north of Cape Kungwe.

The place of origin of the Wasowa was said to be somewhere south of Moliro on the Congolese side of the lake whence they were driven north by the Wemba who had in their turn been driven north by the Angoni. They settled in the salt marshes opposite Cape Kungwe but were forced across the lake by pressure from the south. This same pressure drove the Waganza and Wagalawa, who resided in the hills opposite Kungwe, across the lake also. The move took place between 1830 and 1840 and the country on the eastern shores of the lake was found to be very sparsely inhabited. The Waganza and Wagalawa moved up into the hills and settled down but the Baholoholo remained on the lake shore having first driven out the original inhabitants, the Wamahare, who fled into the Mahare mountains where the Baholoholo seem to have exercised some loose form of control over them.

The Baholoholo seem to have been the most energetic and enterprising of these immigrants from the Congo and under the leadership of Kapama in 1860 they moved eastward triumphantly raiding and capturing slaves until they were turned back by the inhospitable and barren wastes of Ugogo. They

suffered much internal strife and almost every king seems to have been deposed and re-instated once or twice before establishing himself securely on the throne. An interesting account of these high politics is to be found in "Aux Rives du Tanganyika" by Bishop Le Chaptouise.

The chief place of importance in Usowa was Karia, near Kibwezi where the lake steamers used to refuel. At Karia were stored the skulls of the dead kings of the Baholoholo; they were tended by a group of old women specially appointed. The exact location of this sacred place was known only to these women and to the persons charged with the duties of appeal to the spirits of the kings—the Wapesi. The bodies of the kings were usually buried at the place of death but the skulls were always taken to Karia and it was related that Swima, a king who was killed in a marauding expedition at Mpimbue some one hundred miles to the south-east, was buried where he fell but his skull was taken to Karia.

A second place of importance was Kafishya where were stored the wooden images of the old kings of the people when they lived on the Congolese side of the lake. It was said that a German, Lieutenant Bishoff, having reason to suspect that Kafishya was the scene of human sacrifice and believing that he had found human blood on the images took them away and destroyed them. Certain of the older people at Karema however believed that many of the images had been sent to Berlin.

The system of inheritance in the royal line in Usowa seemed to be somewhat complicated, passing apparently from the father to son and then to the father's younger brother. It is not unlikely that this rather unusual system had something to do with the constant internal political strife which seems to have raged almost without pause.

The king on appointment was known as *mtwale* and did not become *mwami* until he had been invested with the *vibangwa*. The true significance of the *vibangwa* had defeated me up to the time I left the lake shore. It seems to be clear that the *vibangwa* had some religious significance and that this form of regalia was common to all the people living on the lake shore and in the hinterland to the eastward, but the conditions under which it was worn or bestowed or safeguarded varied greatly.

In Usowa the duty of investing the *mtwale* with the *vibangwa* was in the hands of certain elders who were appointed for the purpose by certain persons charged with that duty but resident in the Congo across the lake. It was not clear whether the latter were Baholoholo who had remained at Moliro or whether they were representatives of some other people altogether. It was the custom for the elders to conduct the *mtwale* to the place of the spirits of the dead kings at Karia and there invest him with due ceremony and proclaim him *mwami*. All fires in the land were then put out and relighted from a fire which had been ceremonially lighted at the place of the spirits. It seems, however, that the king be he *mwami* or *mtwale* took no leading

part in any ceremonies at the place of the spirits; so that his investiture did not result in his doubling the office of priest and king.

The *vibangwa* itself is a chaplet of sections of a certain conical sea-shell. Similar chaplets and necklaces are to be found all over the Usukuma and Unyamwezi countries as well as single shells. Further reference to the *vibangwa* will appear later in these notes.

The Wagalawa and Waganza appeared to be closely allied to the Baholoholo for their customs were generally similar but they refused to admit that the latter were their over-lords.

The Waganza maintained a herd of goats which were the property of the ancestral spirits. The herd was kept in a fenced enclosure but did not appear to receive any special ceremonial care or attention. It was forbidden to eat the flesh of any of these animals unless it had been killed by wild beasts. The Waganza, however, were not inclined to be very informative on this subject.

The remainder of the Congolese group consisted of the inhabitants of Karema village who were, for the most part, freed slaves and their descendants brought over and settled there by a Belgian slavery commission in or about 1887. The majority were Christian followers of the White Fathers' Mission with no social organization to speak of.

There was, however, at Karema one family worthy of mention. This family lived on the eastern outskirts of Karema under the leadership of Kasoye. They stated that they had come over from the Congo prior to the Baholoholo migration and settled round the hill on which Karema Mission now stands. It was their tradition that their big ancestral spirit came across the lake to inspect the country and having found a suitable spot on which they could settle entered into the mouth of one of their number, announced his discovery and informed them that it was his desire that they should accompany him across the lake and live at Karema.

The Malagarasi group consisted of three clans: the Wajombe, the Watinta and the Washamba. The heads of all these clans were entitled to wear the *vibangwa* but only the head of the Washamba called himself *mwami*, but he acknowledged the head of a clan in the Ujiji Administrative District as his overlord, although the latter was only *mtwale*.

As has already been mentioned the true significance of the *vibangwa* was never satisfactorily settled. The customs appertaining to it, the conditions under which it was bestowed and the method by which it was obtained seemed to vary greatly: for example, it was found to have been bestowed by one clan head on another but did not signify that the bestower was superior, it was found to have been bestowed by the "sons of the soil" on the head of the immigrant clan, while in some cases it was obtained by payment of a tusk of ivory or given in return for a girl in marriage.

Other people having origin in the Malagarasi valley were the Watinta who claimed to have come south in two migrations. One group settled on the

lake shore just north of Usowa while the other settled just south of Karema. The latter gave a girl in marriage to Kasoye and accepted in exchange land on which to live and cultivate, but by 1926 they had freed themselves from Kasoye and claimed to be independent. A third and smaller group settled at Utinta on the lake shore and paid allegiance to the Hima royal family of Ufipa.

In an account of Ubende, mention should be made of the Waugwe who lived some fifty miles south-east of Mkungwe and claimed to have come from Kwilelo in the Dodoma District; and of the Wahanda who claimed to have come down from the Malagarasi valley under the leadership of Mgunseroba, a hunter of repute who was in search of ivory. The customs of the latter appeared to be peculiarly those of a hunting clan, ceremonies were carried out before the hunt, young boys were ceremonially initiated into the hunters' caste and those who were not members of the caste were debarred from hunting and occupied themselves with the cultivation of crops. To the west and north of the Wahanda were the Watanda, whose origin was to the south-east in the Rukwa valley. Amongst all these small clans or groups, with the exception of those who came from the Congo, the tradition of the great hunter with his pack of hounds who came to the country and fed the ignorant aborigines with meat and was invited to remain was common and all who came from the Malagarasi valley had the same tale to tell.

It will be seen that the country around Mkungwe seemed to have been the meeting place of waves of migration from all points of the compass. All the immigrants seem to have suffered war and invasion but the Baholoholo least of all. Only once do they seem to have been attacked and then by Mtambarara, who was probably the nephew of the renowned Angoni leader Izongondaba who is buried in Ufipa. On their own part the Baholoholo attacked and defeated everyone with whom they came into contact as far east as Kiwere and on one occasion carried off into captivity the hitherto unvanquished chief of the Wapimbue. Swima, one of the kings of Usowa, carried on a profitable pirate business from Kabogo Island, which, in 1926, was part of the mainland. The Baholoholo, however, seem to have met their match in the Wajombe, who lived on the borders of the Katavi plain, whose chief had built his "great place" in the fork of two streams with precipitous banks and had defended the remaining side of the triangle with a stout eighteen-foot stockade manned by very efficient bowmen against whom the Baholoholo could make no headway.

Such is a sketchy account of the people of Ubende as I found them in 1926. The term "Bende" seems to have been a general title applied to them by foreigners, it was never used by the people themselves. Only once was the word met with amongst them, in the praise name of the Wajombe which was "Lubende." Bishop le Chaptouise advances the theory that the name comes from a sacred stream on the slopes of Mount Mkungwe but I was never able to confirm this.

It is perhaps worth noting that all these clans affirmed that they found the country either uninhabited or very sparsely populated, but it is difficult to believe that so fertile an area could have been uninhabited for very long, and it is a matter for speculation whether the earlier inhabitants had not been wiped out by an epidemic of sleeping sickness, for the whole of Ubende is infested with tsetse fly.

Chimpanzee were to be found in Mahare and in Uganza and Lukalala, and in August, 1926, game scout Magazini reported that he had seen one in Mahare, while Chief Pandajiwe claimed to have seen them frequently in Uganza.

So far as could be ascertained the people of Ubende had some conception of a Supreme Being, but one who was so great that he did not interfere in the affairs of men. Subordinate to him was the great Spirit of Mkungwe with his four subordinates; Katabi, Kabogo, Chada and Mwasi of Rungwa. Mkungwe seems to have been almost too great to interfere in the affairs of men but Katabi was recognized as taking great interest in the affairs of the people, travelling about the country even as far as Ukonongo on the Tabora border. His immediate subordinate was Chada, who was especially venerated by the people of Pimbue and Usense, who periodically married a girl to him. The marriage was a ceremonial affair and did not debar the girl from marrying elsewhere but it was not ascertained what, if any, duties were required of her as the wife of Chada.

Mwasi was the special spirit of the Warungwa whose chief, Sigela, had the reputation of dealing drastically with political intriguers by throwing them to the crocodiles. The people of Rungwa were in no way connected with those of Ubende and lived many miles from them, nevertheless they venerated Mkungwe and it is, perhaps, not surprising that a spirit so important and with influence over so wide an area should have taken offence at the attempts of strangers to climb his mountain.

There were, in addition to these spirits of the country, the spirits of the chiefs of the clans and the ancestral spirits of twins (*Migabo*), who were responsible for the welfare of the clan and acted as intermediaries to Kataba and Chada. Finally there were the ancestral spirits of the individuals who concerned themselves only with his affairs but might be asked to intercede with the *Migabo* or with Chada in special circumstances.

The interpretation of dreams and omens amongst the Wabende go to show how thoughts of the ancestral spirits are ever in their minds. To dream of a snake indicates that the spirits have been neglected and are dissatisfied and desire to remind the person concerned of his duties, while to dream of dead relatives or of fire is similarly interpreted.

Other dreams and omens and their interpretation are also of interest. To dream of fish indicates good fortune in the shape of wealth, while to dream

of rain indicates mourning. The dreams of fish seems to carry the same interpretation on the eastern coast of Tanganyika.

The ground-hornbill is looked upon as a sign of good fortune, but the owl is a bad omen, and a small bird with the onomatopoeic name of "Nkulunkulu" foretells danger or war or an encounter with a savage beast such as a lion. Although the hornbill is a sign of good fortune this is not so in the case of a woman nursing a child who, should she see one when setting out on a journey, must turn back.

In 1925-26 a visit to Ubende was looked upon as something of an adventure, while the people of Ubende were inclined to look askance at strangers. I found them a pleasant if somewhat wild and unruly crowd with claimants to clan headship bobbing up in all directions. No doubt by now they have been sorted out into some suitable tribal organization and become civilized, but I wonder if the women still scatter grain in the path of the visitor when he enters the village and if Juma of Kibwezi still tells the tale of the enormous fish which swallowed whole a ten paddle canoe on a voyage across the lake.

Bird-Names used in Coastal North-Eastern Tanganyika Territory

By *R. E. Moreau*

THE FIRST part of this paper* contained as List A the English/Scientific names with their African equivalents and interpretations of the African names. The complementary List B, African—English/Scientific, has simply been compiled from List A for convenience of reference. Interpretations of African names will be found only in List A.

The preamble to List A contains a note of certain conventions that have been adopted in order to save space. The most important points are that names optionally beginning with the prefixes “ki(m)-”, “ka(m)-”, “tsi-”, “m-”, should be stripped of them and sought for in List B under the initial letter of the root. (I originally intended to deal with the initial “n-” in the same way but have decided against doing so.) Words beginning with the locally indeterminate “l” and “r” are included only under the one which has seemed to me to have predominant use. Names beginning with another somewhat indeterminate initial sound, “she” or “se” (Sambaa and Bondei), are included only under the former.

LIST B

AFRICAN—ENGLISH/SCIENTIFIC

A-NINI-A Tan., Boubou Shrike (*Laniarius ferrugineus*).

BABASI Sb., *Nicator*.

BABEWATOTO :

(1) B., Pintailed Whydah (*Vidua*).

(2) W., medium-sized Owl (*Tyto* or *Strix*=*Ciccaba*).

BAIMBAI (M-) BAYUMBAYU (M-) Sb. Z., dark-coloured birds of the Swallow family (*Hirundinidae*) and Swifts.

BALAMZILA K., Cabanis' Bunting (*Emberiza*).

BALAZI (KAM-) Z., Brown Flycatcher (*Bradornis*).

BALE (M-) Sb., big brown “Hawk”, e.g. *Aquila wahlbergi*.

BANDA (KAM-) Z., Flappet Lark (*Mirafra*).

BANDABANDA Z., Broadbill (*Smithornis*).

BARABARA :

(1) with prefix “ki-” Sb., Cabanis' Bunting (*Emberiza*);

(2) without prefix Sb., Fiscal Shrike (*Lanius collaris*).

BARUWAJI W., Nightjar (*Caprimulgus*).

BASU (KI-) K., Yellow Bishop (*Euplectes capensis*).

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- BATA Sw. and all tribes, Domestic Duck.
 BATA BUKINI Sw., BATA KANANI (accent on "ka-") K., Domestic Goose.
 BATA KAMARI D., Wild Duck.
 BATA MCHIKICHI B., Vulturine Fish-eagle = Palm-nut Vulture (*Gypohierax*).
 BATA MZINGA Sw., Domestic Turkey.
 BATAVUA Sb., Wild Duck.
 BAWA W., Fan-tailed Widow-bird (*Urobrachya*).
 BAWE (M-) W., Swift (Micropodidae).
 BAYA R. Kisiju, Kwale Is.; Red Bishops (*Euplectes* spp.).
 BELEKO Z. Sb., Fan-tailed Widow-bird (*Urobrachya*).
 BELEKO NDOGO Z., Red Bishops (*Euplectes* spp.).
 BELELO (KIM-) Z., Black-shouldered Kite (*Elanus*).
 BIKULA (KI-) LA MABWE K., Mountain Wagtail (*Motacilla clara*).
 BIKULA (KI-) LA NYASI K., Pied Wagtail (*Motacilla aguimp*).
 BILILI (M-) K., Long-crested Hawk-eagle (*Lophaëtus*).
 BILINZI (KI-) W., Rail (Rallidae).
 BINDANDUGU B., Red-billed Shrike (*Sigmodus retzii*).
 BITE (KI-) W., Reed-hen (*Porphyrio*).
 BIYOBIYO Sb., Cliff-chat (*Thamnolaea*).
 BIZI (M-) (WA NYIKA) B. Sb. Z., Ground Hornbill (*Bucorvus*).
 BOMBO Tan. Pan. D., Red Bishops (*Euplectes* spp.).
 BONDWA K., White-necked Raven (*Corvultur*).
 BUGHUNI (M-) B. Sb. Z., Ostrich (*Struthio*).
 BULWE, BUWU (KIM-) Sb., Broadbill (*Smithornis*).
 BUMBU (KA-) Z., Crombec (*Sylvietta*).
 BUNDI Sw. Sb. K., medium-sized Owl (*Tyto* or *Strix* = *Ciccaba*).
 BUNGO Sb., Swift (*Micropus* sp.).
 BUNI (M-) Sw. K., Ostrich (*Struthio*).
 BURURU (KIM-) Sb., small Owl (*Glaucidium* or *Otus*).
 BUWE Sb. Z. K., Bare-throated Francolin (*Pternistes*).
 BWABWABWA K., Red-billed Shrike (*Sigmodus retzii*).
 BWANA HASSANI W., House Sparrow (*Passer*).
 BWAN'YILE K., Black-and-white Flycatcher (*Bias*).
 BWANZU (KI-) K., small Warbler esp. *Prinia*.
 BWELENDA, BWELENGENHE, K., small Weaver with red on it.
 BWENZI (KI-) Dsm., Geelgat (*Pycnonotus*).
 BWERERAMBWERERA (M-) Dsm., Bee-eater esp. *Merops* spp.
 BWIGU (M-) K., Boubou Shrike (*Laniarius ferrugineus*).
 CHAHANVUMVU K., Flycatchers (*Alseonax* and *Dioptrornis*).
 CHAKAKORE (KI-) D., Paradise Flycatcher (*Tchitrea*).
 CHAMABWE K., Cliff-chat (*Thamnolaea*).
 CHAMBOMBO W., Paradise Flycatcher (*Tchitrea*).
 CHAMWEWE K., any "hawk" with white underparts that takes fowls, e.g.
Accipiter melanoleucos.

CHAPULUKWA Z., Black-and-white Flycatcher (*Bias*).
 CHASSI Z., Oxpecker (*Buphagus*).
 CHEBA (KI-) B. Z., Red-backed Shrike (*Lanius collurio*).
 CHEKICHEYA K., very small Weaver, e.g. Indigo Finch (*Hypochera*).
 CHEKIUWA B., Black-and-white Flycatcher (*Bias*).
 CHERIMIYO Tan., Black-and-white Flycatcher (*Bias*).
 CHEKOE D., large Plover esp. *Stephanibyx*.
 CHELE(LE) Z., Crested Guinea-fowl (*Guttera*).
 CHEMAKODA Sb., Puffback Flycatcher (*Batis*).
 CHEMALANGO B., Robin-chat (*Cossypha heuglini*).
 CHEMIDANDA Sb., Robin-chat (*Cossypha*, esp. *C. natalensis*).
 CHEMILUNDA Sb. :

- (1) Long-tailed Whydah spp. (*Coliuspasser* and *Vidua*).
- (2) Paradise Flycatcher (*Tchitreia*).

CHEMILUNDA (NTAA) B. Sb. Z., Pin-tailed Whydah (*Vidua*).
 CHERIA Z., Oxpecker (*Buphagus*).
 CHERIKO W. Z., Canary (*Serinus*).
 CHIGI W., Manikin (*Spermestes*).
 CHIKU W., Puffback Shrike (*Dryoscopus*).
 CHIMBAMCHANGA Sb., small Bee-eater (*Melittophagus* spp.).
 CHIPIYO R., Black-and-white Flycatcher (*Bias*).
 CHIPWE D., Puffback Shrike (*Dryoscopus*).
 CHIRIKU Sw. Sb. K. D., Canary (*Serinus*).
 CHIRIKU MGHUNDA Sb. K., Streaky Seed-eater (*Poliospiza*).
 CHOKIRO Sb., Black-and-white Flycatcher (*Bias*).
 CHOLE :

- (1) B. Sb. Z., Geelgat (*Pycnonotus*).
- (2) W., Broadbilled Roller (*Eurystomus*).

CHOPU Sb., Boubou Shrike (*Laniarius ferrugineus*).
 CHORORWE D., Kingfisher (Alcedinae).
 CHOZI Sw., Sunbird (Nectariniidae).
 CHUCHUWISHI Sb., small Warbler (Sylviidae).
 CHUJATUI (KI-) W., Puffback Shrike (*Dryoscopus*).
 CHULOHA Z., Black-and-white Cuckoo (*Clamator*).
 CHULUMBU Z., Rufous Chatterer (*Argya*).
 CHUNGA (M-) NGURUE W., Stone-curlew (*Oedipodites*).
 CHUNJU (KI-) Tan., Geelgat (*Pycnonotus*).
 DANDALA Dsm. (Sw.), Little Egret and Reef-heron (*Egretta*).
 DENENDA (KI-) W., Cloud-scraper (*Cisticola juncidis*).
 DILA (M-) Z., DILILA (M-) K., Kingfisher (Alcedinae).
 DIMI Z., Wagtail esp. yellow species (*Budytes*).
 DIYEMBILI (M-) K., Canary (*Spinus* and *Serinus*).
 DOE B. Sb. Z. K., large Plover esp. *Stephanibyx*.

DOHOLANTALAMBO K., African Harrier-hawk (*Gymnogenys*).
 DONDOLAMSWA K., Rufous Chatterer (*Argya*).
 DONJE DIGWA D., Thrush (*Turdus*).
 DOSHO (CHI-) D., small Warbler (*Sylviidae*).
 DUDUMIZI B. Sb. Z. K. Tan. Dsm., White-browed Coucal (*Centropus*).
 DULI (KI-) Sb., small Owl (*Glaucidium* or *Otus*).
 DULIDULI (KI-) K., small Grasswarbler, "Cloud-scraper" (*Cisticola*).
 DUSAWARUMBI (KI-) K., Lemon Dove (*Aplopelia*).
 DUTURA W., Stone-curlew (*Oedicnemus*).
 DWENDWEKURU K., Geelgat (*Pycnonotus*).
 DWI(N)DWI B. Z., Paradise Flycatcher (*Tchitrea*).

FARANGA (KI-) Sw., Chicken.
 FUFUMBIZI B. Sb., Eagle-owl (*Bubo*).
 FULINDI B. Sb. Z., Rail (*Rallidae*).
 FULUWILI Tan., Rail (*Rallidae*).
 FUMBWE :

(1) Dsm. D. Z. Sb. K., Pin-tailed Whydah (*Vidua*).

(2) Z., Paradise Flycatcher (*Tchitrea*).

FUMVU D., Red-eyed Dove (*Streptopelia semitorquata*).
 FURUKOMBE Sw., Fish-eagle (*Cuncuma*).

GEGEME(L)A B. Sb. R. Z. K., Wood-hoopoe (*Phoeniculus* and *Rhinopomastus*).
 GENDAGENDA (KI-) D., Cinnamon Pipit (*Anthus richardi*).
 GHAGHA (KAN-) B. Sb., Arrow-marked Babbler (*Turdoides*).
 GOLEGOLE W. (Sw.), Wood-hoopoe (*Phoeniculus* and *Rhinopomastus*).
 GOMA (KI-) MSINDO Z., weavers in sparrowy plumage that associate in huge flocks, including *Quelea* spp. and out-of-plumage Bishops and Whydahs.
 GONGO Z., Red Bishops (*Euplectes* spp.).
 GONGOFUTU K., Puffback Shrike (*Dryoscopus*).
 GONGOLAFUNO K., Blackcap Tchagra (*Antichromus*).
 GONGWE Sb., Red Bishop (*Euplectes hordeacea* and *E. nigroventris*).
 GONGWE KOMA B., Yellow Bishop (*Euplectes capensis*).
 GOROGONYIWA Tan., Sombre Bulbul (*Andropadus*).
 GUGUGU D., Eagle-owl (*Bubo*).
 GULE (M-) Sb., Woodpecker (*Picidae*).
 GULO (M-) Z., White-browed Coucal (*Centropus*).
 GUNA (M-) K., Bustard, large spp. (*Otididae*).

HABA Z. Sb., Hadada Ibis (*Hagedashia*).
 HAKIMKULU Z., Ring-necked Dove (*Streptopelia capicola*).
 HALIA Z., Oxpecker (*Buphagus*).
 HAMA Sb., Augur Buzzard (*Buteo*).
 HANDA Sb., White-eared Barbet (*Buccanodon leucotis*).
 HOKEUTA (M-) Z. Sb., D'Arnaud's Barbet (*Trachyphonus darnaudii*).

- HONDOHONDO B. Sb. Z., Silvery-cheeked Hornbill (*Bycanistes cristatus*).
 HOROWE Pan., Cormorant (*Phalacrocorax*).
 HOSOUNGULA (KI-) K., Broadbill (*Smithornis*). N.B.—Name erroneously given in List A as “Kishosungula”.
 HOZO (M-) K., Stonechat (*Saxicola*).
 HUA SW. R. K., Dove (general term).
 HUA FIFI K., HUA TUNDU R., Red-eyed Dove (*Streptopelia semitorquata*).
 HUA KOGE R., Ring-necked Dove (*Streptopelia capicola*).
 HUA MATEMBWE K., Olive Pigeon (*Columba arquatrix*).
 HUGI K., HUJI Z., Wood-Dove (Bluespot and Greenspot, *Turtur* spp.).
 HUJI MIRUNDA Z., Long-tailed Dove (*Oena*).
 HUNGULUWA (KI-) K., Sunbird (Nectariniidae).
 HURUVI B. Sb., Lourie (*Turacus* and *Gallirex*).

JOGOO :

- (1) Sw., Domestic Cock.

- (2) With prefix “ki-” Z., White-browed Coucal (*Centropus*).

- JOGOO (KI-) MHURO K., Hoopoe (*Upupa*).
 JOGOO SHAMBA Dsm., Broadbill (*Smithornis*).
 JOGORO K., Domestic Cock.
 JOJOMERA D., Wood-hoopoe (*Phoeniculus* and *Rhinopomastus*).
 JO(L)E B. Sb. K. Z. R. Sw., Broadbilled Roller (*Eurystomus*).

- KADIMA MBUZI Z., Wagtail (*Budytes*).
 KAKWALE BUWO Sb., Quail (*Coturnix*).
 KANGA Sw. and all tribes, Helmet Guinea-fowl (*Numida*).
 KANGARAJA Z., Moustache-Warbler (*Melocichla*).
 KARIBISHA MGENI Tan., Puffback Shrike (*Dryoscopus*).
 KASONGOLELA KATURI K., Laughing Dove (*Stigmatopelia*).
 KASUKU Tan., Dsm., K., Parrot, esp. tame Grey Parrot (*Psittacus*).
 KERENGENJE D., Crested Francolin (*Francolinus sephaena*).
 KATASANDA Sw., Nightjar (*Caprimulgus*).
 KENGWEA Sb., Olive Pigeon (*Columba arquatrix*).
 KESHA (M-) Sb., Thrush (*Turdus*).
 KHAKE B., Hadada Ibis (*Hagedashia*).
 KHEMKHWE Sb., Lourie (*Turacus*).
 K(H)UMZUMBURU R. Dsm., Mousebird (*Colius*).
 KICHI W., Pied Kingfisher (*Ceryle*).
 KILINDI Sb., Rail (Rallidae).
 KIMAKIMA Sb., Crowned Hawk-eagle (*Stephanoaëtus*).
 KIRUMBIZI W., Robin-chat (*Cossypha*).
 KITA UMANDE W., Barred Owlet (*Glaucidium capense*).
 KIZE(L)E(L)E B. Sb. Z., birds of Swallow family (Hirundinidae) and sometimes Swifts.

KIZU W., Goshawk (*Astur*).
 KOKOKO Z., Banded Harrier-Eagle (*Circaëtus fasciolatus*).
 KOKOKWE K., Eagle-owl (*Bubo*).
 KOKOTA D., Woodpecker (Picidae).
 KO(L)OJOJO B. Sb., Bulbul species other than Geelgat (*Pycnonotus*).
 KOLOLO SW. K. B. Sb., Crested Guinea-fowl (*Guttera*).
 KOLOMOKO Z., small Hornbill (*Lophoceros* spp.).
 KOMANDUGU Sb., Rufous Chatterer (*Argya*).
 KOMBE(L)WA Sb., Bronze-naped Pigeon (*Turturoena*).
 KONGOGOLO R., Tinker-bird (*Pogoniulus*).
 KONG'O(N)TA SW. B. Sb., Woodpecker (Picidae).
 KOO (LA KUKU) SW., Hen (laying).
 KORE D., Geelgat (*Pycnonotus*).
 KORO B. Sb. K. Z., Hen (laying).
 KORONGO SW. Z., Heron (Ardeidae).
 KOTI (KI-) Sb., Red Bishop (*Euplectus* spp.).
 KOZI :

- (1) Tan., Fish-eagle (*Cuncuma*).
- (2) B., Fish-eagle and Vulturine Fish-eagle or Palm-nut Vulture (*Gypohierax*).

KUBO B. Sb., Boubou Shrike (*Laniarius ferrugineus*).
 KUBWAMKUBWA (M-) Z., Black Boubou Shrike (*Laniarius funebris*).
 KUBWILU Z. K. Sb. D., *Oriolus*.
 KUCHA B. Sb. Z. R. K., small Warbler (Sylviidae).
 KUCHAKULU B., Moustache-Warbler (*Melocichla*).
 KUKU SW., Domestic fowl.
 KULUKULU Z. R. K., Lourie (*Turacus* and *Gallirex*).
 KULWA (TUJAGE) Sb., KULWA (TUOGE) K., Emerald Cuckoo (*Chrysococcyx*).
 KUMBAKIMA Sb., Crowned Hawk-eagle (*Stephanoaëtus*).
 KUMBAMTI B. Sb. Zg., African Harrier-hawk (*Gymnogenys*).
 KUM(B)ULU B. Sb. Z., Kingfisher (Alcedinae).
 KUNGURU :

- (1) Sw. B. Z. W. D., Crow (*Corvus*).
- (2) Sb., White-necked Raven (*Corvultur*).

KUNGURU FUNEFUNE :

- (1) Z., Long-crested Hawk-eagle (*Lophaëtus*).
- (2) B., White-necked Raven (*Corvultur*).

KUNGWI B. Sb., medium-sized Owl, including *Strix* (*Ciccaba*) and *Tyto*.
 KUNGWI (KA-) MBADULE Z., K. MLIMA Sb., small Owl (*Glaucidium* and *Otus*).
 KURUMBIZA SW. B. Sb. Z., Robin-chat (*Cossypha*).
 KUYA Sb. Z., Weavers in sparrowy plumage that associate in huge flocks, including *Quelea* spp. and out-of-plumage Bishops and Whydahs.
 KUYU Z. Sb., White (European) Stork (*Ciconia*) and Abdim's Stork (*Sphenorhynchus*).

- KUZI D., Glossy Starling (*Lamprocolius* spp.).
 KWAGA K., Black-breasted Florican or Little Bustard (*Lissotis*).
 KWALE (all tribes), *Francolinus* spp.
 KWALE KWECHI R., Crested Francolin (*F. sephaena*).
 KWALU Dsm., B. Sb. K. Z., Parrot (*Poicephalus* spp.).
 KWAMBA LUGALA Dsm., Roller (*Coracias* spp.).
 KWAMBO, KWAMBU B. Sb. K., Roller (*Coracias* spp.).
 KWARARA W. R. Sw., Hadada Ibis (*Hagedashia*).
 KWECHEA KANUTWE Sb., Emerald Cuckoo (*Chrysococcyx*).
 KWELIKWECH (KI-) B., Crested Francolin (*F. sephaena*).
 KWEMBE (-KWEMBE) B. Sb. Z. K. Sw., small Hornbill (*Lophoceros* spp.).
 KWEMKUBWILU Z. K. D. Sb., *Oriolus*.
 KWENZI D., Parrot (*Poicephalus* sp.).
 KWE O Sb., Banded Harrier-Eagle (*Circaëtus fasciolatus*).
 KWERA K. Bwejuu Island, Golden Weaver (*Ploceus aureoflavus*).
 KWICHO B. Sb., Chestnut-wing Starling (*Onychognathus* spp.).
- LAMBA (M-) Sw. and all tribes, Drongo (*Dicrurus*).
 LAMBANKOSI Z., Grosbeak Weaver (*Amblyospiza*).
 LANGAVURA K., Black-and-white Cuckoo (*Clamator*).
 LANGAZUA K., Bee-eater esp. *Merops* spp.
 LANGILAMBAGO K., Green Coucal (*Ceuthmochares*).
 LANGWI Sb., Brown-breasted Barbet (*Lybius melanopterus*).
 LELE (KI-) K., Vulture (Aegypiidae).
 LEMBE (M-) K., Honey-guide (*Indicator*).
 LIO (KI-) K., small Owl (*Otus leucotis*).
 LOLENZOKA K., D'Arnaud's Barbet (*Trachyphonus darnaudii*).
 LOPO (KI-) K., Cormorant (*Phalacrocorax*) and other large fish-eating birds.
 LOYA D., Bee-eater esp. *Merops* spp.
 LUBATAVUA Z., Nightjar (*Caprimulgus*).
 LUBOZI (NDEGE L.) R., *Nicator*.
 LUFITE Z., Pintailed Whydah (*Vidua*).
 LUGAWA K. Z., Nightjar (*Caprimulgus*).
 LUHOYA D., small Hornbill (*Lophoceros* spp.).
 LUKOLOMOKO Z., small Hornbill (*Lophoceros* spp.).
 LUKUNGU K. R., Trogon (*Apaloderma* and *Heterotrogon*).
 LUKWANGULE K., Crow (*Corvus*).
 LULI B., Bee-eater esp. *Merops* spp.
 LUMBAJI W., LUMBARWA, LUMBAZU B. Sb., Nightjar (*Caprimulgus*).
 LUMI :
- (1) Z., Brown-breasted Barbet (*Lybius melanopterus*).
 - (2) Sb., White-eared Barbet (*Buccanodon leucotis*).
- LUNYUWA MAZI Z., Reed-hen (*Porphyrio*).
 LUVUVI Z., Cormorant (*Phalacrocorax*) and other large fish-eating birds.

LUWI K., White (European) Stork (*Ciconia*) and Abdim's Stork (*Sphenorhynchus*).

LUWILUWI (KI-) D., Swift (Micropodidae).

LUWIMAZI (KI-) B. Sb., Wagtail (*Motacilla aguimp* and *M. clara*).

LUZILA Z., Spectacled Weaver (*Hyphanturgus ocularius*).

N.B.—For names with M- prefix see under root.

MACHEMA Sb., Wood-hoopoe (*Phoeniculus* and *Rhinopomastus*).

MAGENGELE K., Crowned Hawk-eagle (*Stephanoaëtus*).

MAGUBIKILA K., Martial Hawk-eagle (*Polemaëtus*).

MAKOKO, MAKOKYA Sb., Open-billed Stork (*Anastomus*).

MAMBUZI Sb., Wagtail esp. yellow species (*Budytes*).

MANGERA Pan., D., Reef-heron (*Egretta*).

MASUMULA Z., Martial Hawk-eagle (*Polemaëtus*).

MATUMANDAGO Z., Quail (*Coturnix*).

MAUCHUNGI B. Sb., Long-crested Hawk-eagle (*Lophaëtus*).

MAZANAMULUNGU B., Red-billed Shrike (*Sigmodus retzii*).

MAZANGWE K., big brown Hawk, e.g. *Aquila wahlbergi*.

MEMBE Sw., large wading-bird, e.g. Curlew, Godwit, Whimbrel.

MOTONYI Pan., Vulture (Aegypiidae).

MUHUNZI W., Little Grebe (*Polioccephalus*).

MULILE R., Sombre Bulbul (*Andropadus*).

MULUHO K., Chestnut-wing Starling (*Onychognathus* spp.).

MUMBI Dsm. K., Ground Hornbill (*Bucorvus*).

MUNGO R., Boubou Shrike (*Laniarius ferrugineus*).

MURU (KI-) :

(1) B. Z., Button-quail (*Turnix*).

(2) K., small Owl (*Glaucidium*).

MWANANGUKU B. Sb., Chicken.

NA-IWA B. Sb., *Oriolus*.

NANA (M-) W. Tan. (Sw.), Weaver with much yellow on (*Ploceus*).

NANDI D. Sw., Cormorant (*Phalacrocorax*).

NDEGE CHAI Tan., Crowned Crane (*Balearica*).

NDEGE JINGA Pan., Paradise Flycatcher (*Tchitrea*).

NDEGE LUBOZI R., *Nicator*.

NDEGE MPUNDA R., Puffback Flycatcher (*Batis*).

NDEYI B., Vulture (Aegypiidae).

NDO(E)ROE W., Crab-plover (*Dromas*).

NDUNUNDA K., Stone-curlew (*Oedipodius*).

NDWELA Tan., Paradise Flycatcher (*Tchitrea*).

NDWIDWI B. Sb., Paradise Flycatcher (*Tchitrea*).

NECHAKO K., Red-chested Cuckoo (*Cuculus solitarius*).

NEGA (KAM-) K. Z. Dsm., Bee-eater (small spp.).

NENGENENGE K., White-eye (*Zosterops*).

- NERUVUTA Sb., Long-tailed Sunbird (*Nectarinia* sp.).
NGECHECHANGU K., Black Cuckoo (*Cuculus clamosus*).
NGILIKILAJAKO K., Crested Francolin (*F. sephaena*).
NGOLANKUCHANJE Z., Didric Cuckoo (*Lampromorpha caprius*).
NGONGONDO K. R., Woodpecker (Picidae).
NGOROMA Sb., Crow (*Corvus*).
NGUKU B. Sb. K., Domestic Fowl.
NGUNDA W. K., Domestic Pigeon (*Columba*).
NGUO B., NGUONGUO Z., Boubou Shrike (*Laniarius ferrugineus*).
NGUSHU Sb., Vulture (Aegypiidae).
NGUYA K., weavers in sparrowy plumage that associate in huge flocks including *Quelea* spp. and out-of-plumage Bishops and Whydahs.
NGWEGWE Sb., Paradise Flycatcher (*Tchitrea*).
NGWI(L)IZI B. Sb. Z., Martial Hawk-eagle (*Polemaëtus*).
NHUZUKWA K., Mousebird (*Colius*).
NINDA Sb., Little Green Barbet (*Viridibucco*).
NINGA Sw. and all tribes, Green Pigeon (*Vinago*).
NIYANDA, Kisiju, Red-billed Shrike (*Sigmodus retzii*).
NJIA KURUGE D., Ring-necked Dove (*Streptopelia capicola*).
NJIWA MANGA B. Sb. Dsm., Domestic Pigeon (*Columba livia*).
NKOLOGOTO K., *Nicator*.
NKULUWILI K., Rail (Rallidae).
NKWELE Sb., Weavers in sparrowy plumage that associate in huge flocks, including *Quelea* spp. and out-of-plumage Bishops and Whydahs.
NOFI B. Sb. Z., NOMVI Tan. Dsm., Weaver with much yellow on (*Ploceus* spp.).
NTA(R)A B. Sb., Weavers in sparrowy plumage that associate in huge flocks, including *Quelea* spp., out-of-plumage Bishops and Whydahs.
NTETEYA B. Sb., Pullet not yet laying.
NTSIA D., Domestic Pigeon (*Columba livia*).
NTSONGO D., Weaver with much yellow on (*Ploceus* spp.).
NTSONGO UMBA D., Weavers in sparrowy plumage that associate in huge flocks, including *Quelea* spp., and out-of-plumage Bishops and Whydahs.
NUKA (KI-) Tan., Wood-hoopoe (*Phoeniculus* and *Rhinopomastus*).
NUNERAKO (KI-) K., Sunbird esp. *Chalcomitra senegalensis*.
NYALUMBWIZI K., Paradise Flycatcher (*Tchitrea*).
NYAMHUWI (KI-) K., Black-shouldered Kite (*Elanus*).
NYAMOTO K., Red Bishops (*Euplectes* spp.).
NYANCHECHE W., Pintailed Whydah (*Vidua*).
NYANGALA K. Z., Glossy Starling (*Lamprocolius* spp.); B. Sb. K., Violet-backed Starling (*Cinnyricinclus*).
NYAWAWA K., Hadada Ibis (*Hagedashia*).
NYELEKESSA Sb., Paradise Flycatcher (*Tchitrea*).

NYIMBO Tan., Roller (*Coracias* spp.).

NYOMBE Sb., NYONYOMBE Sb. Z., Heron (Ardeidae).

NZANZA K., Scrub Warbler (*Bradypterus*).

OLE (KI-) W., Bee-eater esp. *Merops* spp.

PAKULAMAVI K., Morning Warbler (*Cichladusa*).

PANGA, "Hawk" (Falconidae).

PANGA (KIM-) MACHINJA B., Sparrow-hawk (*Accipiter minullus*).

PANGA MARUMBI B. Sb., Lanner Falcon (*Falco biarmicus*).

PANJA Z., PANTSA D., PASA B. Sb., Mousebird (*Colius*).

PEKESAMJITI (KI-) W., Tinker-bird (*Pogoniulus*).

PELEMPELE (KIM-) Z. K., Coqui Francolin.

PEPE (accent on last syllable) K., Didric Cuckoo (*Lampromorpha caprius*).

PIEGU Z., Honey-guide (Indicator).

PIMANJIA (KI-), Kisiju, Cinnamon Pipit (*Anthus richardi*).

POLOHOYO Sb., Bee-eater esp. *Merops* spp.

PONDAMAKAA, Kisiju, Green Coucal (*Ceuthmochares*).

PONDOPONDO (M-) K., Silvery-cheeked Hornbill (*Bycanistes cristatus*).

PORAPORA Tan., Bee-eater esp. *Merops* spp.

POSAUJI B., Flappet Lark (*Mirafr*).

PUGI Sw. B. Sb., Wood-Dove (Bluespot and Greenspot, *Turtur* spp.).

PUGI KIKOMBE Sw., Tambourine Dove (*Tympanistria*).

PUGI KUBO B., Tambourine Dove (*Tympanistria*).

PUGUTO Sb., Lemon Dove (*Aplopelia*).

PUJI MBAGO Z., Tambourine Dove (*Tympanistria*).

PULIPULI (KI-) K., Black Boubou Shrike (*Laniarius funebris*).

PULULU (KIM-) B. Sb. Z. K. R., Quail (*Coturnix*).

PULULU (KIM-) ZEZE K., Button-quail (*Turnix*).

PUMBWE Dsm. :

(1) Whydah (*Vidua* and *Coliuspasser*).

(2) Paradise Flycatcher (*Tchitrea*).

PUNDWE K., Green Barbet (*Buccanodon olivaceum*).

PUNGU B. Sb. Z. K., Bateleur (*Terathopius*).

PUPWI (KI-) Z., Black-shouldered Kite (*Elanus*).

PURUPUNDA (KA-) Z., Puffback Flycatcher (*Batis*).

PWALAPATA B., Moustache-Warbler (*Melocichla*).

PWE (KI-) Sw., (CHI-) D., Puffback Shrike (*Dryoscopus*).

PWEKA D., Nightjar (*Caprimulgus*).

ROHWA (M-) K., Heron (Ardeidae).

RUKWEMBE D., small Hornbill (*Lophoceros* spp.).

RUNGWE B., Trogon (*Apaloderma*).

SAMBONI Z., White-browed Coucal (*Centropus*).

SANGALALA K. R., Swallow (*Hirundo* spp.).

- SANI (M-) Z., Green Coucal (*Ceuthmochares*).
 SARAI D., Oxpecker (*Buphagus*).
 SAYEIKIA B. Sb., Klaas's Cuckoo (*Lampromorpha klaasi*).
 SAZILE Z., Cappoc-vogel (*Anthoscopus*).
 SEMBA ULIMI K., Red-backed Shrike (*Lanius collurio*).
 SENG S., Sparrow-hawk (*Accipiter minullus*).
 SHAKI D. Pan., SHAKU W., Gull (*Larus*).
 SHASHE B. Sb., Oxpecker (*Buphagus*).
 SHE(L)UCHUNGI B. Sb., Long-crested Hawk-eagle (*Lophaëtus*).
 SHELUKUNGU Sb., Weaver with yellow on it (*Ploceus*).
 SHEGU B. Sb. Z., Honey-guide (*Indicator*).
 SHEKIKOKO Sb., Long-tailed Cuckoo (*Cercococcyx*).
 SHEKILINDI Sb., Rail (Rallidae).
 SHEKIZERU Sb., African Harrier-hawk (*Gymnogenys*).
 SHEMAKHOME B. Sb., Grosbeak Weaver (*Amblyospiza*).
 SHEMATIGILI Sb., small Owl (*Glaucidium* or *Otus*).
 SHEMCHOCHO B., Red-chested Cuckoo (*Cuculus solitarius*).
 SHEMFIYOLA Sb., Grosbeak Weaver (*Amblyospiza*).
 SHE(M)KOKO Sb., Red-chested Cuckoo (*Cuculus solitarius*).
 SEMPULE Sb., Vulturine Fish-eagle (*Gypohierax*).
 SHEMSANA Sb., Green Coucal (*Ceuthmochares*).
 SHENGYENKE (KI-) Sb., Quail (*Coturnix*).
 SHESIAFU Sb., Ant-thrush (*Neocossyphus*).
 SHIGI B. Sb., D. Z., Waxbills, very small weavers with a little red (*Estrilda*,
Coccopygia, *Uraeginthus*).
 SHISHUNGI W., Geelgat (*Pycnonotus*).
 SHONGOGOLO Sb., Tinker-bird (*Pogoniulus*).
 SHORESHORE JANGWA W., Sombre Bulbul (*Andropadus*).
 SHOR(W)E Sw. R., Geelgat (*Pycnonotus*).
 SHORWE WANDA Dsm., House Sparrow (*Passer*).
 SHOZI Sb., Sunbird (Nectariniidae).
 SHUNDI B. Sb., SHUNDISHUNDI D., White-browed Coucal (*Centropus*).
 SHUNDI (KI-) MLIMA B. Sb., S. MABUWA Sb., Black-headed and Brown-headed
Tchagras (*Tchagra senegala* and *T. australis*).
 SHUNGI (KI-) Sb., Crested Flycatcher (*Trochocercus*).
 SHUWISHUWI Sb., small Warbler (Sylviidae).
 Siafu B., Rufous Chatterer (*Argya*).
 SIJI D., Mannikin (*Spermestes*).
 SILIMBO K., Puffback Flycatcher (*Batis*).
 SI(L)IMIWA B. Sb. Z., Canary (*Spinus* and *Serinus*).
 SIMHE K., large Grass-warbler, e.g. *Cisticola natalensis*.
 SISI Sb., Green Barbet (*Buccanodon olivaceum*).
 SIWA K., Grey Cuckoo-Shrike (*Coracina*).
 SIYESIYE K. R., Waxbill.

- SOKA (M-) B., Black-shouldered Kite (*Elanus*).
 SOKELO Z., Black-headed Tchagra (*Tchagra senegala*).
 SONGOROKANTURI W., Laughing Dove (*Stigmatopelia*).
 SONZO K., Yellow Flycatcher (*Chloropeta*).
 SORE K., Geelgat (*Pycnonotus*).
 SOWEKOLO K., Long-tailed Cuckoo (*Cercococcyx*).
 SOZI B. Z., Sunbird (Nectariniidae).
 SUA B. Sb. Z., Dove (general term).
 SUA MANGA Sb., Domestic Pigeon (*Columba livia*).
 SUA TUTU B. Sb. Z., Red-eyed Dove (*Streptopelia semitorquata*).
 SUHI (M-) Z., Spotted Woodpecker (*Campethera cailliautii*).
 SUMBURURU R., Kingfisher (Alcedinae).
 SUNGURIRE KATURI R., Laughing Dove (*Stigmatopelia*).
 SUWAGULAMILANZI K., Grosbeak Weaver (*Amblyospiza*).
 SWARIRI W., White-backed Duck (*Thalassornis*).
 SWERA Sb., Waxbill esp. *Coccopygia*.
 TAGILAMKOKO K., Black-headed and Brown-headed Tchagras (*Tchagra senegala* and *T. australis*).
 TAI Tan., Vulture (Aegypiidae).
 TAMBI (KI-) Sb. :
 (1) Red Bishop (*Euplectes* spp.).
 (2) Lourie (*Turacus*).
 TANDAWALA B. Z., Black-breasted Florican or Little Bustard (*Lissotis*).
 TARATAZI Z., Bulbul spp. other than Geelgat (*Pycnonotus*).
 TAZO Sb., Nightjar (*Caprimulgus*).
 TEGILE Z., *Francoelinus* sp.
 TEMA K., Sparrow-hawk (*Accipiter minullus*).
 TEMBE (M-) K., Pullet not yet laying.
 TETERA (M-) Z., Pullet not yet laying.
 TETERE Sw., D. W. K., Ring-necked Dove (*Streptopelia capicola*).
 TETEYA (M-) Sw., Pullet not yet laying.
 TIBWA (KI-) B. Sb., Puffback Shrike (*Dryoscopus*).
 TILILI D., Kingfisher (Alcedinae).
 TIPITIPi Sw. W., White-browed Coucal (Centropus).
 TIYETIYE :
 (1) Z., Waxbill.
 (2) Sb., White-eye (*Zosterops*).
 TOLOBWA Z., TOLONDO B. Sb. Z. K. R., any very small weaver with much red in plumage, e.g. Fire-finch (*Lagonosticta*).
 TOLONDO KANGA Sb. R., Twin-spot (*Hypargus*).
 TOLONDO MBAGO Z., Pytilia.
 TOLONDO MZITU Sb., Crimson-wing Weaver (*Cryptospiza*).
 TONGO B. Sb. Tan., TONGWA Dsm., Bronze and Rufous-backed Mannikins (*Spermestes cucullatus* and *nigriceps*).

TONGO SIMBA Sw., T. (M-) ZIMBA B. Sb., K., Magpie Mannikin (*Spermestes fringilloides*).

TONOMBE (KI-) W., Waxbill (*Estrilda*).

TOPOLAMAVI Z., Morning Warbler (*Cichladusa*).

TOTOWI Sb., Black Cuckoo (*Cuculus clamosus*).

TOWEZO R., Black-headed Tchagra (*Tchagra senegala*).

TOZI (KI-) W., Sunbird (Nectariniidae).

TSIWITSWI D., Sunbird esp. *Anthreptes collaris*.

TSOZI D., Sunbird (Nectariniidae).

TUKU (KI-) W., Greenspot Wood-Dove (*Turtur chalcospilos*).

N.B.—Erroneously shown in List A as "Kitutu."

TUPWI B., Grass-Warbler (*Cisticola erythrops*).

TUTIA (KI-) Kwale Is., House Sparrow (*Passer*).

TWITWI (KI-) :

(1) Sw., Sandpiper and small Plover.

(2) Sb., small Warbler (Sylviidae).

TWITWICH Sb., small Warbler (Sylviidae).

UBUNGULUKOM K., Tinker-bird (*Pogoniulus*).

ULI (KI-) B., Bee-eater esp. *Merops* spp.

UMBASA, UMBAZWA, B. Sb. D., Nightjar (*Caprimulgus*).

UNGA(L)I (KI-) B. Sb., Trumpeter Hornbill (*Bycanistes bucinator*).

UPAPASA B., Nightjar (*Caprimulgus*).

UWIMAZI (KI-) B. Sb., Wagtail (*Motacilla aguimp* and *M. clara*).

VUMATITI D., Ground Hornbill (*Bucorvus*).

VUMBURUKUHU D., Wood-Owl (*Strix* = *Ciccaba*).

VUVI Z., Cormorant (*Phalacrocorax*) and other large fish-eating birds.

VUYU (KI-) Z., Puffback Shrike (*Dryoscopus*).

WAKIJO (M-) Tan. (Sw.) D., Black-headed Tchagra (*Tchagra senegala*).

WALABU (M-) Z., Trogon (*Apaloderma*).

WANALUNGU Sb., Red-billed Shrike (*Sigmodus retzii*).

WAPE K., *Francolinus* sp.

WATA B. Z., Wild Duck.

WEPE D., *Francolinus* sp.

WEWE (M-) Sw. and all tribes, Kite (*Milvus*).

WOROWONDO D., Trumpeter Hornbill (*Bycanistes bucinator*).

WUJI D., Wood-Dove (Bluespot and Greenspot, *Turtur* spp.).

YANGEXANGE Sw. Sb. Z., Cattle Egret (*Bubulcus*).

YELO (KA-) Z., White-eye (*Zosterops*).

ZE(L)E(L)E (KI-) B. Sb., birds of Swallow family (Hirundinidae) and sometimes Swifts.

ZING(W)I (M-) Sb. Z. K., Hammerkop (*Scopus*).

ZIYA (KI-) K., Chicken.

ZOGOLO (KA-) MDENTE Z., Hoopoe (*Upupa*).

ZOGORO B. Sb. Z., Domestic Cock.

ZOLE (KI-) B. Sb., Glossy Starling (*Lamprocolius* spp. and *Stilbopsar*).

ZUBI K., Grass-Warbler (*Cisticola erythrops*).

ZUMBIRU K., Moustache-Warbler (*Melocichla*).

ZUVYA Sb. Wild Duck.

ZWAZWALA Z., Thrush (*Turdus*).

Magari

By D. W. I. Piggott

MAGARI is one of the higher summits in the Uluguru Mountains, though it is by no means the highest of the group. The Uluguru are an isolated formation in the southern half of the Morogoro district and owing to deep erosion they are cut into steep ridges and precipitous valleys with a comparatively high rainfall. The high ground is mostly covered with rain forest, through which native paths penetrate by high passes from one valley to another. Magari itself is a prominent peak rising from the long ridge forming the north-western edge of the massif and is conspicuous from the railway line west of Morogoro on a clear day. This ridge rises towards the Morogoro or north-eastern end where the fine Lupanga peak overlooks the township.

Magari is the highest point on the ridge and rises precipitously over the Mzingu valley, one of the grandest alpine valleys in Tanganyika. The valley itself is low and fertile, surrounded by a sweep of cliffs with a fine waterfall in the centre. The peak of Magari is cleft in two by a vertical cut and the south-western peak is lower and less difficult than the main peak. Native information stated that the higher peak had not been climbed, though a surveyor had recently been to the top of the lower one and had crossed over into the valley behind.

There are various possible ways by which the main peak of Magari may be attempted, all interesting and involving heavy work in steep rain forest. Having decided to tackle it from the Mzingu side N. R. Rice and myself pitched camp on a high pass over the ridge whose approach lies over the waterfall. This is in the centre of the wall closing the head of the valley. The path is easy from the motor road to the end of the valley-basin but extra porters must be taken on for the climb up to the pass. These take turns at clearing the bush over the track, for porter loads, and also change with the porters on the way. Lightweight tents and a minimum of equipment were taken and a camp site was found in a small clearing about a hundred yards below the summit of the pass. There is good water in the stream bed just below the camp.

At night the ridge is normally overcast with cloud and, on each of the three nights we spent there, some rain fell as the small rains were due. On the morning of the 21st November we set off south-westwards at seven o'clock from the very summit of the pass towards Magari. The distance as the crow flies appears to be little over a mile but the climb eventually took five hours of very hard work. The principle of the climb is to follow the ridge throughout, as the forest is so thick that visibility is reduced to some thirty or forty feet in each direction and the early morning mist usually hides all landmarks. It is not always easy to follow the ridge and a prismatic compass is needed to ensure

that in the twists and turns a subsidiary buttress is not followed instead of the main ridge.

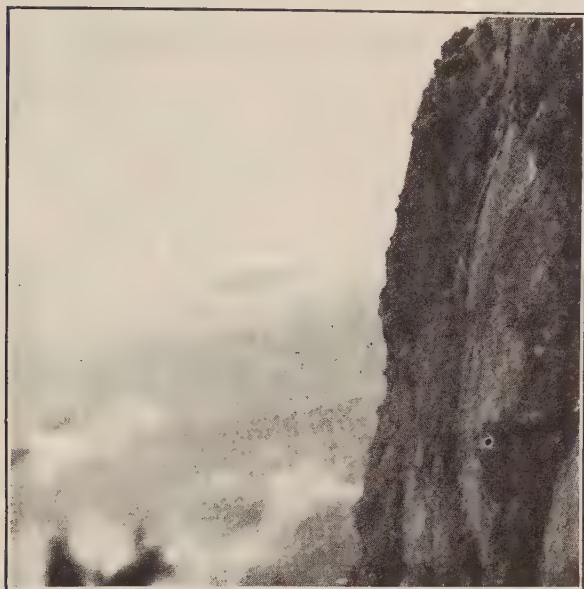
Two peaks are climbed and two deep clefts are crossed over difficult ground before the foot of the real summit peak is reached. One of the two natives taken to cut the track through the bush proved to be unfit, so most of the work devolved on the second man. At the end of three hours when the foot of the peak came into view both men proved too tired to proceed and their *pangas* were taken over by us for cutting a way up the final climb. A clear view of this can only be obtained by climbing a tree on the edge of the last saddle before reaching the peak, as the bush is at all times too thick for any view from ground level. It is seen that the left or south-east face of the peak is sheer rock but on the right a shoulder juts out from which a start can be made on the corner opposite the observer. At this point probably most people would agree with my own unexpressed feeling at the time that the climb was going to be well worthy of every effort put into it. The sight is magnificent but somewhat discouraging.

The first move from the deep saddle is almost directly upwards with a right-hand bias to cross under the overhanging rock face on the left of the shoulder. There is some particularly close vegetation which provides some difficulty before the shoulder is reached but this has to be crawled through in order to get out on to the shoulder itself.

Once on top of the shoulder the real climb begins, but again vegetation hides any idea of the route ahead and the path must be chosen from one's memory of the view from the saddle. The bush is quite astonishingly thick and luxuriant for the altitude and exposure. From the valley below the appearance of the vegetation suggested heather and small shrubs but in fact it is ten to twelve feet high and must be heavily cut to make even crawling room. The angle, which up to then has been forty to fifty degrees, now steepens steadily until even the trees have to slope from the vertical to obtain room to grow. The route lies in the main next to the sheer rock face but later swings away slightly to the right and every moment threatens to end in an overhang.

Nevertheless, though the angle steepens to seventy degrees, a passage can still be forced upwards and later the gradient eases. Though the growth is as thick as ever and there is no view it is realized that the worst is over. The very summit is clothed in stout trees heavily covered from top to ground in hoary lichens and the effect is somewhat eerie. Beyond the summit a large bed of dense bracken-like fern is reached and then finally, and for the first time, there is a clear view from a short rocky ridge, dropping sheer into the cleft with the other summit just below.

The view alone is well worth the effort and if by good fortune the whole horizon is clear the effect is spectacular. Unfortunately, Magari normally carries a cloud banner and though I climbed it twice, on neither occasion was a complete view obtained. The first ascent took five hours from the camp,



Magari-South-east face.



Magari.—View of peak from main ridge showing
route followed

the second three as the track had been cut, but in both cases it was heavy work.

On the return the work is by no means over. It is imperative to follow the original route as any deviation may lead to a precipice and it would not be difficult to lose oneself entirely in the thick growth, even on the peak itself.

It is essential to blaze the upward track and to follow it meticulously down again. The route along the ridge must also be carefully marked and followed as a false line may easily at any time lead imperceptibly to the wrong ridge.

Provided porters have been arranged a descent can be made the same day to the road at the Mzingu bridge where a car will take one in a few minutes over the seven miles of road back to Morogoro.

Indian Elephants in Tanganyika

By A. Sillery

I HAD MEANT to write a complete article on this subject but my information is so scanty that I have not been able to do more than collect together a few notes, which I present as they are, since they may stimulate further enquiry and bring me evidence wherewith to build up a connected narrative.

In *The Rise of our East African Empire*, Lord Lugard records that Indian elephants have from time to time been imported into Africa and that several were sent to (Lake) Tanganyika in 1879.

I first heard of them in 1926 from an old man named Kirundira, who lived near the Ruvu river. He told me that as a young man he saw two Europeans go through the Mafizi area, mounted on two elephants.

I am indebted to Mr Guise Williams, Provincial Commissioner, for the following note written by Mr Bagenal⁽¹⁾ in the Western Province Provincial Book :—

“In 1880 two British officers took two elephants on behalf of the Belgians from Bagamoyo to Karema⁽²⁾ (on Lake Tanganyika). There the elephants died. The officers proceeded to Mpimbwe where at the hot springs they were killed in a raid by the forces of Mirambo⁽³⁾ (from north of Tabora) who burnt the village.”

Mr Guise Williams had the following account from a man of about seventy years of age who lives at Tabora :—

“I saw the caravan in which were two elephants on which two Europeans were riding. They camped at Kwihara at the *tembe*⁽⁴⁾ and tied the elephants to the *Mbiru* tree there. The Europeans climbed on the animals by means of a ladder. When they left Kwihara I followed them to their next camp at Isanuka to see the strange sight. Behind them came another European carried in a *machila*. He was later killed by Mirambo at Mpimbwe. Mirambo killed him because the Wakimbu at Kiwere had killed an European known by the name of Kacheche. He wanted an European to his credit also⁽⁵⁾. The elephants passed when Chief Isike reigned and before the White Fathers built at Kipalapala. It was at the beginning of the dry season just after the crops had been harvested.”

Mr Guise Williams has himself visited the hot spring at Mpimbwe in Northern Ufipa and saw what appeared to be graves just above it.

The next piece of evidence is contained in an account of the Pimbwe by Mr J. E. S. Lamb :—

“Mfundo had in the meantime sought help from Mirambo who came down through Uruwira and marched on Mpimbwe . . . When Karogela

was attacked by Mirambo he had two Europeans, members of the Société Internationale de Bruxelles, camped at his village. They offered their help. The people say they fought like lions but both met their death." (6)

An elder of Dar es Salaam of about eighty years of age told me that when he was a young married man a party of six Europeans landed at Msasani Bay from a steamboat, with a great number of African porters and two elephants. The whole party of six went up-country after camping at Dar es Salaam for three months, at the place where the harbour wharves now are. The Europeans were British. If indeed there were six Europeans, this expedition may have been a different one to that which ended so unhappily at Mpimbwe, though the date indicated to me by the old man was about the same as that given by Mr Bagenal.

Finally, Mr C. Gillman has given me the following extract from an article by a Doctor Lent in the *Deutsche Colonial Blatt* for 1894 :—

"An East African Expedition sent out by the King of the Belgians (in connection with the founding of the international committee's station at Karema on Lake Tanganyika, c.g.) left Dar es Salaam in July, 1879, with four Indian elephants. Each of them carried a thousand pounds. The first died in Mpwapwa and the second on the 23rd September further inland, no external cause of death being evident. The third died at Karema in December, 1879, and the last, also at Karema, in June, 1880. It is assumed that these animals, spoilt by good food in India, could not stand the bush-grazing and foul water of their African environment. Popelin, one of the members of this expedition, reported from beyond Mpwapwa that these elephants were 'beasts of burden par excellence'."

Mr Gillman adds that J. Scott Keltie, in his *The Partition of Africa* (second edition, 1895, page 123), also mentions this experiment "at the expense of the King of the Belgians" and thinks that the animals died "probably from want of intelligent treatment."

That is all I know about the explorers on elephants. There are very large gaps. Will any one who can help to stop them please write to me?

(1) Former Provincial Commissioner.

(2) The Belgians established themselves at Karema about 1879 purchasing land from an Arab there on which they settled a large number of freed Congolese slaves. When handing over to the Germans they gave the land to the White Fathers and the present mission stands upon it to-day.

(3) A famous Nyamwezi warrior chief, who died in 1884. He was for many years a thorn in the flesh of the local Arabs but became very well disposed towards the British missionaries who established themselves in his country (E. C. Hore : *Tanganyika and Eleven Years in Central Africa*). Mirambo's kindness to these suggests that the killing of the Europeans at Mpimbwe may have been unintentional.

(4) This is the tembe occupied by Livingstone, Stanley, Cameron and other explorers.

(5) But see note (3) above.

(6) This confirms that their death was not premeditated but was incidental to a tribal war.

NOTES

European Storks in East Africa

WITHIN a fortnight three "ringed" birds were found dead in the Lake Province. The first was found in Kasuguti Village, Mwibara Chiefdom, Mwanza District, on the 10th of March. From the description furnished by the District Commissioner, who sent the ring to the curator of the King George V Memorial Museum, it was clearly an European stork. The ring round its leg was marked as follows: "Retour Mns. Zool. Polon. Polonia Varsovia 501740 B."

The second bird, probably also a stork, is reported by the District Commissioner to have been found on Ukara Island, also in Mwanza District, about the 22nd of March. The ring was marked "BB 5885 Inform Vogelwarte Rossitten Germania."

The third stork was found about seven miles from the District Office of Shinyanga on the 12th of March. The ring on its leg was marked "No. B.508840 Museum Zoolog. Warsaw, Poland."

The Light Phenomenon on Mpara Hill near Kilwa

IN an early issue of *Tanganyika Notes and Records* (No. 4, page 92) there is a note on the mysterious light which appears on Mpara Hill about eight miles to the south of Kilwa Kivinje. Sir Edmund Teale told me to try to find out more about it. I did not have the opportunity to do so because of my business with hippo control in Rufiji. However in December, 1940, I landed at Kilwa Kivinje on game observation and made a survey from the sea near Mpara Hill (where there are isolated waterbuck), through the reedbuck, bushbuck and pig country to the kudu populated Matandu River.

I slept one night to the east and one night to the south-west of Mpara Hill. I saw no light. There were fireflies of such size and brilliance as to make me think that they might have given rise to "the yarn." Mr Risa Ghau in Kilwa had told me about the light (before I mentioned it) and said he thought it

came from phosphorus in the ground. Some day he would dig for it. I remembered landing at Kilwa Kisiwani in 1917 with the mounted troops who camped a week at Mpara. I wondered if a large number of horses had died and whether their bones had made the phosphorus.

The second night I was down in the mangrove swamps where the bushbuck roam and I was not able to see the light; it is possible that it is not visible from there. Natives said it was very plain from Kilwa Kisiwani about ten miles south. From there one got a good and complete view of the hill.

The third night, duty took me to Singino Hill which lies west of Kilwa Kivinje. Before dark I took my bedding and got two natives to take me south to a scarp from where Mpara Hill could be seen. These men told me that from there the light would be seen. "It is most brilliant when it is raining hard." They called it "moto." They also said that on the hill itself it only appeared where the thicket growth was cleared and that dhow crews out at sea said the light sometimes moved or was seen on Singino Hill, from their point of view.

At seven o'clock one man told me to look at the "moto." On the northern slope of Mpara Hill where I had ridden my bicycle the previous afternoon, if I judged rightly, among red earth storm channels and *muhogo* fields and scant bushes, there was a wide tall white glare with a "core" or central eye of such vivid intensity that I was affected as though in the presence of some evil spirit. There was something personal about the light, something living, menacing which I had not expected. The natives had expressed no fear when talking of it and I had thought of some dull effusive glow as of mouldering matter or phosphorus in the sea.

In ten minutes it faded out and we did not see it again although we woke many times from our fitful slumber during the rest of the night to look for it. Possibly it is some mineral in the hill effected by sun radiation which after dark rids itself of some energy collected through the day. That is a layman's theory. It looked to be one hundred metres in height or breadth and the nucleus-core about two metres. A photograph taken with a telescopic lens and a long exposure would be interesting —R. DELABER BARKER.

A letter on this subject from Mr Frank Oates, of the Geological Division, Lands and Mines Department, appears on page 71 of this number.—EDITOR.

Insects as Food

THE article on the above subject by W. Victor Harris in the June, 1940, issue of *Tanganyika Notes and Records*, No. 9, reminds me that I have often heard natives remark that the Zaramo tribe who live south of Dar es Salaam eat cockroaches. These insects are in great numbers in the country I know between Kilwa and Dar es Salaam and sometimes I have turned out all books, papers and clothes from a dozen boxes to the joy of fowls who collect to eat hundreds of the insects which had possessed my belongings during one of my separations from my effects.

During the great famine of the middle ages two buxom lasses in London were about to be burnt at the stake as witches because they were so full of life and health and had such sparkling eyes when all others were skeletons. At the last moment they confessed that they had been secretly making meals of cockroaches which they said tasted like nuts. Flying ants, which I eat, taste like nuts.

In very diverse places natives who should know have told me that the Mawia tribe of Portuguese East Africa now coming into Tanganyika in thousands for shamba work, eat millipedes and state they taste like shrimps. It is said that they boil them. I have not yet seen them do it. Land monitors commonly called iguanas sometimes have their stomachs full of these millipedes (*jongoo*) which prove that they are edible to the Kenge.—

R. DELABER BARKER.

BOOKS REVIEWED

A Swahili-Botanical-English Dictionary of Plant Names, by P. J. Greenway, F.L.S., Systematic Botanist, East African Agricultural Research Station, Amani, Tanganyika Territory. Second and revised edition, 308 pages with ten plates. Government Printer, Dar es Salaam. Price four shillings.

This handy and very useful little book is the outcome of a request made in 1931 by the late Mr F. Johnson, Secretary of the Inter-Territorial Language Committee of East Africa, to supply information for the Swahili dictionaries then in course of preparation. The demand for the first edition of the book was great and the edition was soon exhausted. The publication of a second edition has provided the author with the opportunity to make a complete revision of the work and to include the addition of over eighteen hundred names. A glance at the list of sources of information which begins at page 12 of the book, will show that a vast amount of research has been necessary to the compilation of the dictionary, and this, together with the fact that in a great many instances it is a matter of extreme difficulty correctly to assign a Swahili plant name to a particular botanical equivalent, has made the task one of no mean order. As an instance, take the rubber-bearing plants, the Swahili name for which is *mpira*. Three distinct genera are known to the Swahili under this name, the Para rubber tree (*Hevea brasiliensis*), the Ceara rubber tree (*Manihot glaziovii*) and the rubber vines (*Landophia* spp.); sesame and rozelle are both known as *ufuta*; several of the bean plants as *mfiwi*. Other instances can be given, but sufficient has been said to show something of the difficulties encountered. Present day botanical nomenclature has been used. There is an error at page 240 where *unguiculata* is wrongly spelt, but, apart from this obvious typographical error, meticulous care has been taken to ensure that the spelling of the scientific names is correct.

There is an introduction to the use of the dictionary, there are ten plates of explanatory illustrations and a glossary of botanical terms. Where short descriptions of plants are given, these facilitate recognition of the plants. Part I is a Swahili-Botanical-English dictionary which includes short descriptions of most of the plants listed. Part II is a section of Botanical-English-Swahili plant names which have been indexed alphabetically together for ease of reference. No descriptions of plants are given in this section, but for this, it is very easy to refer to Part I.

The author emphasizes that the book is only intended to be a dictionary of plant names and not a work on Swahili economic plants. Invaluable notes are given on some of the uses of certain plants and add scope and interest to the book. Much information and knowledge has yet to be gained before a work on Swahili economic plants can be contemplated, but undoubtedly this admirably useful little book is a step in that direction. The author draws attention to the fact that he will always be pleased to receive botanical specimens for identification if they are accompanied by their tribal or Swahili names and notes, when possible, as to their native uses. The dictionary should stimulate interest to this end.

The book is a necessity to all who undertake safari, officials, teachers, missionaries, agriculturists and foresters, and it should be included in the libraries of all who are in any way interested in East Africa. The book is well conceived, clear and easy to understand. The price is modest at four shillings and the book is obtainable from the Government Printer, Dar es Salaam.—T.H.M.

CORRESPONDENCE

THE EDITOR, *Tanganyika Notes and Records*.

Dear Sir,—In your October, 1937, issue (No. 4) there appears a letter from Sir Edmund Teale on the subject of the remarkable and unexplained phenomenon of illuminations or glows visible on Mpara Hill, near Kilwa, in the Lindi Province.

As stated in the above-mentioned letter, the attention of the Geological Survey was first directed to this phenomenon in March, 1934, by Mr W. D. E. Alcock, who was at that time District Officer of Kilwa. The subject aroused keen interest among the members of the Survey though, owing to the impracticability of visiting the locality, it could be accorded little serious attention beyond speculation and discussion. Examination of rock and spring water from near the site of the glows yielded no positive evidence of origin and a visit to the actual site by a German geologist, Professor E. Hennig, of Tübingen University, proved equally abortive.

One thing is clear and that is that the glows are not actual fires; at first I thought that they might be due to phosphorescence but it has lately occurred to me that an electrical origin is far more probable. The natural electrical manifestation known as St Elmo's Fire is an electrostatic brush discharge from the atmosphere, and besides being visible under certain conditions at the masts and spars of ships at sea has also been reported to occur on steep mountain peaks, as at Sao Luiz, between the towns of Ouro Preto and Santa Barbara, Brazil ("The Growth of Jacutinga," by J. H. Goodchild, *Mining Magazine*, LXIII, 4, 1940, page 190). Brush discharges of this character have been observed on Pike's Peak, near Colorado Springs, United States of America, and also crowning the summits of the Andes. As might be expected in the rarefied air of great altitudes the discharges attain a greater size than elsewhere. The literature relating to St Elmo's Fire, to which I have access at the moment, is meagre but is sufficient to indicate that its manifestation on mountain summits is well authenticated though the factors controlling its occurrence are by no means fully understood.

The facts that the glows are visible always at the same place on moonless nights (obs. Hennig) and are dark reddish in colour and particularly vivid during the rainy season (obs. Alcock) seem to support an electrostatic origin. According to native evidence the glows are visible on any night of the year and this is not incompatible with the origin now suggested, though the best display would be expected on moonless nights during seasons when the atmosphere was especially highly charged with electricity.

Perhaps other readers of these pages may be able to contribute further information in regard to natural atmospheric electrostatic discharges and their bearing on this problem.—Yours faithfully, FRANK OATES, Lands and Mines Department, Dodoma, 3rd June, 1941.

