

TANGANYIKA NOTES AND RECORDS

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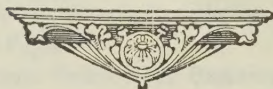
Editor: BRUCE HUTT

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C. GILLMAN, D. R. JOHN

P. W. NEWMAN



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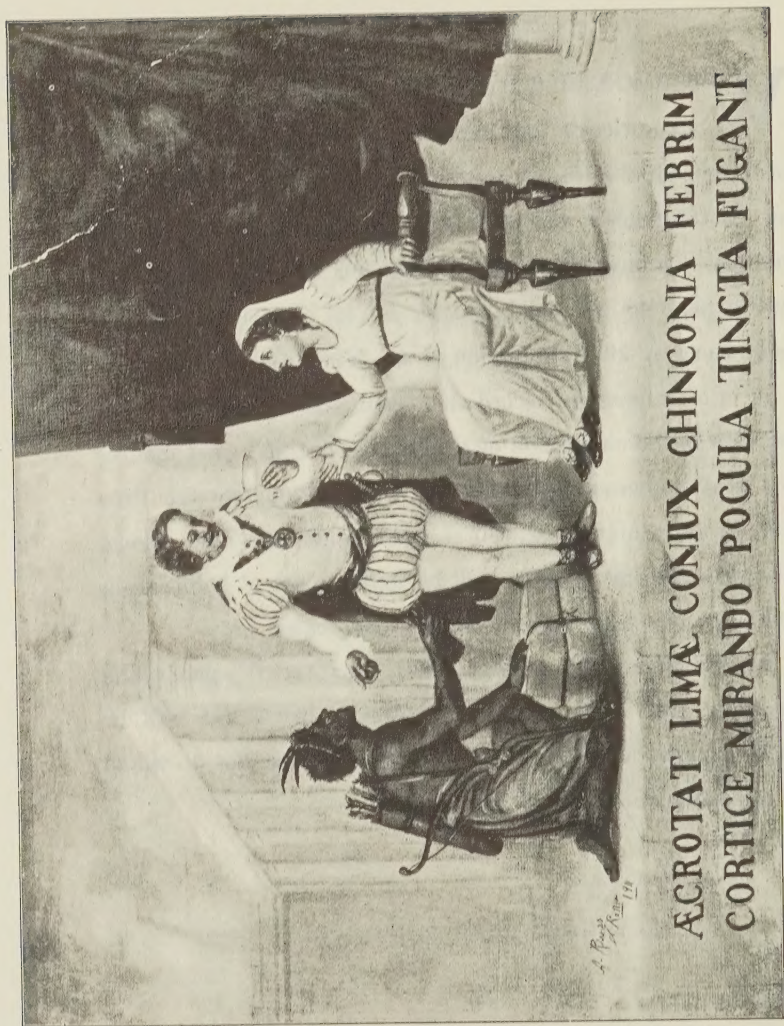
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Editorial Note

WE REGRET that through an oversight we omitted to acknowledge the sources of two of the illustrations which appeared in the second number of the Journal. The block for the frontispiece was lent us by the Bureau tot Bevordering van het Kinine-Gebruik of Amsterdam and the photograph facing page 48 was taken by Dr D. R. Grantham and was reproduced by kind permission of the *Mineralogical Magazine*.

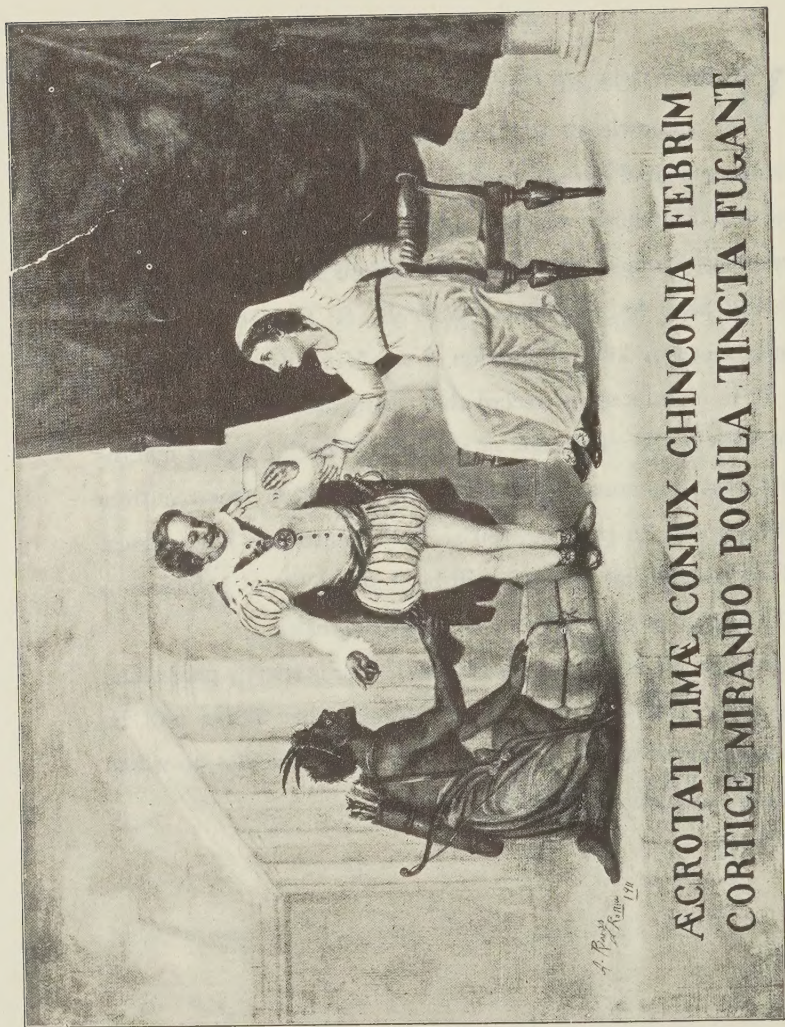
It is of interest to record that there has been a gratifying increase in the circulation of the Journal during recent months and that numerous enquiries for it have been received from Europe and America as well as from South and East Africa. Elsewhere in this number will be found a list of publications which are now received on a reciprocating basis.

Readers are asked to note that the Editor is shortly proceeding on leave and that, during his absence, his duties will be undertaken by Mr F. A. Montague of the Secretariat, to whom all communications should be addressed.



Cure of the Countess of Chinchon (A.D. 1638)

(See page 50 "Native Materia Medica" by W. D. Raymond)



Cure of the Countess of Chinchon (A.D. 1638)
(See page 50 "Native Materia Medica" by W. D. Raymond)

[Frontispiece

The Description of Africa

The following description of Africa is taken from an old volume of maps dated 1646. The author is unknown but he appears to have obtained much of his information from the works of "our deserving Country-man Master John Speed," (1552 ? to 1629), historian and cartographer. The maps are endorsed "P. KAERIUS COELAVIT 1646." This Peter Kaerius was another well-known seventeenth century cartographer and one of his maps dated 1614 is reproduced (from another source) on the opposite page.

AFRICA as it lay neareſt the ſeat of the firſt people, ſo queſtionleſſe it was next inhabited: and therefore requires the ſecond place in our Diviſion. It is generally agreed upon, that the North parts were poſſeſt by the ſons of *Cham* not long after the confuſion. And ſo indeed the Kingly Prophet in the 78. *Pſalm*, uſeth the Tents of *Cham* for the Land of *Egypt*, which is the part of *Africa* which joyns upon the South-weſt of *Aſia*, & is divided from the holy Land but by a ſmal *Iſthmus*. Give the people their own asking, and they will have the glory of the firſt Inhabitants of the World: and prove it too both from the temperature of their air, and fertility of their ſoyl, which breeds and nourifheth not onely Plants and fruits, but ſends forth, of its own vertue, living creatures in ſuch fort, as amazeth the beholder. We have a report (if you will beleeve it) that in a ground neer the River *Nilus*, there have been found *Mice* half made up, & Nature taken in the very nick, when ſhe had already wrought life in the fore-parts, head and breſt, the hinder joynts yet remaining in the form of earth. Thus I ſuppoſe they would have man at firſt grown out of their ſoyle, without the immediate hand of God in his Creation. And it hath been the opinion of ſome vain Philoſophers, that for this cauſe have made the *Ethiopians* to be the firſt people: for that there the Sun by his propinquity, wrought ſooner upon the moiſture of the ground, and made it fit for mortality to ſprout in.

(2) But to leave theſe, without doubt *Africa* is of great antiquity, and ſo is allowed by all Hiſtorians of credit: In the year 1566 the people were increaſed to an exceeding multitude; and therefore were enforced to enlarge their bounds, upon their neighbouring Countries. For as it was of a moſt rare fertility: ſo it lay not any long way, and had free acceſſe to it by land from the garden of our firſt Parents.

(3) In the time of *Abraham* we have better aſſurance from the Word of God, that it was then a place of fame, and the Inhabitants of ſome growth, for they were able to ſupply the wants of the Countries adjoining by their ſtore: and thither went *Abraham* out of the Land of *Canaan*, to avoid the great famine, *Gen.* 12. She had then her Princes, *Pharaoh* and his mighty men, that feared not to reſiſt God, and were afterward made the inſtruments of his puniſhments upon the children of *Iſrael*: for they kept them in bondage foure hundred yeers, as was foretold to *Abraham* in the 15. of *Genefis*.

(4) But this proof of Ancientry concerns not the whole Country: onely those Regions which lye under the temperate *Zone*. The rest for a long time after were unknown to our Geographers, held not habitable, indeed beyond Mount *Atlas*, by reason of the extream heat. The reports which passe of it before *Ptolemey's* time were but at randome, and by guesse of such as had never sayled it round, or scarce come within sight of it, but at a great distance, and by this means, either out of their own errour, or else a desire of glory more then they had deserved: or perhaps a Travellers trick, to cheate the ignorant world that could not confute their reports, they spread many idle fables of monstrous people without heads, with their eyes and mouthes in their breasts, maintained to this day by some Authors of good esteeme. But for my part I hold it most reasonable to credit Saint *Augustine*, who was born and died in *Africa*. That hee in his eighth Booke *De Civitate Dei*, acknowledgeth no such creatures, or if they be, they be not men; or if men, not born of *Adam*. And our later discoveries joyn in with him that report not (upon their own experience) of any other people then such as our selves are; and yet I suppose they have seen more of the Country then ever any heretofore did. For they passe not now to sayle it round once a yeer, by the *Cape* of good *Hope* to the East-side of the very *Isthmus* toward the Red Sea.

(5) This course by the South was discovered by one *Vasco de Gama*, in the year 1497. and a way found to the *East-Indies* by which the Princes of *Portugall* receive an infinite gain, both in Spices, and other Merchandise. The hope of which first set them upon the adventure. And in this one thing wee owe much to our own Countrey, otherwise a detestable plague, that the insatiate desire of wanton commodities hath opened to us a large part of the world before not known, and which we hope may hereafter increase the light of the Gospel, and the number of the Elect.

(6) If we compare Her to the two other portions of the same Hemisphere, shee is situated wholly South, and in part West-ward. It is divided on the North from *Europe* by the *Mediterraneum* Sea. On the South where it runnes into a kinde of point at the *Cape* of good *Hope*, it is bound with the vast Ocean, which in that part hath the name of the *Æthiopick* Sea; on the East with the Red Sea; and on the West with the *Atlantick* Ocean, called there in our common Maps, *Mare del North*. So that in brief we reckon both Her Longitude and Latitude in the largest parts, to be neer upon 4200. *English* miles.

(7) Notwithstanding this vast extent of ground, yet we still of *Europe* keep our own, and by authority of the most and best Geographers, exceed as much for number, as either this or *Asia* doe for room. Cause enough there is why *Africa* indeed should come short of both: for in most parts, she hath scarce plenty sufficient to maintain Inhabitants: and where there is, we shall meet with multitudes of ravening beasts, or other horrible monsters, enough to devour both it and us. In a word, there is no Region of the world so great an enemy to mans commerce: there is such scarcity of water, that no creature almost could live, had not Nature provided thereafter, that the greater part of them endures not drink in the very midst of Summer. So *Pliny* reports. And if (as sometimes they be enforced by such as take them) they suddenly

perish. Thus we see how God gives a property to each place, that may make up her defects, lest it should be left as well by beasts as men. Their Land is full of sandy deserts, which lye open to the windes and storms, and oft times are thrown up into billows like waves of the Sea, & indeed are no lesse dangerous. *Strabo* writes that *Cambyfes* his Army was thus hazarded in *Æthiopia*. And *Herodotus*, that the *Pulli* an ancient but foolish Nation (it seems) in *Africa*, as they marched toward the South, to revenge themselves upon the windes for drying up their Rivers, were overwhelmed with sand, and so dyed in their graves. Besides these annoyances, it is so full of a venomous kinde of Serpent, that in some places they dare not dresse their Land, unlesse they first fence their legs with boots against the sting. Other wilde creatures there are which range about, and possesse to themselves a great portion of this Country, and make a Wildernesse of *Lions*, *Leopards*, *Elephants*, and in some places *Crocodiles*, *Hyena's*, *Basilisks*, and indeed monsters without either number or name. *Africa* now every year produceth some strange creatures before not heard of, peradventure not extant. For so *Pliny* thinks, that for want of water, creatures of all kinds at sometimes of the year gather to those few Rivers that are, to quench their thirst: And then the Males promiscuously inforcing the Females of every species which comes next him, produceth this variety of forms: and would be a grace to *Africa*, were it not so full of danger to the Inhabitants, which as *Salust* reports, die more by beasts then by diseases. For those tracts about *Barbary* are every tenth year, 15. or 25. visited with a great plague, and continually infected with the *French* disease in such violence, that few recover, unlesse by change of aire into *Numidia*, or the Land of *Negroes*, whose very temper is said to be a proper *antidote* against those diseases.

(8) But among all these inconveniences, commodities are found of good worth: and the very evils yeeld at last their benefit, both to their own Country and other parts of the world. The *Elephant*, a docible creature and exceeding usefull for battell: The *Camel* which affords much riches to the *Arabian*. The *Barbary* horse which we our selves commend: The *Ram*, that besides his flesh gives twenty pounds of wooll from his very tayl: The *Bull*, painfull, and able to doe best service in their tillage. And so most of their worst, alive or dead, yield us their medicinall parts, which the world could not well want.

(9) In her division we will follow our later Masters in this Art, whom time at least and experience, if no other worth, have made more authentike, and those divide it into seven parts. (1) *Barbary* or *Mauritania*. (2) *Numidia*. (3) *Lybia* or *Africa propria*. (4) *Nigritarum terra*. (5) *Æthiopia superior*. (6) *Æthiopia inferior*. (7) *Ægypt*: and to these we add the (8) Islands belonging to *Africa*.

(10) *Barbary* is the first. The bounds of it are North-ward the *Mediterraneum*, West-ward the *Atlantick*: On the South the Mountain *Atlas*, and on the East *Ægypt*. It is esteemed the most noble part of all *Africa*: and hath its name from an *Arabick* word *Barbara*, that signifies a kinde of rude sound, for such the *Arabians* took their Language to be: & thence the *Grecians* call them *Barbarians* that speak a harsher Language then themselves. After the *Latines*, and now we, esteem the people of our own Nation barbarous, if they

ever so little differ from the rudenesse either of our tongue or manners. The Inhabitants are noted to be faithfull in their course: but yet crafty in promising and performing too. For they are covetous, ambitious, jealous of their wives beyond measure. Their Country yeelds *Oranges, Dates, Olives, Figges*, and a certain kinde of *Goat*, whose haire makes a stufte as fine as silke. It contains in it the Kingdomes of *Tunnis, Algeires, Fesse*, and *Morocho*. (1) *Tunnis*, is famous for severall places mentioned of old. Here was *Dona* where *Augustine* was Bishop, and *Hippo* his birth-place. And *Tunnis* a City five miles in compasse, and old *Carthage* built by *Virgils Dido*, *Romes æmula* for wealth, valour, and ambition of the universall Empire. It was twenty two miles in circuit: And *Utica*, memorable for *Catoes* death. (2) *Algeires* contains in it a strange harbour for the *Turkish* Pirates: and is of note for the resistance it made *Charles* the fifth; who received before the chief Towns in this Region, an innumerable losse of Ships, Horses, Ordnance and men. (3) *Fesse* hath a City in it with seven hundred Churches, and one of them a mile and a half in compasse (*Stafford*): And in this Country was our *English Stukeley* slain. (4) *Morocho*, where the chief Towne of the same name hath a Church larger then that of *Fesse*, and hath a Tower so high that you may discern from the top of it the Hills of *Azafi* at an hundred and thirty miles distance. Here is likewise a Cattle of great fame, for their Globes of pure gold that stand upon the top of it, and weighing 130000. *Barbary* Duckets.

(11) *Numidia* was the second part in our Division of *Africa*, and hath on the West the *Atlantike*, on the East *Egypt*, on the North *Atlas*, and the deserts of *Lybia* on the South. It is called likewise *regio dactylifera*, from the abundance of Dates; for they feed upon them onely; a people, Idolaters, Ideots, Theeves, Murderers, except some few *Arabians* that are mingled among them of ingenious disposition, and addicted much to Poetry. They seldome stay longer in one place then the eating down of the grasse, and this wandering course makes but few Cities, and those in some places three hundred miles distant.

(12) *Lybia* the third is limited on the East with *Nilus*, West-ward with the *Atlantike*, on the North with *Numidia*, and the South with *terra Nigritarum*. It was called *Sarra*, as much as Desert: For so it is, and a dry one too, such as can afford no water to a traveller sometimes in seven dayes journey. The Inhabitants are much like to the *Numidians*, live without any Law almost of Nature. Yet in this place were two of the *Sibyls*, which prophesied of Christ, and *Arrius* the Heretick. About *Lybia* were the *Garamantes*, and the *Pfili* mentioned before for their simple attempts against the South winde.

(13) *Terra Nigritarum*, the Land of *Negroes* is the fourth, and hath on the West the *Atlantike*, on the East *Æthiopia superior*, on the North *Lybia*, on the South the Kingdome of *Manilongo* in the inferior *Æthiopia*. It hath the name either from the colour of the people which are black, or from the River *Niger*, famous as *Nilus* almost, for her overflowing, inasmuch, that they passe at some times in Boats through the whole Country. It is full of Gold and Silver, and other Commodities: but the Inhabitants most barbarous. They draw their originall from *Chus*, and have entertained all Religions that came in their way. First their own, then the *Jews*, the *Mahumetans*, and some of them the Christian. For the most part they live not as if reason guided their actions.

Maginus numbers twenty five Provinces of this Countrey, which have had their severall Governours. Now it knoweth but four Kings, and those are (1) The King of *Tombulum*, and he is an infinite rich Monarch, hates a *Jew* to the death of his subject that converseth with him: keeps a Guard of three thousand Horsemen besides Foot. (2) Of *Bornaum*, where the people have no proper Names, no Wives peculiar, and therefore no Children which they call their own. (3) Of *Goaga*, who hath no estate but from his subjects as he spends it. (4) *Gualatum*, a poor Country, God wot, not worth either Gentry or Laws, or indeed the name of a Kingdome.

(14) *Æthiopia Superior* the fifth and is called likewise the Kingdome of the *Abissines*. It is limited on the North with *Ægypt*, on the South with the *Montes Lunæ*, on the East with the Red Sea, and on the West with the Kingdome of the *Nigers* and *Manilongo*. It is distinct from the *Æthiopia* so often mentioned in the Scripture: For by all probability, that was in another quarter of the world, and reacheth from the Red Sea to the Persian Gulf. It is governed by one of the mightiest Emperors in the world: For his power reacheth almost to each Tropick, and is called by us *Presbyter John*. He is the only white man amongst them, and draws his Line from *Solomon*, and the Queen of the South. His Court rests not long in any one place, but is moving as well for housing as retinue. For it consists of Tents only to the number of sixe thousand, and incompasseth in, about twelve or thirteen miles. Hee hath under him seventy Kings, which have their severall Laws and Customs: Among these the Province of *Dobas* hath one, that no man marry till he hath killed twelve Christians. The Inhabitants of the whole Region are generally base and idle: the better sort have the modesty to attire themselves, though it be but in Lions and Tygers skins. Their Religion is mixt. Christians they have, but yet differ from us; For they circumsise both sects. Their oath is by the life of their King, whom they never see but at Christmas, Easter, and Holy Rood. Their Commodities are Oranges, Lemmons, Citrons, Barley, Sugar, Honey, &c.

(15) *Æthiopia inferior* the sixth part of *Africa*, is on every side begirt with Sea except toward the North; that way it is severed from the *Abissines* by the *Montes Lunæ*. The government of this Region is under five free Kings, (1) of *Aiana*, which contains in it two petty Kingdomes of *Adel* and *Adia*, and abounds with Flesh, Honey, Wax, Gold, Ivory, Corn, very large Sheep. (2) *Zanguebar*, in this stands *Mesambique*, called by *Ptolemy*, *Praßum Promontorium*, and was the utmost part South-ward of the old world. The Inhabitants are practised much in Sooth-faying, indeed Witch-craft. (3) Of *Monomolopa*, in which is reported to be three thousand Mines of Gold. Here there lives a kinde of *Amazons* as valiant as men. Their King is served in great pompe, and hath a guard of two hundred Maldives. (4) *Cafraila*, whose people live in the Woods without Lawes like brutes. And here stands the *Cape* of good *Hope*, about which the Sea is always rough and dangerous: It hath been especially so to the *Spaniard*. It is their own note, in so much, that one was very angry with God, that he suffered the *English* Hereticks to passe it so easily over, and not give his good Catholikes the like speed. (5) *Manicongo*, whose Inhabitants are in some parts Christians, but in other

by Provinces *Anthropophagi*, and have shambles of mans flesh, as we have for meat. They kill their own children in the birth, to avoid the trouble of breeding them, and preserve their Nation with stoln brats from their neighbouring Countries.

(16) *Agypt*, is the seventh and last part of the *African* Continent, which deserves a larger Tract then we can here afford it: But for the present be content with a brief Survey; and satisfie your selfe more particularly in the many severall Authours that write her story. It hath on the East the Red Sea, *Barbary* on the West: on the North, the *Mediterraneum*, and *Æthiopia Superior* on the South. It was first possesst by *Cham*, and therefore called *Chemia* in their own antique Stories; Or at least by *Mitzraim* his Grand-childe, and is so agreed upon by most. For plenty it was called *Orbis horreum*, yet it had very seldome any rain, but that defect was supplied by the River *Nilus*: The places of note are, *Caire* and *Alexandria*. The first was heretofore *Memphis*: Some say *Babylon*, whither the Virgin fled to escape *Herods* tyranny intended to our Saviour: and blush not to shew the very Cave where she had hid her Babe. In a desert about four miles distant stand the *Pyramids*, esteemed rightly one of the seven wonders of the world. *Alexandria* was a magnificent City, and the place where *Ptolemy* tooke his Observations, and was famous for the rarest Library in the world. To the Inhabitants of this Country, we owe the invention of Astrology, Physick, writing on paper. Their Kings names were *Pharaoh* toward the beginning: now what the *Turks* pleaseeth.

(17) And this is as far as we may travell by Land: it remains that we loose out into the bordering Sea, and descry what Islands we can, neer those parts of *Africa* which we have here mentioned. And these lye either South-ward in the *Æthiopick* Sea, or else West-ward in the *Atlantike* Ocean.

(18) The *Æthiopick* Islands are onely two. (1) the Island of *S. Lawrence* or *Madagascar*, four thousand miles in compasse, and the length more than *Italy*, rich in all Commodities almost that man can use. The Inhabitants are very barbarous, most of them black, some white there are, supposed to have been transplanted out of *China*. (2) *Zocratina* at the mouth of the Red Sea, in length sixty, in breadth twenty five mile. It lyeth open to sharp windes, and by that means is extreame drie and barren. Yet it hath good Drugs, and from hence comes the *Aloe Zocratina*. The people are Christians and adore the Crosse most superstitiously, and give themselves much to Inchantments.

(19) The *Atlantick* Islands are (1) *S. Thomas* Island, and lyeth directly under the *Æquator*, it was made habitable by the *Portugals*, which found it nothing but a wood. It is full of *Sugar*, little other Commodities. (2) *Prince* Island, between the *Æquator* and *Tropick* of *Capricorn*: It is rich enough for the owner, though I finde no great report of it. (3) The *Gorgades*, of old, the *Gorgons* where *Medusa* and her two sisters dwelt; I forbear the fable, they are nine in number, and because neer to *Cape Viride*, in the Land of *Negroes*, they have a second name of *Insulæ Capitis Viridis*. They abound with *Goats*, and the chief of them is called *Saint James*. (4) The *Canaries* called for their fertility *The Fortunate Islands*, and was the place of the first *Meridian*, with the ancient *Geographers*, to divide the world into the East and West. and

from thence to measure the earths Longitude: but now it is removed into the next Ilands more North, which are the *Azores*, and belong properly to *Europe*, as lying neerer *Spain* then any other Continent. The number of the *Canaries* are seven. The chief *Canary*; next *Palus*, where our Ships touch to refresh themselves in their voyage toward *America*. Then *Panariſſa*, which hath no water but from a cloud, that hangs over a tree, and at noon diſſolves, and ſo is conveyed into ſeverall parts. The other four are *Gomera*, *Hieiro*, *Lanſarat*, and *Fuerte ventura*, ſome few other not worth note or name. The men lend their Wives like Horſes or any other Commodity. (5) Laſtly, the *Heſperides*, not far from the *Gorgades*, they are often mentioned by our Ancient Poets in the fable of *Atlas* his Daughters. It was ſuppoſed to be the ſeat of their bleſſed, which they called the *Elizian field*. And indeed it is a very happy ſoyle, the weather continually fair, the ſeaſons all temperate, the ayre never extream. To conclude, *Africa* affords not a ſweeter place to reſt in.

A Note on Longido and Ketumbeine Mountains

By R. E. Moreau and P. J. Greenway

THIS note is occasioned by the fact that, although both mountains are over eight thousand feet in height and are within fifty miles of Arusha, no description of them is available in English. An ascent of Ketumbeine is mentioned by Reck* but it has been visited very rarely indeed by Europeans. Our acquaintance with the two mountains is derived from a fortnight in January 1936, which we spent on them, accompanied by Mr T. A. Baldock, making collections of birds and plants. Our thanks are due to Mr and Mrs S. A. Child for helping us in many ways.

LONGIDO.

Longido is an isolated mass of ancient crystalline rock (Plate 1). It rises cleanly and abruptly out of rolling country (c. four thousand five hundred feet) except on the south, where the Moshi road approaches from the Ngasseraï plain through a jumble of hills. The shape of the mountain is well suggested on the 1:300,000 map (B 5, Kilimanjaro). It may be likened to an oval pie-dish tilted so that its rim is highest on the south-west—facing on Monduli—and sunk on the north-east to the level of the flats that decline to Amboseli. The interior of the dish is of so regular a form that we have heard it referred to as “the crater.”

The mountain rim is very narrow, almost a knife-edge in places, and deeply notched, so that following its circumference, as we did on one occasion, one is faced with a series of dog-tooth peaks. These culminate at about eight thousand six hundred feet (2,614m. according to the map) in a heathy knob from which one gets an all-round view. Half a mile of narrow ridge connects this on the north with a grand turret of rock prominent in views of the mountain (Plates 2 and 3) only about thirty feet lower than the highest point, and sweeping down in thousand-foot precipices.

Between four thousand five hundred and five thousand three hundred feet at the foot of the highest part of the rim the rock is bedded vertically, the line of strike pointing straight to the Shira ridge and up the main valley that cleaves the Engare Naibor hills on the north-west. Much of the exposed rock on Longido is partly decomposed and soft. Here and there the game trails that follow the rim and the steepest spurs are sunk feet deep into the rock, like an old English pack-trail into chalk or greensand. In one place, with the aid of erosion, the beasts have cut their way so deeply and narrowly that both walls of it are polished by their hides.

*“Oldoway,” Leipzig, 1933, a reference for which we are indebted to Mr C. Gillman.



Plate 1—Longido Mountain, eastern face.



Plate 2—The top of Longido Mountain.



Plate 3—The top of Longido Mountain looking north-west

Probably the best line of ascent is that up the spur behind the veterinary station. It is a good steady pull which could be done in two and a half hours. Near the top one uses hands for a few yards and one wonders how on earth the big game, whose trail is so clear elsewhere on the spur, pass that spot. Two other spurs which we also examined landed us in difficulties with thorns and hidden rock-faces. The ravines are, as usual, impossible.

All round the base of the mountain the vegetation is dominated by the umbrella thorn, *Acacia spirocarpa* Hochst.

No evergreen forest is shown on Longido in any map we have seen. Actually forest of a poor dry type covers most of the slopes outside, and occurs in patches inside, the high southern rim of the mountain, but not on its other aspects, and nowhere below six thousand four hundred feet. Blackened vestiges show where a mixture of East African cedar, *Juniperus procera* Hochst., and olive, *Olea chrysophylla* Lam., came about three hundred feet lower down the slope until a fire swept it away four years ago. The cedar—all small trees—appears now to be almost extinct on the mountain. It is curious that there are no signs of its having grown above seven thousand feet. A large part of the mountain's very scanty stock of this timber must have gone in the fire. Although we saw Longido under exceptionally favourable conditions, shortly after six inches of rain, with all Masailand at its greenest, it appeared unlikely to us that the forest would recover the lost ground, even if the fire were kept out. It should be added that the mountain is not a gazetted forest reserve. All that is worth protecting is comprised within an area of four miles by three as a maximum, nearly all of that being on very steep slopes, and of a very poor type.

The main forest, gnarled trees, few of them above forty feet in height, is composed of *Cassipourea Elliotii* Alston, *Lachnophyllis congesta* C.A.Sm., *Teclea simplicifolia* Verdoorn.

Considering the dry conditions of the mountain as a whole it is astonishing to find so heavy a growth of mosses and beard lichens on the trees, from almost the lowest limits of the surviving forest. This is emphatically a mist forest; and it seems that such a growth of mosses and lichens must considerably multiply the condensing surface of the trees. It would be interesting to have a calculated estimate of the effect. In the conditions at Longido it seems probable that the determining factor in the existence of a local water supply—such as it is—is the tree-borne mosses.

Balsams are first seen at about seven thousand feet. Bracken occurs in scattered patches with shrubs of *Hypericum lanceolatum* Lam., *Rhamnus prinoides* L'Herit., a barberry, *Berberis Holstii* Engl. and *Conyza* sp., together with more stunted examples of the tree species already listed.

Scattered amongst these shrubs and trees was a fine *asparagus* together with Thompson's red hot poker, *Kniphofia Thomsonii* Baker, the latter plant only found at high altitudes, and a tussock grass, *Setaria sphacelata* Stapf and Hubbard. The topmost points, above eight thousand feet, where little soil remains, are covered with a growth of *Digitaria scalarum* Chiov., *Philippia*

Jaegeri Engl., a heath, its growth much stunted by wind action, *Myrsine africana* L., a pink lobelia, *L. Holstii* Engl., a mouse-ear, *Crepis* sp. and a yellow flowered composite with spiny leaves, *Berkheyopsis diffusa* O. Hoffm.

Rockfaces had a *justicia* and the blue flowered *Cynotis farcunda* Hask. and a fine leaved grass, *Sporobolus*. On the rim and at high altitudes inside there are beautiful glades of *Pennisetum stramineum* A. Peter, and *Cynodon plectostachyon* Pilger, the latter an indicator of long abandoned sites of Masai *manyattas*.

A great variety of game occurs round Longido—the border of the Natron Game Reserve comes to its western foot—but it is somewhat astonishing that its precipitous heights should be so much frequented by big game. Buffalo are common; we watched fifteen of them in a glade at seven thousand feet and got a thorough fright from a couple in thick morning mist. A rhino is evidently resident on the narrow causeway between the highest point and the rock turret. After Baldoek had scared him by stalking him for a photograph he reappeared and scattered us. Colobus we never heard or saw. They probably do not exist. Squirrels are very rare; and we saw no signs of other mammals in the forest, except pig. Both steinbuck and klipspringer are common on the rock slopes.

As a result of our collections the birds of the mountain itself are known with some approach to completeness. They provide no positive surprises. As expected in a somewhat vestigial environment, the forest is inhabited by an impoverished form of the familiar East African montane avifauna. The birds appeared to be few in numbers as well as in species. Such far-sounding birds as the turacos, *T. hartlaubi*, the big hornbills, *Bycanistes cristatus*, and the emerald cuckoo, *Chrysococcyx cupreus*, were hardly ever heard. All the species met with are common to both Kilimanjaro and Kenya, with one exception; the bulbul, *Arizelocichla milanjensis strifacies*, hitherto known from Nyasaland to Kilimanjaro, extends to Longido and it is astonishing that we should find no other species of that family. Subspecifically the birds do not favour Kilimanjaro so closely. The white-eye belongs to the Pare-Mbulu form, *Zosterops virens mbuluensis*; the thrush, *Turdus olivaceus elgonensis* is an invader from Kenya.

Water is usually available at two points at the foot of Longido, both in its western half. That marked "permanent" on the 1:300,000 map failed in the drought of 1933-34. It is a narrow rock basin, with a surface of only a few square yards, but a depth of seven feet. It is fed from below the rock turret by way of a superb smooth rock slide. Seepage from this basin produces a tiny oasis of herbaceous vegetation richer and ranker than anywhere else along the foot of the mountain, and it was interesting to see that one or two of the appropriate species of birds, for instance the weaver, *Coliuspasser eques*, had discovered it.

The supply of water that has so far not failed is derived from a dam in one of the ravines at the south western corner of the mountain, almost certainly that shown on the map as rising at the trigonometrical point of

altitude 2,614. The supply is not large, but ordinarily it suffices for a small government station as well as for a range of Masai water troughs. In addition there are said to be two or three small springs of good quality in the central basin.

KETUMBEINE.

Ketumbeine affords a contrast to Longido in many ways. It is a much degraded volcanic mass (a *Schildvulkan*) of very regular form and gently sloping outlines. It is isolated from the neighbouring mountains by semi-arid country all below four thousand feet and mostly below three thousand five hundred.

We approached Ketumbeine from Longido by a track presenting no difficulties to any car. It rises slowly from Longido as far as Markerstein (c. five thousand five hundred feet) a precipitous knob of ancient crystalline rock about three hundred feet high which the track skirts on the north (Plate 4). Thereafter one descends equally slowly for more than ten miles, winding at first along an *mbuga* through low hills. The point marked 1,145m. on the 1:300,000 map (B.5) is the lowest. It is in the bottom of a shallow trough which can be seen from Ketumbeine to extend south-south-east and north-north-west from the foot of Tarosero to the rift north of Lake Natron, dividing Ketumbeine and Gelai from the ancient crystalline masses of Engare Naibor and the lower hills traversed on the way from Longido. The trough is occupied in part by bare flats, presumably alkaline, on which during our stay water was frequently standing. As one crosses to the western side of the trough the more or less reddish sandy soil that extends west from Longido changes to dark cindery volcanic material. Shortly, while still below four thousand feet, the surface of the ground becomes covered with lumps of lava, few of them more than about twelve inches in any dimension. They make the going vile, especially when after rain they are hidden by a green growth, deceptively like a lovely sward, but actually a pure stand of the pestilential *Tribulus terrestris* L., with its thorny seed.

No view of Ketumbeine from the east can be called impressive. Deep ravines score its sides and its upper slopes are darkened with forest; but its outline is made up of a long flat top flanked symmetrically north and south by very smooth regular slopes estimated to be about one in eight (Plate 5). Reck remarks (op. cit. p. 116) that from the point he reached after ascending to the edge of the crater from the west: "das Bild war ganz anders, als es die Karte vermuten liez". We also think the 1:300,000 map misleading in its representation of the main mass of Ketumbeine. Reck in his sketch map indicates a great central chasm, the old crater, that opens by a single narrowing passage towards the north-east; we have no doubt that this is approximately correct.

As our chief collecting was to be done in the forest we made an advanced camp in a gorge with beautiful water at six thousand feet, south of the Logishu gorge and just below an occupied Masai *manyatta* called Nailut. Although only two thousand feet above our main camp, it took three hours

to get there owing to the gentleness of the slope and the bad going. The lower ground is occupied by thorn-bush, mostly poor and small, with *Tribulus* covering a great part of the surface of the ground. In the dry season this must be a most purgatorial piece of country, its only vegetation leafless thorn trees, the ground a black lava rockery sprinkled with spiny seeds. From about five thousand to six thousand feet, before dropping into the Nailut gorge, we crossed a stretch of *Themeda triandra* Forsk. grassland with small scattered *Acacia* and *Commiphora* trees.

There is little doubt that much evergreen forest has been lost of recent years. On our side of the mountain a *Juniperus procera* Hochst.-*Olea chrysophylla* Lam. community probably came down at least as low as six thousand feet, where such trees as *Calodendron capense* Thunb., the Cape chestnut, which made a mauve pink splash of colour among the bright and dark greens of the surrounding vegetation, of *Vangueria acutiloba* Robyns, *Celtis kraussiana* Bernh., *Turrea* sp., *Macrura* sp. and *Teclea simplicifolia* Verdoorn and an occasionally bare and gauntly branched flame tree, *Erythrina tomentosa* R. Br., still occupy the ravines with some admixture of candelabra euphorbias and aloes. Just above the Nailut *manyatta* a fire which apparently took place so recently as October 1935 had burnt its way for half a mile up a spur and destroyed the lowest five hundred feet of forest. It is perhaps unfortunate for forest conservation that at these altitudes especially the removal of forest is followed by a pasture composed sometimes of *Digitaria scalarum* Chiov., excellent for the Masai stock. So far as we could see, all the spurs have suffered in this manner. Up to the very top of the mountain (c. nine thousand five hundred feet) the continuity of the forest is broken in many places, and indeed over large areas the forest is reduced to patches, which are doubtless subject to rapid attrition where the light patches correspond to old burns (Plate 6). There must have been much loss of forest since Reck's ascent in 1913 or he could hardly have written without qualification (op. cit. p. 115) of the forest "der die Berghöhe in breitem Ring umgibt".

In the ascent by the Nailut spur—and probably by all others on the eastern side of the mountain at least—there is nothing even remotely resembling a climb. After passing through the burnt area one walks from six thousand eight hundred to eight thousand three hundred feet up a long clear ride bottomed with grass and so evenly overhung with trees, chiefly olive, *Olea chrysophylla* Lam. and small *Cassipourea elliotii* Alston, pillar-wood, *Schefflera volkensii* Harms, and *Lachnopylis congesta* C.A.Sm. as to have the appearance of an ancient avenue up the crest of the spur. For all its great width, from twenty to thirty yards, it seems probable that this ride was made by the passage of big game. Above seven thousand feet the drapings of a beard lichen become extremely heavy, and above eight thousand three hundred feet *Hagenia abyssinica* Willd. is the dominant tree. For the last thousand feet we were much impeded by a dense growth of a brilliant scarlet *Leonotis*, stinging nettles such as *Urtica massaica* Mildbr., *Fleurya acustans* Gaud. and *Laportea*



Plate 4—Merkerstein, about 5,500 feet altitude.



Plate 5—Ketumbeine Mountain from the east. Lava blocks and *Tribulus terrestris* herbage in the foreground.



Plate 6—View of the crest of Ketumbeine on the east showing the steepness of the slopes and forest, the light patches are burns.

alatipes Hk.f., a dodder, *Cuscuta obtusiflora* H. B. and K. which was parasitic on balsams made a thick tangle with its yellow stems. *Sparmannia ricinocarpa* O. Ktze., a beautiful deep blue-flowered but most unpleasantly scented herb, *Nepeta azurea* R. Br. and a salvia, *S. nilotica* Vahl., with coarse tussocks of *Eleusine Jageri* Pilger and the white and pink flowered forms of *Pavonia schimperiana* Hochst. up to eight feet in height, all drowned in mist and dripping wet. When the aneroid showed a height of nine thousand three hundred and fifty feet, we found ourselves on an almost flat featureless expanse, smothered in similar rank herbage and regenerating growth, with a dense stand of *Crotalaria agatiflora* Schweinf. ranging from shrubby herbs six feet tall to much branched trees thirty feet high covered with large greenish yellow pea-like flowers, which must indicate that extensive fires have swept all along the top of the mountain. We walked some distance northwards over this flat ground, plagued with nettles, mists, nudges and an icy shower, without being able to see any prominent features. On the eastern edge of the plateau the ground fell away in a tree-clad precipice and it seemed certain that we were on the edge of the crater. On our return we had a few minutes clear view across to Meru, but on the whole it was extremely disappointing.

Although we spent several days on the mountain it seems poor biologically. Its vegetation is dull and its avifauna scanty, though both cannot be regarded as by any means fully known. As on Longido the forest is occupied by an attenuated form of the East African montane avifauna. The most interesting feature is that on Ketumbeine the turaco is *T. schalowi chalcophus*, the Mbulu form replacing *T. hartlaubi* of Longido. At six thousand feet, on the *Themeda* grassland and along the gorges, francolins were very common; these turned out to be *F. africanus*, a species not hitherto recorded between Kenya and the Transvaal. We saw no sign of colobus monkeys—which indeed seem to be absent from all the mountains of Masailand and the Mbulu district.

It is remarkable that a mountain well over nine thousand feet in height (2,942m. according to the map), with quite a large area of mist forest, should under normal weather conditions be so badly supplied with water. It would have gone ill with Reck's party if a storm had not filled a temporary pool for them near the top. On our visit we had too much of a good thing. It rained at some time every day and spoilt our photography and our exploration of the higher slopes with lowering cloud. Every stream-bed ran water. The channel past our base camp, which was dry when we arrived, came roaring down with a muddy spate four feet deep before morning. The Masai we met were most insistent that these lovely waters we saw on all sides would be dry again after a few days. They only remembered one other white man climbing the mountain, and felt sure that we were spying out land for alienation.

On the north, west and southern sides of the mountain there is so far as we could hear from all sources, no reliable water whatsoever; on the east one stream always runs, the Engare Longishu which issues from the crater through a great wooded gorge. Where we crossed it by a main cattle path half way up the mountain the aneroid gave the depth of the gorge as one thousand one

hundred feet. To this remote watering place the Masai stock must come from all the high-level pastures on both sides during several months of the year. Not long ago an elephant, which seems to have been injured in a fire, haunted the place and damaged a few cattle until it was slain by the Masai. It appears that even the Engare Longishu rarely flows down to the foot of the mountain before being absorbed in the thirsty stream-bed. A furrow taken off at about four thousand eight hundred feet conveys the water south-eastwards for about three miles to a dam. According to Masai report the crater holds no lake; indeed, its slopes converge so narrowly at the bottom as to leave little room for one.

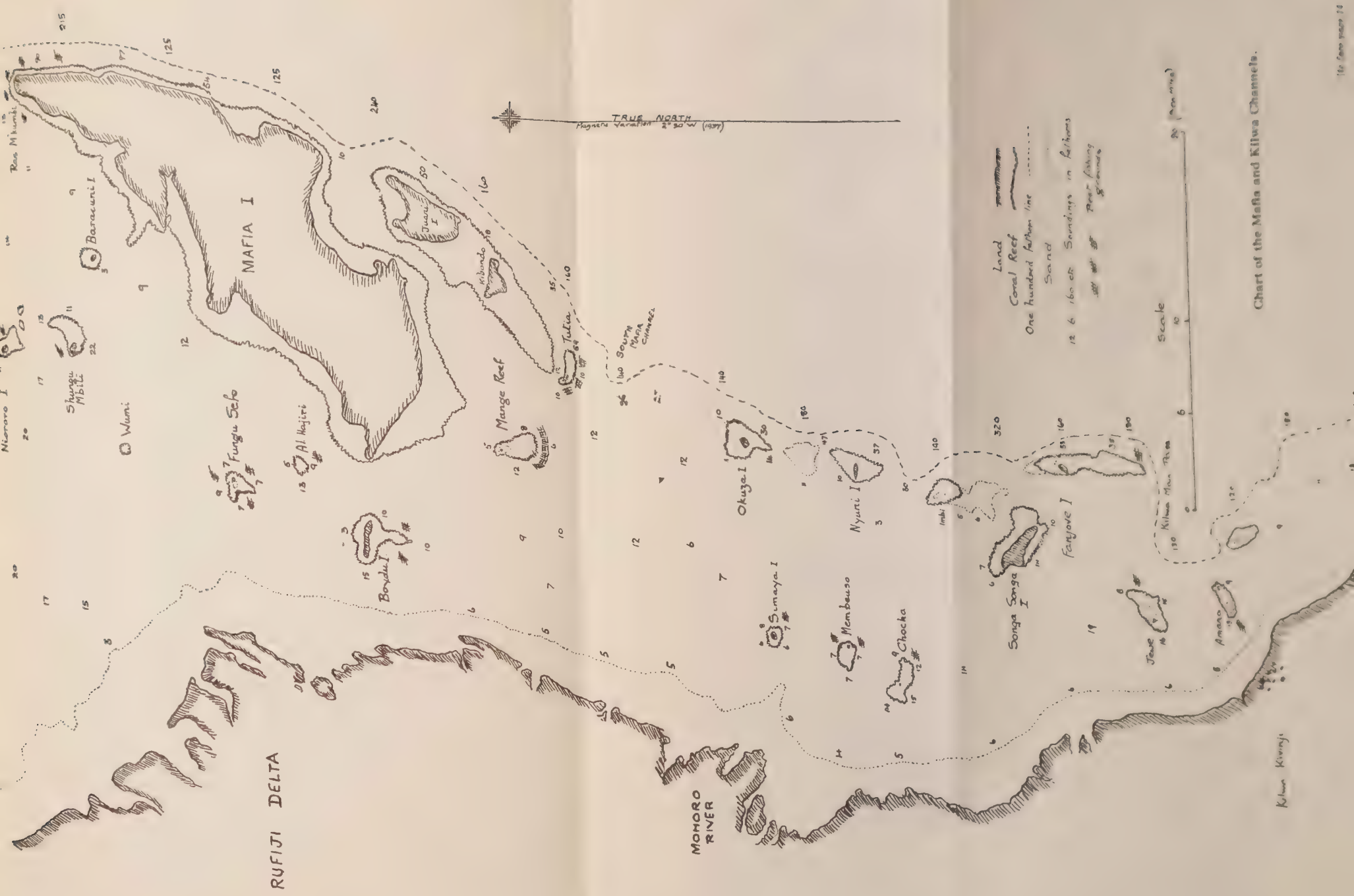


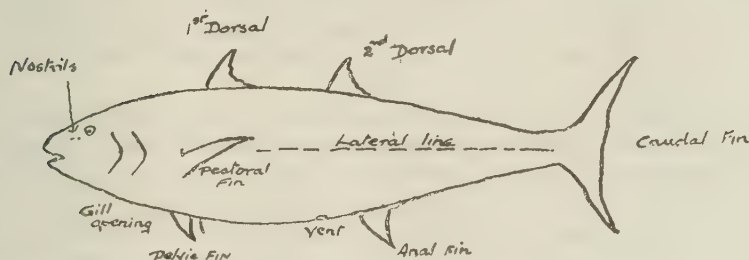
Chart of the Mafia and Kilwa Channels.



A fifty-nine pounder killed in the South Mafia Channel.

Notes on Sea-Angling off the Tanganyika Coast

By G. F. Cole



FEW PEOPLE realize the possibilities of the fishing to be obtained off the Tanganyika coast and these notes may be of assistance to those who are interested in this fascinating sport. The localities where the fishing-grounds are known, such as Tanga, Dar es Salaam and Lindi, though good are certainly not the best and cannot be compared with the Mafia and Kilwa channels.* These channels abound with reefs harbouring all the types of fish mentioned in this article. Another point in their favour is that they are comparatively unexplored even by the native; and the weather conditions are favourable in both monsoons, a barrier reef stretching about seventy miles giving an excellent lee. This paper deals only with fish found to the west of this barrier; the eastern side is still unknown, though doubtless even greater fish abound there.

Most people are only interested in fishing from the sporting point of view and therefore only game fish are dealt with here. Trolling is taken as the method of fishing although excellent sport may be had with a good rod and reel while fishing from a dinghy which is either drifting or at anchor. The type of canoe found on the coast is not a very safe craft for this purpose.

Fishing on the coast is seasonal, the best months being from mid-November to mid-April, that is, during the north-eastern monsoon, but this does not mean that there is no sport to be had during the remaining months or south-western monsoon. The north-eastern monsoon certainly brings more variety but many of the coastal fish, which include most of the mackerel class and the baracouda, remain the whole year round although they are not so numerous between May and October. August is perhaps the worst month.

There seems to be no set time for fishing although most anglers say that the morning and the evening are best. This is true as regards avoiding the heat of the day, but there are other more important points to be considered, such as tide and weather. It is doubtful whether the height of the sun should

*A chart of these channels, showing the fishing-grounds, is appended.

be considered except for the comfort of the fisherman, but the state of the tide and the weather do make a considerable difference. For example, a low tide rising is an excellent time to fish; the reefs are then clearly defined and the larger fish come closer to the reefs as the tide rises. Again fishing is poor when going steadily into a head sea and swell, but keeping the wind astern better results may be expected. The ideal conditions, of course, are in the cool of the morning when the tide begins to flow and there is a gentle breeze, but these conditions seldom occur except at neap tides.

It is interesting to note that the south-eastern end of a reef is better for fishing than any other side, but this applies only to coral reefs that stand alone and not to reefs extending off the shore.

It has been stated that fish migrate against currents but this is not the case on the Tanganyika coast where the current runs in one direction only, that is northward. The temperature of the water, however, has its effect in driving away fish during the cool months.

TROLLING.

The speed at which to troll is a more difficult question, but it is certainly between three and a half and five and a half knots—the lesser speed for the smaller type of fish. Kingfish and baracouda will bite a spoon at almost any speed up to nine knots but such a speed makes trolling impracticable and is quite unnecessary. Four and a half knots, then, is a good average.

Little need be said with regard to handling a boat while trolling but it must be remembered that fishing round reefs can have disastrous consequences. The best places to troll are between deep blue water and shallow green water; if, however, the engine of the motor-boat breaks down while on the windward side of a reef, immediate action must be taken or the boat will be driven on to the coral. To prevent this the first essential is an anchor or some type of fairly heavy sinker, the weight depending on the size of the boat; an anchor will be found to be the most satisfactory. To this anchor at least ten feet of small chain and one hundred feet of rope should be attached, the chain being necessary owing to the sharpness of the coral.

When a fish has been hooked the driver of the boat should immediately stop his engine, the helmsman at the same time steering away from the reef while there is still "way" on the boat. If this happens on the lee side of the reef there is no need to worry, but if it happens to be the windward side the helmsman should stand by the anchor as soon as the "way" is off the boat.

If a sailing boat is used the operations become more complicated but no angler (unless he is with an expert yachtsman) should attempt trolling near reefs.

Many of the reefs are steep-sided, the sounding sometimes going from a hundred fathoms to ten fathoms in a few feet and then often shelving quite sharply to less than a fathom. Being able to see the bottom is no guide as to its depth, but the boat can always be anchored when the bottom is sighted.

All anglers should obtain an Admiralty chart of the vicinity in which they intend to fish. It will be found of great assistance in indicating just where the

coral lies and where rocks may be expected. A pair of oars is also a necessity. Although a sea-anchor is not absolutely necessary, it may prove useful if the motor-boat breaks down in deep water when the sea is rough.

A knife should be part of the fittings of a boat. This knife must be of hard steel, sharp and pointed and will be found an invaluable aid when cutting out hooks from fish which have been caught.

BAIT.

A word on bait will not be out of place. There are two types: the fish bait and the artificial bait. To troll a fish is obviously the best method, but this type of bait is not always easy to obtain nor is it lasting. Again there is the difficulty of fastening a live or a dead fish to a hook. An experienced angler can do this easily but an amateur will find many difficulties. The large hook must be in the tail end and the mouth must be closed up or the bait will soon become waterlogged. With regard to the artificial lure, many suggestions have been put forward and many contraptions tried but a brass spoon after the Wilson type has been found to be successful along the whole coast. In all probability the reason for this is that brass bears greater resemblance to the colour of the food of the larger fish than does silver. Many anglers have their own ideas as to what is the best bait to use and to prove them will quote what has been taken with a "Wilson spoon" or a "Trixereno." But then a native fisherman could also tell what he has killed with a single hook and a piece of red bunting!

Every angler will doubtless make his own experiments with baits; suffice it to say that among them he should have a brass spoon and try it when fish are not so plentiful, for it is a lure to all omnivorous feeders. However, whatever artificial bait is used the hook should be an inch and a half clear of the tail end.

All wooden lures are very much alike, the main differences being the position of the hooks and the colour; most are fitted with a type of grapnel hook in the tail which is not nearly so strong as a single one unless the size is out of all proportion, and it is far more awkward to cut away from the fish's mouth.

It must be remembered that in order to kill big fish large bait must be used, and one of six inches in length will give the angler unlimited sport with anything from one or two pounds in weight to a fish weighing sixty or seventy pounds. Over a long period it will be found that the average weight per fish caught on a six-inch spoon is from ten to twelve pounds.

FISHING TACKLE.

To take up fishing as a hobby requires a certain amount of outlay in the buying of a rod, reel, line, swivels, spoons, hooks and such like. The reel is perhaps the most important and no reel can be too good. It should be made of some metal that will not rust and should be large enough to carry about two hundred and fifty yards of 36-thread line. About twenty per cent allowance must be made for a new line swelling when wet. Any type of oil will do for lubrication, but vaseline should never be used. A single-piece rod about eight feet in length is about the handiest size.

Mafia Island and Surrounding Reefs.—The great advantage of the Mafia channel is that the island provides an excellent lee to the inside reefs in both monsoons, so that fishing is possible all the year round. The following are the best fishing grounds:—

Ras Mkumbi. This is the most northern point of Mafia Island and is probably the best ground in the Mafia channel. All the species of fish mentioned in this article are found there in great numbers. On the eastern side of the lighthouse *chewa* are the most common, while on the north and western sides *karambesi* and the mackerels and all the other varieties can be caught. No angler should attempt the eastern side of the lighthouse if there is a heavy swell coming in from the Indian Ocean.

Niororo Island. This island is noted for *karambesi* and *kolikoli* although other varieties of fish can also be caught there. The west and north-western sides give the best sport. There is fresh water on the island and a permanent fishing village.

Wumi Patch. A small reef situated about ten miles north of Tirene and a difficult one to find as it never uncovers even at low water. Should the angler possess a compass he would find it worth his while to visit this reef, for he is sure of getting good sport with the baracouda that abound there. The reef is so small that it is advisable to circle round it continuously. The south-east is probably the best side for fishing.

Fungu Sefo. One of the best known reefs in the channel and seldom disappointing to the angler. From October to February natives fish this reef from daybreak to noon and from three in the afternoon to dusk, sailing round and round trolling *kowana* (a small species of bream). Excellent catches of *karambesi* and kingfish have been made round this reef. Two anglers fishing for two hours killed sixteen kingfish, the total weight being two hundred and seventy-four pounds. It is an easy reef to find as it is provided with a beacon standing on a sandbank.

Tirene Reef. Situated only two and a half miles from the district office and has given fairly good sport, but is better for ground fishing. Several varieties of rays abound between this reef and Kilindoni spit.

Al Hajiri. This reef, though not so good as Fungu Sefo, has been found to harbour large baracouda and is one of those reefs worth while trying; but if Fungu Sefo fails Al Hajiri usually follows suit.

Mange Reef. Situated off the south of Mafia Island, it gives excellent sport on the southern and western sides. This reef compares favourably with Fungu Sefo and more varieties of fish may be expected. A beacon on a small sand patch is situated on the northern end of the reef.

Tutia Reef. This is the most southern reef of the Mafia group and excellent fishing may be obtained off the south-western corner during the north-east monsoon. *Chewa*, *mzia* and *karambesi* are the most common fish and a fifty-nine-pounder of the latter species was caught on a five-inch brass spoon during

the month of November. This reef is clearly defined and the bottom consists of sand and coral.

Kilwa Channel and Reefs.—Unlike the Mafia channel the Kilwa channel is not favoured with such a good lee, but the outer reefs serve to break the swell. The outer islands, which include Okuza, Nyuni, Songo Songo and Fanjove, do not give such good sport as might be expected but the inner reefs are as good as most of those in the Mafia channel.

Simaya Island. Situated five miles off the Utagitte mouth of the Mohoro river is a good fishing ground, especially off the south-eastern end of the coral reef, which is always sheltered. There is no habitation on the island, neither is there any fresh water.

Memsembeuso Reef. Is one of the best reefs in the Kilwa channel. It is four miles south of Simaya Island and is marked by a black beacon. All varieties of fish abound and very good catches have been made on the eastern and southern sides. Thirty-pound *karambesi* are fairly common there.

Fanjove Island. The fishing close to the island is not good but on the southern end of the reef good sport may be expected. The reef extends for four miles south of the island. There is a lighthouse on the island and fresh water, fowls and eggs are obtainable.

Fanjove Island might almost be considered a bird sanctuary as it harbours many species of birds, such as flamingoes, gulls, curlew, cranes, pratincoles and other varieties. This island also has other attributes, such as excellent bathing and beautiful scenery.

Jewe Reef. This large reef is situated about six miles north of Kilwa Kivinje and provides excellent all-round sport. There is a beacon on the western corner of the reef and large fish of all kinds have been caught near it. Shark also may be caught on the southern side.

Amana Reef. This is the nearest fishing reef to Kilwa Kivinje, being only two and a half miles off. Amana has not been fished to any great extent although the natives speak well of it. The southern and western sides are the best for trolling and, fortunately, these sides are in calm water in both monsoons.

Kilwa Kisiwani.—The fishing is decidedly poor inside the harbour, but in the entrance channel between Balozi Spit beacon and Mwamba Kipakoni on the southern side, and between Ras Mso and Albemarle Spit on the north, good catches may be obtained. Both these reefs are steep-sided and great care must be taken on hooking a big fish, especially off Mwamba Kipakoni which, incidentally, is the best ground. Here the reef drops down like the face of a cliff from a few feet to over fifty fathoms and there is always a swell running. Fishing is impossible in any of the above places in the south-west monsoon with a falling tide.

Lindi.—The best fishing ground in Lindi is on the southern side of the river between Ras Rungi, on the opposite side from Lindi, and Clarkson-point lighthouse. Several good catches have been obtained along this strip of coast. A heavy swell usually runs into the river entrance which makes fishing

uncomfortable at times and the tide ebbs and flows at about two knots during springs.

Sudi Bay.—This bay lies twenty-two miles from Lindi in a southern direction. The fishing in the narrow channel is reputed to be very good and, from a glance at the chart, it looks typical fishing ground.

Mikindani Bay.—This huge coral-bound bay supplies all the good fishing that the angler desires. If he is after fish of moderate size coupled with variety, he should fish Mikindani channel, Mto Mtwawa channel and along the coral reef between these two places; but if he is in possession of heavy tackle he should visit Ras Sangani on the western side of the bay in the south-west monsoon, and Cape Paman on the eastern side in the north-east monsoon. Both these places harbour large fish and, according to the local natives incredible catches have been made there.

NOTES ON SOME OF THE FISH FOUND ON THE COAST.

In the following notes the scientific classification of fish has been adhered to as far as possible. The Swahili names appear after the Latin equivalents and are those generally in use along the Tanganyika section of the East African coast.

THE QUEENFISH (*Chorinemus* sp.) (*Pandu*).

This fish is known in South Africa as the queenfish, while on the East African coast it is often known as the kingfish.

The most noticeable feature about the *pandu* is the four large dark spots about the size of a crown on each side, just above the lateral line. In general shape it is comparable to the *kolikoli*, but the fin distribution is more like that of the *nguru* in that it has the ten small fins above and below the tail and the short pointed pectoral fin. In addition it has seven small spikes in place of a first dorsal; these spikes may be retracted into separate grooves. The colour is a light silvery-grey above the lateral line and silvery-gold below; the spots are steel-grey. The teeth are minute but the jaws are hard.

Pandu are more plentiful during the north-east monsoon but are fairly common all the year round, being found in deep water, inshore and in tidal rivers. An adult in Tanganyika waters weighs about fifteen pounds, one weighing over eighteen pounds is exceptional. It is a game fish, fighting not like the other members of the mackerel family, but leaping repeatedly out of the water like the *mzia* and taking fast deep runs. It does not as a rule take the bait with a rush but nibbles at it several times before biting. The *pandu* is not considered good eating.

THE KINGFISH (*Acanthocybium solandri*) (*Nguru*).

The kingfish (known in South Africa as the "snoek") belongs to the mackerel class and bears great resemblance to the European common mackerel (*scomber scomber*) in general shape and even more so to the tunny (*thunnus thynnus*) as regards fin distribution, but is not so heavy in the shoulders.



THE QUEEN FISH
"Pandu"



THE KING FISH
"Nguru"



THE BONITO
"Djodari"



"Kibua"



THE BARRACOUDA
"Mzia"



THE GARFISH
"Sumberuru"



THE HORSE MACKEREL
"Karambesi"



THE HORSE MACKEREL
"Koli koli"

The *nguru* is quite a common fish on the coast and weight for weight can put up as good a fight as any fish. It is one of the swiftest sea fish, having a beautifully streamlined body, a strong tail and a dorsal fin which folds down into a groove so that it is perfectly flush with the body when not in use. The colouring of the back shades from a dark bluish-green, crossed with irregular brownish bars, to a mother-of-pearl sheen reflection in the whitish belly. The scales are very small and the eye has a large pupil.

The fight of this fish may be compared with that of the *karambesi* in that it does not break surface, but the runs are swifter. It may be found all the year round both in deep water and close to coral reefs, and will take most baits willingly and, more important still, at any speed. The angler will find that the bite of kingfish is thorough; and they have been caught at a speed of nine knots and brought into the boat without reducing speed. One weighing thirty-five pounds was hooked and landed at a speed of eight knots.

An attractive lure for kingfish is a wooden shaped fish painted red on the top and white underneath, but the angler will find that they are not particular and will bite at almost any artificial bait.

Kingfish often frequent the same locality and although this is not a rule there are certain reefs on the coast where they can nearly always be found. The weight of this fish reaches the forty-pound mark but anything in the neighbourhood of thirty is good.

THE BONITO (TUNNY) (*Scombridae* family) (*Jodari*).

This migratory fish, of which so little is known, arrives on the coast towards the end of November in the northern part and a week or two later further south.

This particular species is also a member of the mackerel family and when compared with the *nguru* the resemblance in many ways is extraordinary. The main difference lies in girth, which in the tunny is greater. Two small finlets protruding at right angles to the tail are found in both these species and these keep them steady when travelling at fast speeds. The colouring of the bonito is divided into three sections: the belly is a dull silver, the after part of the back is a darker shade, across and over which run a series of dark brown irregular bars, and the head is of a nondescript dark bluish-green.

Little is known of the weight to which these fish attain in these waters, but inshore they do not as a rule go above fifteen pounds. Larger ones probably do not venture close inshore. On being hooked they fight in a similar manner to the other members of the mackerel family in that they do not leap into the air but make fast and long runs, usually downwards. The flesh of the bonito is red, but it makes very good eating.

THE ALBACORE (YELLOW FINNED TUNNY).

This is another type of tunny found on the Tanganyika coast. In general shape and fin distribution it bears a strong resemblance to the bonito, but the fins are longer and yellow in colour while the body is of a more uniform dull grey.

Whereas the bonito is generally supposed to attain a weight of only about ten to fifteen pounds, albacores have been caught scaling forty-five pounds and probably reach a much higher figure. They are excellent fighters, gifted with speed and strength and, like the great European tunny, deep fighters. A good bait to use is a dead flying fish but any other fast moving lure is attractive to them. The best months to fish them are December, January and February. The coastal natives do not seem to make any distinction between the bonito and the albacore.

THE KIBUA.

It would appear that the *kibua* belongs to the mackerel family as it bears a strong resemblance to the tunny. In size it is small, a full-grown one scaling little over two pounds and having a length of only nineteen inches. It has long wispy pectoral fins like the *karambesi*, two hard pointed dorsals and ten small finlets between the second dorsal and caudal and between the anal and caudal fin, as seen in the kingfish. The lateral line is straight and well marked, standing out from the side of the tail. The colouring is like that of a common mackerel, being a bottle-green above the lateral line, toning to a bright silver belly. The scales are minute.

These migratory fish arrive on the coast towards the end of November and by the end of March they have all left. For their size they are quite powerful and will take almost any kind of spoon up to one of six inches in length. This is remarkable as their mouth is by no means large, nor are they provided with teeth. They are not esteemed for eating, the flesh being a dull red when raw and turning a greyish colour after being cooked. The *kibua* is not very common which, from an angler's point of view, is a blessing.

THE GARFISH (*Belone belone*) (*Sumberuru*).

The garfish is not very interesting to the deep-sea angler as it rarely attains a greater length than three feet or weighs more than a few pounds; but by using very light tackle excellent sport can be obtained, for it is a fierce fighter and incredibly swift. Its usual action when on the line is to make short spurts in all directions, leaping repeatedly out of the water or skimming along the surface. It does not peck at the bait but, darting up from below, takes it clean out of the water in one furious rush. Owing to its voraciousness it will take most small baits if they are bright, although quite small garfish have been known to take six-inch spoons.

The colouring is dark green along the back toning to a bright silver belly. The bones are a greenish colour but the flesh makes quite good eating. It has been said that the garfish is closely related to the greater flying-fish and their resemblance is certainly noticeable.

THE BARACOUDA (*Sphyræna* sp.) (*Mzia*).

This fish is well known to deep-sea fishermen for its speed in taking a trolled bait, its spectacular fight and its habit of collecting hooks, spoons and lines. More tackle is lost on the baracouda than on any other fish. It takes

the bait broadside on and the initial run is fierce and long. The brake should be applied sparingly at first and there is seldom need to strike. It seems to do its own striking in the first instance. After the first run the fight is often spectacular, the fish leaping into the air then occasionally going deep. Sometimes it jumps ahead of the trace wire; this will often put kinks in the wire, and is probably the cause of much loss of gear.

The baracouda will take almost any trolled bait and, having complete confidence in its own powers, will take it well. It appears to have no fear and will often take a spoon within a few yards of a motor-boat. The fish is easily recognizable by its mouthful of terrible teeth, which the angler should treat with respect, and by its pike-like appearance. The colour is dark brownish-grey along the back, toning to silver underneath.

The baracouda may be found in deep or shallow water almost anywhere along the coast during all months, but it usually patrols the coral reefs like a veritable pirate or lies in wait close to them.

THE HORSE MACKEREL (*Caranx hippos*) (*Karambesi*).

This is the most common if not the most sporting fish of the coast. Where fish are caught there the *karambesi* will be found, sometimes in shoals and sometimes singly, ready to tackle almost any bait. They are easily recognized by their blunt nose, long wispy pectoral fin, double first dorsal and powerful shoulders.

There are at least three varieties of this species to be found, all closely resembling each other in shape and fin distribution. The larger varieties, weighing up to probably eighty or ninety pounds, are a dull grey colour being extremely heavy in the head and having immense girth in proportion to their length, while the smaller varieties are more highly coloured, some having blue fins and some being mottled gold in colour. The latter are not quite so blunt in the nose but resemble the bigger fish in the general shape of the body and fins. The teeth are small.

The fight of the *karambesi* is not in the least spectacular as they do not as a rule break surface but fight deep, pulling and snagging at the line and taking fast runs. A fifty-pound *karambesi* is without doubt a hard fish to kill and one which the sporting angler may be proud of. These fish feed mostly on small mullet and the best bait to use is a trolled mullet, dead or alive, or a brass spoon in preference to a plated one. The mullet is not always easy to get, but a small fish which the natives call the *kowana*, a small species of bream about six inches long, is easily procurable and equally effective. The mouth of the *karambesi* is hard and the fish takes the bait from behind so that it usually gets well hooked. With careful handling no gear should be lost.

THE HORSE MACKEREL (*Caranx gymnostethoides*) (*Kolikoli*).

This fish may be compared to the *karambesi* in many ways. For example, it fights in the same way, it takes the same bait and it is found in the same localities.

Kolikoli, however, are not nearly so common nor do they run to the same weight. Although this fish belongs to the mackerel class, as does the *karambesi*, the main differences between the two are as follows :—

(a) *Kolikoli* are a much longer fish, they have not the blunt nose to the same extent, and the pointed anal fin is sometimes absent. Also, they are not always provided with teeth but merely with roughened gums and the scales are smaller; and

(b) their general colour is lighter and their tail side fins do not carry so far up the lateral line.

The following measurements taken of a fourteen and a half-pound *karambesi* and a *kolikoli* of the same weight are in themselves explanatory :—

Kolikoli, length 2 ft. 11ins., girth 1ft. 08ins.

Karambesi, length 2ft. 04½ins., girth 1ft. 09ins.

Many natives confuse the *karambesi* with the *kolikoli* but these two are distinctly different from each other as has been shown.

The best months for this type of fish are November to March inclusive, although *karambesi* are found all the year round.

THE ROCK COD (*Epinephalus* sp.) (*Chewa*).

Many species of this genus are to be found on the coast weighing anything from two to over a hundred pounds. They are members of the sea perch family. The most common is the yellow, spotted with brown, but there is great variation in the colour of the different species including brick red, yellow and brown.

An angler getting a bite from one of these fish seldom fails to land it, the mouth being so large and the jaws so strong that even the most inexperienced of fisherman has little difficulty; the whole art in landing the rock cod is getting it in quickly. In this type of fishing the run allowed should be short, the shorter the better, or the fish will dive straight for the bottom and wedge itself in the coral. Fortunately, those caught in shallow water over coral do not run up to any great weight.

Although the rock cod is not considered one of the sporting fish it can often be most troublesome to the angler, especially if he lets it get down among the coral. Should this happen the only hope is to shorten the line as much as possible and keep a steady strain on it. Eventually the fish will tire, but this may take a considerable time—and the angler's patience may tire first. After being hooked the rock cod goes down deep, attempting to reach the bottom; if this is not possible it will pull and tug at the line, but soon gets played out and "comes along quietly."

Except for colouring the rock cod is by no means a beautiful fish, not having the lines of the mackerel family; nor is the mouth one of nature's best efforts.

In the water their colouring is superb but all this is lost a few minutes after landing them, and they become a dull brown colour. It is a curious fact that many of them vomit after being landed, bringing up their last meal,



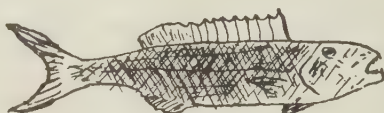
THE ROCK COD
"Chewa"



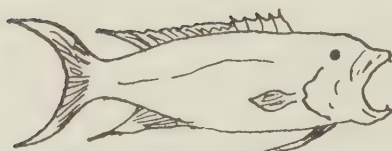
THE SEA BASS
"Njombo"



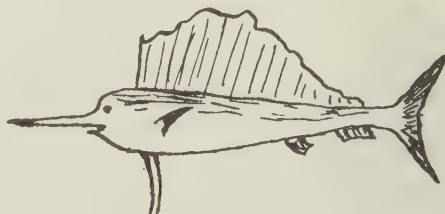
THE SNAPPER
"Kunguu"



Kifimbo



"Mtangaa"



THE SAIL FISH
"Nduwato"



THE DOLPHIN
"Panji"



THE YELLOW FINNED TUNNY
(ALBACORE)
"Djodari"

usually a *kowana* which has been swallowed whole and is in a half-digested state.

The scales of this type of fish are small and it at first gives the impression of being smooth skinned. The flesh of the younger ones is quite pleasant but is rather coarse in the larger and older ones.

Rock cod are present on the coast throughout the year but are more or less localized on certain reefs.

THE SEA BASS (*Epinephelus* sp.) (*Njombo*).

This type of fish, another member of the large sea perch family, is even more common than the *chewa* in the Mafia and Kilwa channels. The general build is the same as that of the *chewa* but the fins, colour and scales are slightly different. The *njombo* has only six or seven spikes on the dorsal fin and no spikes on the anal, and the pectoral fin is more rounded. The caudal fin is what might be termed straight cut, that is, it has no "cut away" like most other fish. It does not appear to the casual observer to have any scales but they are present, although small. The colour is a very dark brownish-red, mottled with small blue spots; the larger ones are lighter in colour. In size it does not compare with the *chewa* (which the natives state grows large enough to take a human being), but fifty-pounders have been caught on the Tanganyika coast and larger ones have been reported.

The *njombo* is a voracious fish but not very sporting, in fact anglers might term it a nuisance. Fortunately it has not the same tendency to take refuge in the coral as the *chewa*.

Many natives will not eat *njombo*, having some theory that if they do they come out in spots. Actually it is not a good eating fish unless very small.

Difficulty is often found in distinguishing the *njombo* from the *chewa*. The main difference is that the *njombo* has only seven or eight spines on the dorsal fin whereas the *chewa* has nine or ten. Also the *chewa* has larger scales.

THE SNAPPER (*Pagrus* family) (*Kunguu*).

The snapper may be caught on the coast during all months of the year and although it cannot be termed common, certain reefs are favoured. An angler requiring snapper should go to a locality where rock cods are common, for the two types are nearly always found together. Such fishing grounds as Ras Mkumbi, Mange Reef and Tutia Reef are so favoured.

The snapper is a species of sea-bream; the body is oblong, compressed and covered with moderately large hard scales. The dorsal fin is elongated like that of the rock cod, but has ten or twelve spines in the front half. There are also three spines in front of the anal fin; the cheeks are scaly. The general colour is red, toning from a dark red back to a salmon-pink belly. The eye is large as in most sea-bream and the teeth are small.

It is not only excellent eating but it is also a good sport-yielding fish. A twenty-pounder will give an angler a thrilling few minutes, for although

the snapper is not built for speed it is extremely powerful. Difficulty is often found in gaffing this fish owing to its hard scales. Anglers should play it out completely before attempting to use the gaff.

THE KIFIMBO.

This fish is a type of bream and is one of the best eating fish caught by trolling. It does not run to any great weight, a ten-pounder being a good average. For its size it puts up quite a fair fight but after one or two short runs soon gives up.

Kifimbo are found in the most unexpected places, both in deep water and near reefs. They are never found in shoals but seem to go about singly. Their colouring is sea-green above the lateral line and a greenish-white below. The eye is large and the scales give one the impression of a large check cloth. The dorsal fin, which is armed with sharp spikes and which the natives treat with respect, commences above the pectoral fin and continues almost to the caudal fin. The cheeks of the *kifimo* are also scaly. Its mouth is large and armed with short sharp teeth.

THE MTANGAA.

The *mtangaa* is not a common fish neither does it run to any weight, but it has been included here as being one of the fish caught only near reefs, and no bait seems too big for it. One of five pounds would be a large one but a two-pounder will readily take a six-inch spoon.

It has two peculiarities, one being that it always dies with its mouth wide open and the other that all its fins with the exception of the pectorals end in long wisps tipped with yellow. It has fine scales and their colouring is dark red above the lateral line and a lighter red below. The dorsal fin, like that of the rock cod is long, the forward half being hard and spiky and the remainder being soft. On being hooked it will if possible dive straight for the bottom and under the coral.

THE SONGORO.

The *songoro* appears to be a fairly common catch round the Tanga reefs, but is certainly not common in the Mafia and Kilwa channels.

This smooth, dark-skinned fish, which has the appearance of a barbel is an excellent fighter, being both strong and fast. In shape it is unlike any of the fish mentioned here, being flat along the belly. The cross section is triangular in shape. It has one dorsal fin, large pectoral fins and a strong deep caudal fin.

Songoro have been killed up to forty pounds in weight. They are not considered good eating.

THE SAIL-FISH (*Ishophorus gladius*) (*Nduwaro*).

The sail-fish or sword-fish is rather an uncommon catch although they are plentiful on the coast. Attaining a length of about twelve feet, exceedingly powerful and pugnacious they are, to the native, the most feared fish on the coast.

The name sword-fish is derived from the long pointed upper jaw and the name sail-fish from the huge dorsal fin which, it has been said, they use as a sail. It certainly has the appearance of one. They attack their larger prey with repeated thrusts of the sword; even dhows and canoes are attacked in this manner, but if this happens the sword is liable to break as the fish has not a sufficiently powerful backward movement to be able to extricate the sword.

The sword-fish will occasionally take a spoon, but not with the usual rush. Once a fair sized one is well hooked the angler can settle down to some excellent sport coupled with hard work.

A description of the sail-fish is unnecessary; suffice it to say that as soon as the sail and sword are sighted great care should be taken in landing it as, in addition to the sword, it is also provided with teeth.

THE DOLPHIN (*Coryphaena hippurus*) (*Panji*).

The *panji* is a deep water fish, seldom entering narrow channels or crossing shallow water. It is not a very common catch on the Tanganyika coast, although many may be seen in the Zanzibar fish market during January, February and March.

In shape and fin distribution this fish stands alone. The head is deep and blunt, rather like that of the *karambesi*, and the body tapers immediately to a narrow tail. The dorsal fin commences at the forehead and continues to within an inch or two of the caudal fin, while the anal fin is also continuous for the length of the tail. The mouth is comparatively small and armed only with small teeth. The colour is a greyish-blue along the back, toning to a silvery-blue below, and the scales are so small as to give the impression of a smooth skin.

The *panji*, although running up to about forty pounds in weight, is no great fighter and after a single short run is soon exhausted.

Tanga's outer reefs are favoured during January and February with shoals of these fish. Their presence is usually revealed by seagulls feeding on the small fry which the larger fish are chasing to the surface.

THE SPRINGER (*Elops saurus*) (*Chache*).

Another name for this fish is the Cape salmon owing to its similarity to the common salmon. It is a silvery fish having large scales rather like the baracouda and a small mouth with minute teeth on the jaws.

On being hooked the springer has a most peculiar action, diving and immediately surfacing repeatedly. This action probably gave rise to its name.

Although not common on the coast it may be added to the list of Tanganyika's sporting fish and attains a weight of about twelve pounds.

THE RIBBON FISH (*Trichiurus halmela*).

This fish, often known as the cutlass fish, can hardly be termed "sporting" although it is a fairly common catch on the coast. About half the number of those caught are "foul hooked" and the angler imagines that he has caught

a fairly large fish (a fish so hooked puts up a better fight than those hooked in the mouth).

The ribbon fish, so called owing to its similarity to a piece of ribbon, is a dark bottle green along the back toning to a light silver belly. The small teeth are barbed.

The average weight of those caught rarely exceeds two pounds. They make quite good eating but are full of small bones.

THE PORPOISE (*Pomboo*).

These mammals have been included not because the angler is likely to hook one, although they have been caught on a rod and line, but because they are so often seen and, like gulls, are a good sign to the fisherman.

Porpoises or perhaps dolphins are probably the fastest moving creatures in the sea. They have been known to outdistance a ship travelling at thirty-six knots with apparent ease. Their energy is tremendous, due probably to the fact that their blood is rich. Out of water they look like a fish and their body ends in a broad thick crescent, spread like a fin; but this fin unlike a fish's is horizontal. Under the skin will be found layers of fat which gives them buoyancy. The females produce their young alive and feed them on milk. They are, like whales, compelled to come to the surface for air.

In playful mood these mammals are wonderful to see, leaping out of the water, turning round in mid-air and flopping back making a huge splash. Often they will come so close to a motor-boat that they can easily be struck with a boat hook. At times they are a nuisance owing to the fact that most fish will clear out of their path, so the angler should, if possible, always keep away from them.

Their food is fish and for that reason they are more thought of by the sailor than by the fisherman. They run to several hundred pounds in weight though accurate figures are not available. The usual type seen on the coast are from four to eight feet in length.

The following statistics of fish caught off the coast during November and December 1936 may be of interest to the reader:—

Month	Time and tide	Locality and No. of lines used	Nature of Bottom	Name of Fish	Weights in Pounds
November	4 p.m.-6 p.m. Rising	Mange Reef (two)	Sand and Coral	<i>Karambesi</i> <i>Mzia</i> <i>Njombo</i> <i>Cheva</i> <i>Mtangaa</i>	34, 6, 6, 10, 6, 20 16 18, 3 17, 15 2, 1
November	6 p.m.-9 a.m. Falling	Ras Mkumbi (two)	Coral	<i>Karambesi</i> <i>Cheva</i> <i>Njombo</i> <i>Kifimbo</i> <i>Mzia</i> <i>Mtangaa</i>	32, 19, 16, 8, 7, 7, 3 13, 10, 8, 7, 6, 4, 4 28, 15, 12, 7 3 4 2
November	4 p.m.-6 p.m. Low water	Sefo Shoal (two)	Sand and Coral	<i>Nguru</i>	21, 20, 8, 30, 25, 20, 18, 15, 14, 12, 10, 23, 22, 18, 18, 14, 14, 11, 10
November	5 p.m.-6.30 p.m. Falling	Tutia Reef (two)	Sand and Coral	<i>Karambesi</i> <i>Njombo</i> <i>Kifimbo</i> <i>Mzia</i>	59, 18, 13, 4 13, 12, 12, 11, 6, 6 2 3
December	6 a.m.-9 a.m. High	Mikindani (two)	Sand	<i>Karambesi</i> <i>Njombo</i> <i>Kunguu</i>	50, 43, 42, 33, 30, 5 10 8
December	4.30 p.m.-7 p.m. Low and Rising	Tutia Reef (two)	Sand and Coral	<i>Kolikoli</i> <i>Njombo</i> <i>Kunguu</i> <i>Karambesi</i> <i>Mzia</i> <i>Mtangaa</i>	14 40, 19, 12, 9, 7, 5 10 11, 3 22 4

The "Mashokora" Cultivations of the Coast

By A. V. Hartnoll and N. R. Fuggles Couchman

EXTENT AND IMPORTANCE OF THE "MASHOKORA" AREA.

IN THE central area of the Dar es Salaam district there is an extensive area of hill country stretching practically the whole length of the district and varying in width, probably being narrowest in the north and considerably wider in the south. The soils on the hills and hill-slopes vary from a deep red loam, derived from red sandstone, rather light in texture, to a very heavy sticky black clay, the latter confined to a very well-defined area in the Maneromango and Kisangire divisions of the district. In the various valleys between the hills are fertile black, or poor sandy soils. Everywhere in the not recently cultivated areas of such hill soils there is a dense cover of deciduous scrub forest, known to the natives as *vichaka*. The most important species of this forest are—

Erithrophlœm guiniense (mwavi)

Chlorophora excelsa (mvule)

Milletia sp. (muhamvi)

Ficus sp. (moimbo)

Grewia sp. (mkole)

Albizzia sp. (mtanga)

Afzalia cuanzensis (mkongo)

Baphia kirkii (mkumpti)

Cussonia sp. (mpopoma)

Tamarindus indicus (mkwaju)

Sysigium guiniense (msambarao)

Anona senegalensis (mtopepetope)

Trema guiniensis (mpeke).

There are many climbing woody plants and generally speaking there are few big trees, the average height of the bush rarely exceeding fifteen to twenty feet. The big trees are practically confined to the Pugu Forest Reserve, where one can see forest closely approximating to the original *vichaka* which covered the whole area. Cultivation in the past has tended to destroy the large trees, and the succession forest is of the general low type. As mentioned above, it is deciduous and heavily clothed with leaves, the importance of which will be referred to later. The scrub forest is not confined to the central hill area, as it appears on all suitable red soils in the coastal area of the district. As a rough estimate about one-sixth of the district consists of such country.

The importance of this country to the natives is very considerable as, wherever it occurs, it is the reservoir for their grain crops as well as other food and cash crops. For in many parts the lowland soils of their villages are

frequently poor sands on which cassava and coconuts are practically the only crops which thrive, and the upland red soils are the only place where grain crops may be grown successfully. As a result natives living in the *vichaka* areas have evolved a very definite rotation, varying slightly from place to place according to the fertility of the soil, the age of the forest, the annual incidence of the rains and the yearly need for food and cash. Rotation in this case does not, however, infer the European meaning of the term, in that no leguminous crop is introduced to restore fertility, no manuring is done to maintain fertility, and an integral part of the system is a shifting cultivation, fertility being restored over a period of years by a secondary growth of scrub forest, or *mashokora* as it is known to the natives. It does include, however, a very definite succession of crops during the years in which any one cleared area is in cultivation. This type of country also has another importance, as on the tops of all the ridges, with the exception of the belt of black soils previously referred to, the red soils which occur form the best surface for the construction of all-weather roads. Not only does the firmness of the red soil make the surface so good, but the fact that these ridges lie on the line of the watersheds saves numerous bridges and culverts, whilst it is seldom found, owing to the undulating nature of the country and the comparative lowness of the hills that grading is necessary to avoid steep slopes. Such roads, therefore, are inexpensive to build and cheap to maintain.

CULTIVATION AND CROPS.

It will be realized that land which has been under such scrub bush for many years will have obtained a considerable degree of fertility from the constantly falling leaves, from the conservation of soil moisture and the protection from the sun's rays in the dry season, which has prevented excessive soil sterilization. Thus, when the native first clears a piece of old forest he has a field of very fertile soil. Realizing this either by trial and error or by some slight insight into the factors influencing his crops, he uses the soil while it is "green" for grain crops. In the first year the crop taken is rice. The humus in the soil and its beautiful condition enable the maximum amount of rain to be absorbed and held, sufficient for the demands of the dry land or hill rice which he uses. The bush is cut by the men, all the light growth being cut to the ground, and the bigger trees being cut at about three feet from the ground. This is usually done in December and early January. If it is done earlier and there are good rains in December an early crop of maize will be sown in the first year, but this is unusual. When the bush has been cut it is generally carefully burnt. Fire has little danger where the clearings are surrounded by *mashokora* bush, which is generally the case, as such bush is too green to burn. But where there is some pressure on the available forest natives sometimes clear a piece of marginal forest. At the end of the cultivation period that patch is very liable to be burnt out annually by the grass fires with the result that the *mashokora* can never re-establish itself properly and the area falls into *miombo* bush (the "dry-forest" of the savannah) with a

steadily decreasing fertility. It is, therefore, really essential for the natives to leave a belt of uncleared forest round their cultivations, if the re-establishment of the *mashokora* is to occur, which must happen if the system is to be preserved. New clearings vary considerably in size from a quarter of an acre to over an acre, according to the "beer-wealth" of the native, his energy and the size of his family. Before the first crop is sown, the field is well hoed over and the rice is sown according to the advent of the *mvua wa mpando*, the planting rains, between the middle of January and the end of February. Short term rices are used, the commonest variety being one known as *Bora kupata*; others used are *Swala* and *Mizagala*. The seed is sown haphazard, the holes being about nine inches to one foot apart, made with a small hoe when the soil is dry, or with a pole when it is wet. Men help the women with the sowing, but the women do most of it and are extremely quick workers. As stated above, if the bush is cleared early and the rains are good, a first crop of maize may be taken; this would be harvested after the rice has been sown. The necessary weeding is done to keep the rice clean, and harvesting commences as early as the beginning of May in favourable years. The first year of this cultivation is known as *chenge* to the natives.

The following season, that is to say, in October and early November, the old stubbles and weeds are cut out and burnt, the land is lightly prepared and with good short rains a crop of maize will be sown, to be harvested in February and March. The main crop in the second year depends upon the age of the forest which was cleared in the first year, which influences the goodness of the land after a crop of rice. If the forest was old and the land good, rice is again sown probably mixed with sorghums. It may be put in as early as the end of December if the rains are heavy, otherwise at the usual time towards the end of January. If the soils are from secondary forest of only fifteen or twenty years' growth, sorghums form the main crop in the second year. These may be sown as with the rice, in December or January, and with either main crop a long rain crop of maize is usually taken as an inter-crop. In this year also pigeon-peas are sown, scattered about the field and round the edges, continuing till the end of the period of use of the particular field. This second year is known as *pindua*, as it is frequently the year of change from rice to sorghum.

At the beginning of the third season a crop of maize is again sown with the short rains, together with cowpeas or green gram, which may also be sown in the second season. If the area was sown with sorghums in the second year, then the maize is now interplanted with cassava as well. If, on the other hand, it is an area of good soil, sorghums will be planted in the third season. In the first case after the maize has been harvested the cassava will be allowed to come away, and if it is still small another crop of maize may be taken in the long rains, but this is unusual. The cassava is then left in the field and harvested as necessary, the field being allowed to revert to bush. A cover to the soil quickly forms, a grass, *Panicum trichocladum*, rapidly growing under and over the cassava which gradually dies out, or is dug out.

In the better areas this happens at the end of the fourth season, the cassava having been planted at the beginning of that season. The third season is known as *pindua la gogo*, meaning the "turning of the tree stumps," which are well rotted and easily knocked over by that time. The secondary bush, or *mashokora*, quickly asserts itself and in a few years has formed an impenetrable thicket, and the return of fertility to the soil has commenced.

An area of secondary bush is rarely cut before it is ten years old. If it is cut after that short period the natives do not consider it is fit for a rice crop, maize and sorghums and then cassava only being cropped on it. If the forest is twenty years old or more it is considered suitable for rice in the first year, and the rotation depicted above is followed through again.

POSSIBILITIES AND IMPROVEMENTS IN THE SYSTEM.

The attention of one of the writers was drawn to this class of land when attempting to encourage the production of cotton in the district. At every *baraza* in a country of this nature, natives stated that cotton would not thrive in the soils, that it grew and never produced a crop and so forth. From the appearance of the soil after the fields had been used a year there would appear to be no reason for such failure except perhaps in planting at the wrong season, or exceptional rains in the flowering and bolling periods. It was not until it was realized that they were using the newly-cleared land in the first year, and that normally that land was well suited to rice, that the trouble was understood and a possible solution brought to light. It is generally accepted that cotton will not produce a satisfactory crop on rich land which has been newly cleared, there being a tendency for the plants to run to wood and leaf and to shed most of the crop. This was happening with their cotton. But sorghum is grown in the second or third year, and if sorghum thrives cotton should also be a satisfactory crop, given average climatic conditions. Thus it appears to be a matter of fitting the cotton crop into the present native rotation in the most suitable year. In the past the natives have been giving themselves much extra work in clearing new areas for cotton in addition to those necessary for their rice. There would seem to be no need for this double effort, a point which should appeal to the native. When a double clearing has to be made it must have a depressing effect on the area cleared for rice. This is undesirable, as the rice crop is a most important one to the natives in the hill areas and is one which flourishes there. It should be possible to encourage the native to clear a larger area for his rice and when the second and third years come round, to plant a part of the sorghum area with cotton. The only crop to suffer any reduction would be the sorghum, as an early crop of maize would be taken in the cotton area. The reduction of the sorghum crop is not very vital, as maize, rice and cassava form the larger part of the native's diet. With a larger initial area cleared for rice, there need not be any reduction in the sorghum area. Further, such introduction of cotton would in no way throw out the native rotation, or any of his work, while it would introduce into the rotation a deep rooting, well tilled crop which would

have beneficial effect on the third and fourth seasons' crops, that is to say the half of the field planted with sorghum would become cotton and the cotton area would be planted with maize in the third and fourth years.

Wood* says: "Cotton worked into an already existing rotation will, as likely as not, be regarded as a subsidiary crop; cotton forming the basis of a new rotation will almost certainly be the main crop to be considered." In working cotton into the rotation in the manner outlined above it is with a view to its being treated as a subsidiary cash crop. "Hill" rice flourishes so exceedingly under average conditions and yields so well, giving the native a good return of cash and food, that any curtailment of the crop for cotton would be undesirable. Cotton should be regarded in these areas as a line of defence against bad rice years, from which the native may obtain as a minimum his tax money, as well as a few shillings for other purchases, and so leave all his food crop for food purposes.

As in all areas of shifting cultivation, while there is no pressure on the land available, there is nothing very damaging in the practice, as long as the fallow is adequately protected from erosion and fire, so that fertility may be restored as fully as the bush growth can restore it. During the four years in which the natives use their red hill soils there is little fertility restored to the land. Small crops of cowpeas and green gram are sown in the short rains as intercrops, while pigeon peas for two years must have some good effect, but they are very scattered and few in number. Once pressure on the land becomes too great for the long period of fallowing required under present conditions the natives will have to resort to green manure and leguminous crops in much greater quantity than at present. Probably then a mixed pure stand of cowpeas, gram and pigeon peas for one or two years will have to be used. It is possible to take two crops of cowpeas in one year, one of which could be dug in as a green manure each year. Further, as the bush disappears under such pressure, tsetse will also disappear, and with communal dipping tanks cattle might be owned by the natives, so paving the way to a stable system of mixed farming with ploughing.

SOIL EROSION.

As mentioned above, most of the cultivation takes place on hillsides. Nowhere in areas visited has water erosion seemed very apparent. In the first year the soil is in a very water-retentive state, but during the subsequent years run-off must increase. The practice of leaving the stumps in the soil may also have a certain beneficial effect in holding up the soil during the first two years. However, when the fields are left, the growth of *P. trichocladum* is so rapid that a very fine cover soon forms and little or no wash takes place. Thus, under the present system, while contour ridges would probably be beneficial in the second and third years, the damage done by run-off does not appear to make their construction absolutely essential, more especially

*Wood, R. C., "Cotton Rotations." Empire Cotton Growing Review, xxiii, 2, April 1936.

in view of the rapid growth of cover. But once continuous cropping becomes general through lack of areas of new or regenerated forest, contour ridging and storm draining will have to be carried out, to preserve the soils in cultivation. This is readily seen in a few areas, where, through fire and other reasons, the forest has never re-established itself—there erosion is proceeding at a great pace.

SOME ADMINISTRATIVE ASPECTS OF *Mashokora* CULTIVATION.

This method of cultivation viewed from the administrative standpoint has everything to recommend it. In the first place it possesses the advantage of accessibility once ridge line roads have been constructed; roads, which by opening up the district would act adversely on the tendency of a population to concentrate itself round a big centre like Dar es Salaam. Most of the present roads in the district have never been properly located and have grown up from the ordinary bush footpath, wandering in the valleys from waterhole to waterhole. Thus they fail for this purpose. In the second place, this *mashokora* country, being as a rule at the tops of the hills and away from water, is healthy, and it is in the interest of the inhabitants that they should eventually move out of the sandy or swampy valleys where malaria and other diseases are rife, to live in the hill country where, indeed, their main food crops are situated. There is no doubt that the population would be living there now were it not for the facts that this country lies off the beaten track and that there is a shortage of permanent water in the hills. It seems, in fact, that one of the tests of our administration in this particular coastal area will be how much we have developed and extended this method of cultivation. There is plenty of land in the district suitable for *mashokora* cultivation. However, it must be remembered that it takes some twenty to thirty years for the land to restore itself to fertility after its four years of cultivation and some five to six times as much as that under cultivation must lie fallow. At the moment, and in the immediate future, there is, speaking for the district as a whole, ample land for this type of development, provided that new areas are opened up with roads and wells, without being faced with the necessity of enforcing refertilization by more scientific methods.

Quite apart, however, from the question of available land for present needs, *vichaka* forest will re-establish itself, provided that the annual dry season grass fire can be kept out. Thus the restoration of *vichaka* in barren, sandy, places not only increases the amount of land potentially available, but practically eliminates soil erosion.

To sum up, therefore, we have in *mashokora* cultivation in a district where the native population is not progressive the foundation of existing custom, on which we can build, until by slow stages we have evolved good communications, a prevention of disease, enlightened agricultural methods and an elimination of the ever-increasing dangers of soil erosion.

The authors wish to thank Mr Maber of the Forestry Department for information concerning the species found in the forest.

The Shirazi Colonizations of East Africa

By Arthur E. Robinson

IN DEALING with any question affecting the history of the territory now comprised within the mandate of Tanganyika it is necessary to remember that it formed part of an African empire. It is a remarkable fact that Paté is not mentioned in the annals of Kilwa and there is no mention of Kilwa in the chronicles of Paté. Their territories met and both Mombasa and Zanzibar are prominent in their histories.

The Lamu archipelago includes the islands of Paté, Amu (Lamu), Manda, Uvondo, Ndao and Kiwayo. On the mainland Mkunumbi, Kao (on the lower Tana river), Kipini, Shanga, Dodori and Kiunga are associated with the history of Paté. Although divided against itself by feuds between the towns of Siu and Paté, the island of Paté maintained its independence until 1507. In that year da Cunha, who had been appointed Governor of the African coast by the Viceroy Almeida, called at Lamu and made Paté and Lamu tributary to Portugal. The ruins of the old Persian monastery(?) at Lamu and those at Mafia Island are among the most notable on the east coast of Africa. They owe their preservation to the comparative inaccessibility of the sites.

The importance of Kilwa in the history of East Africa can be gauged by the fact that it was the only country (other than Egypt and the Barbary Coast principalities) which struck coins in Africa during medieval times.

The purpose of this paper is to draw attention to the Persian colonies as distinct from Arab infiltration as much of the culture which impressed the Portuguese upon their arrival was due to Persian civilization. A great deal has been destroyed but much could be added to our knowledge of Africa by those now there who are disposed to do it. The present paper has been compiled so that it can be referred to by any interested in the medieval civilization of the east coast without reference to books which are not easily obtainable.

At present the only sources of our information regarding the history of the Shirazi colonies are native chronicles. There has been too much stress laid in the past, however, upon these. Recent research indicates successive Persian cultures dating from the ninth to the thirteenth century in East Africa. These may have some connection with the Persian remains found in the Yemen and Hadramut dated to the sixth century or the Persian evidences dated to the same period found in Somaliland. The principal documents regarding the East African settlements are, in their order of importance :—

(a) The list of the rulers of Kilwa (Quiloa) published by Joao de Barros in "Da Asia" at Lisbon, c. 1552-3. This is the earliest and most authentic record known. It includes the rulers until 1507 and was reproduced by Admiral Guillain⁽¹⁾. The list of de Barros is printed as Appendix A to this paper.



Kilwa Kisiwani Old Arab Fort.



Kilwa Kisiwani — Ruins of Old Arab Mosque.

It formed the basis of the list of rulers and genealogical trees published recently by Mr Walker in his paper on the "Coinage of Kilwa" (2). Although the line of Kilwa rulers continued as Sheikhs until 1830 when they moved to the mainland, I cannot trace any published list subsequent to that of de Barros. An incomplete Arabic manuscript was presented to the British Museum in 1884 by Sir John Kirk. It was published in an abridged form with an English summary by Mr S. Arthur Strong (3). This is a modern and inaccurate copy of a document written in A.H. 904 (A.D. 1494), when Sultan El Fadl ruled at Kilwa. I consider that de Barros obtained his information from the 1494 document. This was probably official and prepared by order of the Sultan Muhamad Fadil (ex Amir) to settle questions of succession. There are definite indications that the House of Alowi (i.e. Ali, the founder) had died out at that period. No description of the tombs of the Kilwa sultans or any contemporary inscriptions appear to have been published.

(b) There are three different versions of a local history of Paté, although two of them are admittedly compiled from the same source. None of them is correct. There are historical inaccuracies in each of them and unpleasant incidents such as family murders or irregularities in succession are omitted. I cannot reconcile these three versions, but Appendix B to this paper gives the names of the rulers in the three lists. The lacunæ are so obvious that it is impossible to produce a correct record. Appendix C is a summary of events which may be regarded as milestones in any of the local chronicles. The chronology adopted is that of Admiral Guillaud. This differs from the native records. The tribal record of Paté was destroyed in the bombardment of Witu in 1890. The introduction of words such as *Bwana Mkuu*, *Tamu Mkuu*, *Mototo*, *Fumo*, etc., clearly indicate the submergence of Persian culture by Africanization. This is in marked contrast to the settlement at Mogadisco where local imams and sherifs appeared soon after the re-establishment of the caliphate by the Egyptian Mameluke Sultan Beybars. It is noticeable that more than one sultan of Kilwa made the pilgrimage to Mecca, but there is no record of any ruler of Paté having done so.

(c) A fragmentary record of Vumba was published by Sir Alfred Hollis (4). The original documents upon which his paper was based were given to the library of the Royal Anthropological Institute but I have been unable to obtain access to them. The Vumba settlement was on the mainland, opposite to Pemba, on the river Umba. There were extensive ruins at Mehamalale (Msemelale). All local records were lost in the sack of Vanga and Ormuz (Pongwi district) in 1875. I understand that a copy of a manuscript dated 1721 exists but has not been published. The population of this settlement entirely changed in character and it is possible relapsed to paganism in the seventeenth century.

(d) A list of the rulers of the governors of Mombasa after the Omanese occupation. All the previous records appear to have been lost when the town was destroyed (5). This was published by Captain Owen (appendix D) (6).

(e) A number of local traditions published by various writers to whom acknowledgment is made by me in the text.

I cannot trace any chronicle of Melindé. This town seems to have been a semi-pagan settlement until a comparatively late period. It was a kind of buffer between Paté and Kilwa. It is very doubtful if it was colonized or influenced by the Persians. There are no records of Zanzibar prior to the Omanese occupation. The Kizimkazi mosque is dated at A.D. 1107 and is attributed to Mfaume (a Swahili king, Musa bin Hasan)(7). Now that the coast line between Italian territory and Portuguese is under British control it should not be difficult to compile a "Corpus Inscriptorum" of historical value before these records are obliterated or destroyed.

Ibn Batuta remarked upon the fact that the Shafiite system of jurisprudence was general although the ruler of Mogadisco, Sheikh Abu Bekr ben Omar, was a member of the Muthafar family (A.D. 1331). This sheikh exercised both temporal and spiritual power and had introduced all the pomp and ceremony which was characteristic of the Mameluke Sultans of Egypt at that time. The state umbrella surmounted by a golden bird (eagle) was copied from Egypt, as also the musical instruments on the occasion of the sheikh's visit to the mosque each Friday. Unlike the aristocracy of the Sudan, the east coast Moslems used to claim descent from sectaries who were obliged to leave their native countries. In recent times claims to sherifian descent have become more common than when Guillain visited the coast. In the sixteenth century the term "Arab" was applied to people from the Red Sea and the Yemen with certain people from Oman. Shirazi was a generic term applied to all non-Arabs from the Persian Gulf. One of the great causes of early divisions among Moslems was the suppression of native customs. The mother of the Caliph Omar, Qaitama bint Hisham was a negress(8). The suppression of Persian customs at Vumba and the murders of the Nebhanites at Paté were both probably more racial in origin than political(9).

The Wahabis destroyed all the tombs, etc., in Socotra in 1800. It is not my intention to deal with the origins of the Gallas or Somalis or the Swahilis(10). The racial origins and developments of these peoples can only be determined by intensive archæological field research on abandoned sites. There is no reason to believe that any of the tribes in Kenya or Tanganyika occupy now any of the territory which their ancestors did at the period when the Portuguese first appeared on the Congo and East Coast.

* * * *

In A.H. 69 (A.D. 689) during the reign of the Caliph Abd el Melik (Ommayyads of Damascus), who ruled from 5th May, 685 to 9th October, 705, the province of Oman was invaded by El Hajjaj ben Yusef, the Governor of Irak, died A.H. 75 or A.D. 714(11). At that time Kufa was in the possession of Musaab (killed A.D. 691) the brother of Ibn Zubayr the Alides Caliph at Mecca (A.D. 683-692). Among

those who opposed Hajjaj were two brothers, Suliman and Said, the sons of Abbad of the Omanese Azdites. They were possibly sons of Julanda, who had ruled Oman previously under the Prophet Muhammad. The Moslems did not eject the Persians or the local rulers confirmed in the posts by the Persians unless they actively repudiated Islam and declined to pay tribute. It was one of the principles of the policy of Hajjaj to destroy Persian culture and the language was superseded by Arabic. Suliman and Said were defeated and fled with a number of their families to the "Land of Zinj"⁽¹²⁾. The chronology varies considerably. Masudi⁽¹³⁾ gives the date of the Kharejite revolt as A.H. 30 and the war with Hajjaj as A.H. 77 in his résumé of Arabian history.

The modern chronicle of Paté cited by Captain Stigand repeats a later tradition that the first coast towns⁽¹⁴⁾ were founded by Abdel Melek ben Muriani (i.e. Abdel Melek ben Marwan) and that his son, Jaafar, died at Kiwayu. Another son, Hamza, is said to have been the first Moslem missionary on the East Coast when there was a Christian community at Socotra. The bishop of Socotra is said to have travelled to Mogadisco. The ruins of the churches used by the population of Socotra when the Portuguese occupied the island in 1507 cannot be identified as sacred buildings now. Stigand gives the earliest Moslem settlements as Mukadisho (mui-wa-mwisho, i.e. the end city), Marka (an ancient caravan port)⁽¹⁵⁾, Brava, Tula, Twavae, Koyama, Vumbi (see later), Kismayu, Omwi, Ndao, Kiwayu, Paté (see later), Paza or Faza, Shanga, Emezi (Wangi), Magagoni (Tukutu), Amu (Lamu), Manda or Mandra, Taka, Kitao, Komana, Uziwa, Shaka, Mea, Ozi, Melindi, Watamu, Mvita (Mombasa), Wasini (Wasin island), Kilwa, Tungi, Ngazija (Comoro islands). This is a most comprehensive and improbable list. It is possible that one or two Moslem traders settled at these places during the first century of the Moslem era but in my opinion the list is open to question and includes settlements founded at different periods. It is most improbable that there were any Ommayad colonies in East Africa until after they were driven out by the Abbassides subsequent to the proclamation of Abu'l Abbas at Kufa on the 28th November, 749. Masudi described the Ibadis as the Kharejites of the Yemen but the application of this term has varied considerably at different times and in various places.

In A.H. 120 (A.D. 740) Zayd, the grandson of Huseyn ben Ali the Caliph, was induced by the Shiites of Kufa to revolt against the Caliph Hisham (724-743). Zayd was deserted by his forces and killed. His son Yehya suffered a similar fate in the reign of the Caliph Walid (743-744). Abu Muslim^(a) who

(a) Abu Muslim was a Persian of the Hanifiya Shiites and a disciple of the Imam Ibrim, who was imprisoned at Harran by the Caliph Marwan. He declared his mission in the province of Merv on the 15th June, 747, and soon captured the country from the Arabs. Kufa was occupied on the 2nd September, 749, by Hasan ben Qahtaba and on the 28th November Abu'l Abbas was proclaimed as caliph there. He was the first Moslem ruler to appoint a wazir (vizier) or "Helper." These officials became the king-makers of Islam. The office of emir (Amir-al-Amara) was first instituted by the Caliph Radi and seems to have been copied from the Romans. The Moslem emir was a sort of major-domo who commanded the permanent body-guard of the sovereign. In Egypt the title was similar to that of a general and the emirs had numerous privileges which included the use of metal drums which were sounded in certain areas on specified occasions. Several notable emirs in African history were eunuchs.

founded the Abbassides caliphate assumed black robes and constituted himself the avenger of Yehya during the reign of Marwan II (744-750) who was the last Ommayyad. The son of Marwan II fled from Egypt, after his father's death, to the Sudan and Abyssinia, where he formed a colony. He was subsequently expelled from Abyssinia and both the Moslem Fung and Gallas have genealogical trees in which he is claimed as an ancestor. After the proclamation of Abu'l Abbas at Kufa, the Alides were pushed aside. They had answered their purpose but no power was given to them. As a result of unsuccessful attempts to obtain power there was an exodus of the Emosais (followers of Zayd) from the Persian Gulf which extended over a considerable period. About the middle of the eighth century a party of Emosais landed on the East African coast from the Persian Gulf. This place is said to have been named by the holy man who accompanied the fugitives. It is an adaptation of Makaad-es-shat, i.e. "the sitting-place of the sheep," and is taken from an incident in a prophetic vision. About A.D. 893 a colony of Emosais was founded in southern Arabia and is still in existence there. The Alides (Emosais or Zaidite) dynasty of Tabaristan lasted from A.D. 864-928. De Barros published this tradition of the founding of the Emosaid colonies and it rests on a more substantial basis than the Ommayyad story which has nothing historical in support. During the period that the Emosais held Mogadisco they exploited the trade with the natives. This dated to the first century of our era. The Periplus states that the people of Muca (Mocha) exported arms, beads, stuffs, etc., to Rhapta where they had a settlement. After the power of the Axumites had been broken by the Persians there would appear to have been constant intercourse between the Yemen and Hadramut with East Africa. It is not improbable that during the one hundred and fifty years when the Emosais were paramount as a foreign influence on the coast they traded as far south as Sofala. Gold was obtained then by washing the sand in the alluvial beds of the rivers. Nuggets were found also as they were in the early days at Ballarat (Australia). The Portuguese miners sent out from Europe could not find any traces of ancient workings when they prospected the country in the sixteenth century⁽¹⁶⁾. At that time the deposits of natural copper in the lower reaches of the Zambesi appear to have been exhausted. As a rule when the supply of natural metal is exhausted the local population relapse to a neolithic culture as the natural metals are worked cold. There is sufficient historical evidence now to support the view that the smelting of iron was introduced into East Africa from Arabia and India at a period not earlier than the Roman occupation of Egypt⁽¹⁷⁾.

⁽¹⁶⁾ I understand that Sir Flinders Petrie has dated some iron slag found in Dongola as not earlier than the sixth century B.C. It was about that period that the Persians introduced iron into Egypt but its use was not general until the Roman occupation. The manufacture of iron from local ore has been attributed to the Blammyes after the Roman occupation of Egypt. As a general rule the manufacture of iron from local ore took place a considerable period after the imported metal had been in use in districts where the ore has been found. The Carthaginians worked the North African and Spanish mines and it seems probable that the Iberians learnt the art from them. The iron currency bars of Britain are analogous to the hoes and spear-heads of Africa.

Professor Leakey has examined two sites lately. They are Engaruka (Rift valley), west of Arusha in Tanganyika Territory, and Gedi (a ruined coast town) north of Mombasa. The first-named he dates at about three hundred years ago for its foundation, and its abandonment (through raids by the Masai) about a century ago. The inhabitants were known as Wambulu but called themselves Iraki. Gedi was an old walled town with some architecture analogous to that of Zimbabwe^(c). It is remarkable for cut-stone archways of a type suggestive of "Early English" architecture. One arch rests on columns and Dr Leakey considers that the site may be as early as A.D. 600, i.e. pre-Moslem⁽¹⁷⁾.

During the reign of Harun-er-Rashid (786-809), Yehia ben Abdallah⁽¹⁸⁾ claimed the caliphate in 793. He was seized and died in prison. The caliph also seized Musa ben Jafar al Kazim, the head of the Alides at Medina, and he met a similar fate. In 798 the Barmecides were suppressed by Harun.

A gold coin attributed to Harun was found at Zanzibar and some of earlier dates with Cufic characters but Mr Ingrams considers the identification doubtful. A coin of Ptolemy X (151-80 B.C.) was found at Msasan (north of Dar es Salaam). Mr Ingrams states that the Makunduchi of Zanzibar, who are peculiar for dances with tridents, claim to have migrated from Msasan. Among the ruins visited by Burton were those at Changa Ndumi (on the mainland) five miles from Tanga which he considered had been abandoned circ. 1741⁽¹⁹⁾.

The coastal towns Shaka and Wangwana-wa-Mashat are reputed to have been Persian settlements. They were conquered by Sultan Omar, the Nabhani ruler of Paté, about the fourteenth century. They were repopulated but finally destroyed by the Sultan Bwana Tamu of Paté about the beginning of the eighteenth century when there would appear to have been a general revolt against the restrictions imposed by the Persian Moslems. Shaka^(d) was the capital of Shah Mringari, a brother of Liongo who was conquered by Sultan Omar of Paté⁽²⁰⁾.

Some of these abandoned sites were called after towns in Arabia. Among these is Wa-Mekka on the coast (1°56'20"N. and 42°48'42"E.). Guillain found a ruined mosque there and a number of tombs. The pyramid on the island of Wa-Sheikh he considered was an Arab navigation mark. In 1848 this village was under the Imam Aloti of Obbia.

Guillain found vestiges of a stone building at Ha-fun and published a plan which might indicate any rectangular building. Sir Flinders Petrie considers that Ha-fun was the home of the people of Punt. In recent years there has been a tendency to identify the Fung of the Sudan with this site. Burton mentioned that a part of the town of Zanzibar was known as the Fungu quarter⁽²¹⁾. The word was considered to mean autochthonous peasantry.

(c) The *Illustrated London News* of the 14th March, 1936, contains photographs of similar ruins at sites much farther south, where terracing is done by stone walls for cultivation. The local people live in grass kraals and regard the ruins in much the same way as the inhabitants near Zimbabwe do those.

(d) Guillain described Skaka or Jaka as an abandoned site near Melindé which was founded by Shirazi from Ha-fun. These people moved down the coast and colonized Vimba (Juba) and Chungwaya.

About A.H. 295 (A.D. 908) when the contemporary ruler of Oman may have been El Hawari ben Matraf, seven brothers in three ships landed at Mogadisco. These people are said to have been Sunnis and came from El Hasa on the Omanese coast. They were possibly a branch of the El Azd tribe. The new arrivals ejected the Emosais, who settled outside the town among the native population with whom they were friendly. They became absorbed among the Adjourane tribe of the Hawiya Somali, who owned camels and controlled the caravan trade into the interior. They were not allowed to remain inside the town of Mogadisco after sunset however. At that time the monopoly of the Sofala trade was in the hands of the people of Mogadisco who had discovered the place through one of their ships being storm-driven there.

There is a curious tradition attached to this Sofala trade by the Arabs. It was a condition of the natives that the traders were obliged to furnish each year a number of lusty young men who were left at Sofala (? as hostages). These young men were mated with native women who retained the offspring which were absorbed in the local tribes. The Asiatic features of the Makalanga tribe were remarked upon by the early Portuguese travellers. It is doubtful if there is any connection between the Ma-kalanga and the ancient Indian kingdom of Kalanga. The Portuguese stated that the women of Socotra, who were Christians when they arrived, had a great desire for children by the Portuguese garrison. This seems probable as the Socotrans were then a feeble and decadent remnant of what had been a numerous and prosperous colony. When Burton arrived on the coast he estimated the Indian population at about fifteen thousand. It was the practice of the Banyans to take concubine slaves as their wives never left India. Muhamad Ankoni ben Rukn-ed-Din "ed-Dabuli" who was the principal local merchant when the Portuguese arrived at Kilwa was probably the son of an Indian and a native of Africa. Both he and his son Haji Hasan Muhamad had made the pilgrimage but it is easy to understand that he was in the eyes of the Kilwans unsuitable as their sultan. During the tenth century ships from the Red Sea, Persian Gulf, India and China visited the coast. It is suggested that Malays visited the coast before the Chinese arrived. The identification of the Wak-wak with the Malays is not generally accepted but in A.H. 334 an attempted invasion of Pemba is recorded. It is most improbable that Malays or Chinese would assemble a thousand vessels for this purpose and in the present writer's opinion such a large number of craft would be canoes. They were very probably people from the Comoro islands or northern Madagascar where oriental colonies of *bêche-de-mer* fishers seem to have been established at an early period. Unfortunately the hoards of Chinese coins found at Mafia, Pemba and other sites have disappeared and it is therefore impossible now to fix any period at which these oriental colonies were founded in Africa^(c). I understand that an American anthropologist who has visited the

(c) See the article "Indonesian Culture" by HORNELL in the *Journ. Roy. Anthro. Inst.*, LXIV, pp. 305, etc. From the historical evidence it is doubtful if any voyages were made before the Christian era (except in the Mediterranean, or similar enclosed waters) by mariners who deliberately lost sight of the land.

coast attributes the origin of at least one tribe in Africa to the Chinese⁽¹⁾.

Burton identified the Ibadis with the Kharijites and stated that their mosques were of the Wahabi type and distinctive from the other sects, as far as Africa is concerned.

The following is the gist of a note by Guillain on the Ibadis :—

They were led by Jelendi ben Masud, who was killed by the Beni Jaber in an invasion of Oman. The land remained desolate until the reign of the Imam Rezan, who ruled for fifteen years and died in A.H. 207 (A.D. 822). In the reign of the Caliph Al Motadhied (fifteenth caliph circ. 892-902 of our era) the Imam was Azzan ben Temin el Mekhezoumi and there was civil war⁽²⁾.

Tradition states that Oman was invaded by Muhamad ben Nur with twenty-eight thousand men at the request of Muhamad ben Qassim-es-Sami and Beshir ben El Mendur, who were two local notables. The ruling Caliph of Baghdad gave his consent to this action and Muhamad ben Nur was proclaimed ruler of Oman. The Ibadis dispersed after ruling the district for sixty-three years. In A.H. 304 (A.D. 916) the rule of Oman was in the hands of Ahmed ben Hilal of Sohar. He had been appointed by Muhamad ben Nur and was seen by Masudi. From the foregoing it is obvious that this Muhamad ben Nur is not the same person as Muhamad ben Nur (mentioned by Burton, p. 287, *op. cit.*) the Lord of Jabrin who seized Oman on the death of Nadir Shah and ruled it until 1728.

About A.H. 365 (A.D. 975) a certain Persian prince, Ali ben Sultan Al Husayn ben Ali arrived on the African coast. He was reputed to be a native of Shiraz, where his father had ruled. His mother was a concubine and he was ousted from the rule by the legitimate sons. This story is weak as many of the caliphs were the sons of slaves. At all events this Persian exile arrived at Mogadisco. He was not allowed to settle there and proceeded to Kilwa where he purchased a piece of land from the local ruler. The names of his sons were Ali, Muhamad, Bashat, Suliman, Huseyn and Daud. The father and each of his sons had a ship. It is therefore probable that the colonists numbered from five hundred to a thousand souls. The traditional eventual distribution of the family was⁽²²⁾ :—

(1) There are no records or specimens in either the British Museum or the Ashmolean Museum of Chinese, Persian or coins of the Caliphate period which have been found in East Africa. Some have been found in Somaliland I understand, but no data has been published. The dates of the Axumite coins are at present tentative. There are no records in England of the coins said to be in the Zanzibar Museum.

Guillain (*op. cit.*, p. 522) states that Kilwa recognized the Imam of Muscat immediately the Portuguese fleet left the coast in 1696, and that both Kilwa and the fort at Zanzibar were occupied by the Imam in 1698 and the Portuguese ejected.

(2) Dr A. J. Wensinck (Joint Editor) informs me that a new edition of the *Encyclopedie de l'Islam* is in preparation which will bring the religious portion up-to-date.

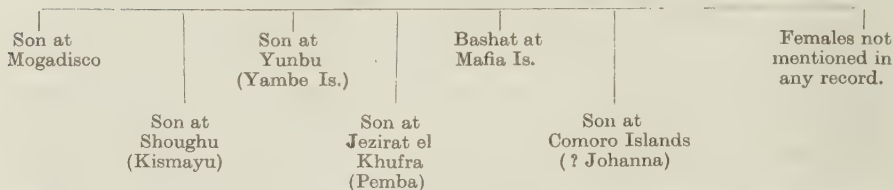
Ingram (*op. cit.*, p. 188) states that the Ibadis were derived from Abdallah ben Yehia Ibadh et Temini who was a contemporary of the Caliph Marwan (744-749), and belonged to the Sarid clan of the Beni Mukais of Temin ben Murr. He is said to have been put to death sometime after the reign of Marwan. The pointed dome over the tomb of Exekiel (Kifl), the shaking minaret of Bostam and the tomb of Shahzada Mahruk (in which the tomb of Omar Khayyam is a part) are typical specimens of mediæval Persian architecture.

The Shafites were founded circ. 813-822.

ALI BEN SULTAN AL HUSEYN BEN ALI "ES SHIRAZI."

(Ighawumij)

Founded Kilwa and died there.



The local chronicles regard Ali ben Sultan Huseyn as the first Sultan of Kilwa. Mr Walker has published genealogical trees⁽²³⁾. The earliest coins of this dynasty are those of Hasan ben 'Talut who ruled in the thirteenth century^(b) when the sultans of Egypt had restored the Abbassides caliphate and invested the pilgrimage to Mecca with a grandeur previously unknown⁽²⁴⁾.

There is another story of the colonization of Kilwa in a manuscript found at Pemba which is cited by Mr Ingrams. The name of the founder of Kilwa is given as Darshash ben Shaha (or Shah). This man was accompanied by three brothers, a sister and three nephews. The family are stated to have founded Shehiri, Paté, Mombasa, Bayai, Pemba, Tumbutu, Zanzibar and Kilwa.

The local chronicle of Paté⁽ⁱ⁾ records a second foundation at that site by Suliman ben Suliman ben Muthafar (or El Mudaffar) en Nabhani. He landed at Paté with his two brothers, Ali and Othman, circ. A.H. 600 or A.D. 1203-4. These Nabhanites are said to have been of royal blood (Meliks). They were fugitives from the Yaarebi, a tribe which later ruled Muscat as imams from A.D. 1624-1741, when they were displaced by the Busaidi (the present Ibadi royal family of Zanzibar). Suliman is said to have married Batawina, the daughter of Ishak, the last ruler of the previous dynasty. Ishak relinquished his rule after the marriage. This procedure was so common in other parts of Africa where matriarchal succession is of more importance than in Islam that it lends colour to the story. Beyond the epitaph of Sultan Muhammad Abubekr Mkuu which Stigand dated A.H. 1024 (A.D. 1624) there is nothing upon which

(b) NOTE.—Prior to that date money was in use. This is clear by the dates of coins found on the coast. Barter by the "silent trade" probably ceased as the result of competition and it is probable that a basis of exchange was fixed on the lines of that found in force in Benadir by Guillain. The piece or tobe of Indian cotton cloth was valued by the Indian merchants in a similar manner to the way they did at Suakim when I was there first. All the other articles were based on this price whether local produce or imported. There was a similar system in force on the Abyssinian frontier where the exports from the Sudan were reckoned in rotls of coffee or raw cotton. The Maria Theresa dollar was used then in Benadir and at Gallabat but it would have been impossible to finance these markets with the actual coins in the towns. Beads were used as small change.

(i) If written in Arabic the correct name would be Bata. In the latter part of the eighteenth century after the massacre of the Nabhani the ruler described himself as "El Batani," and the Moslem names are conspicuous by their absence. This event took place circ. 1744 when Fumo Bakri ben Bwana Tamu was the ruler.

a chronological list of these rulers can be based⁽¹⁾. Ingrams identifies Bwana Tamu, who ruled in 1728, with Abubekr ben Muhamad but gives no authority for the Portuguese treaty which is not cited by Guillain (see Strandes, *op. cit.*, p. 288). Bwana Tamu Mkuu died in 1733.

The notes on Vumba were published by Sir Alfred Hollis, when native commissioner. They are based upon memory and an unpublished manuscript dated 1721. A settlement was founded by the Shirazis, circ. 1199-1216, on the banks of the river Umba (district called Vumba). There are ruins at Mehamelale (Msemelale). Until 1875, when all the records were burnt, a list of the rulers was extant. The first sultan was named Zumbura and none of the names appear to be Arabic. The principal tribes of these people seem to have been the Wadigo and Wasegeju (Mosseguis of the Portuguese, at Melinde) and Wa-nyika. All these now claim Somali origin. The term Wa-nyika is generic and means "desert folk." The Shirazi colonists are said to have come from Shungwaya (about two hundred miles north of Mombasa). The rulers took the title of Mwana-Chambi until 1544 and after that date Mwana-Chambi-Chanda and finally Fumo. They were recognized by the Portuguese but the name Vumba does not appear in the inscription at Mombasa which includes

(1) It is most improbable that any ruler survived after deposition.

Mafia Island.—The Shirazi capital was at Kua on Juani islet. Its foundation is attributed to Shirazi (from Wambara, a district on the coast) who formed the nucleus of a kingdom established by a son of the first Sultan of Kilwa, circ. A.D. 975. The houses were rectangular with compounds for slaves. The ground plans are analogous to some ruins at the site of the old city of Berber (Sudan) and to some of the Roman villas in Britain where the slaves were housed within the precincts of their owner's homesteads. Captain Norman King has illustrated the Shirazi mosques at Mafia and Juani. He described the Shirazi tombs as "large with headstones of the phallic type peculiar to the Shirazi." These tombs are apparently similar to the medieval Moslem tombs seen by me at Aswan and Cairo. The tomb consists of a domed canopy of masonry which is supported on four columns. Underneath this the body was buried. The headstone (sometimes also one at the feet) consisted of a cylindrical column surmounted by a turban carved from the monolith. The Moorish fez and the Egyptian *turbush* are modern in Islam. The turban was the characteristic head-dress of Islam. It was probably adopted from the Persians and was worn by the Turkish sultans after they usurped the caliphate. The most peculiar feature of the Shirazi tombs in Africa is the niche or antechamber inside which the relatives of the deceased could pray facing towards Mecca. Guillain remarked upon this feature in the architecture of the rectangular domed tombs which he examined at Mogadisco during the last century. Incidentally it was the fact that Sultan Yusef ben Ahmad (Don Geronimo Chingoulia), who had been baptised at Goa, prayed at his father's grave that precipitated the massacre of the Portuguese at Mombasa in 1631. Mafia, Zanzibar and Pemba were attacked by Duarte Lemos in 1508. The people from Pemba fled to Mombasa. In 1528 Pemba and Zanzibar were loyal to the Portuguese and Mafia does not appear to have taken any active part in the revolt. The Portuguese destroyed the town of Mombasa in March 1529 but as the inhabitants had removed all the non-combatants to the mainland they returned and rebuilt the town as soon as Nuna da Cunha left the coast.

Zimbabwe.—In my opinion this architecture is imitative in character. The solid sugar-loaf shaped towers may have been copied from Moslem tombs (Gubbas) of this shape. These are common in the Sudan. It is improbable that natives could construct a hollow minaret. As late as 1820 it was impossible to do so in the Sudan and men were sent from Cairo by Muhammad Ali Pasha later for the purpose. I understand that the Ibadi minarets have no staircases but the imams clamber to the galleries by means of footholds in the wall. As a general rule the base of these old minarets is considerably larger than the domed top. As late as the nineteenth century human sacrifices were made on the east coast of Africa when the foundations of buildings were laid. Apparently in some cases these sacrifices took place as each course of the masonry was laid. It is therefore quite possible that the curious cairns on the walls of Zimbabwe which are surmounted by columns described as "phallic" are cenotaphs. The ancestor worship of the subjects of the Monomotapa appears to me to be merely a stage in the transition to paganism due to the Africanization of the inhabitants and the loss of Islamic culture.

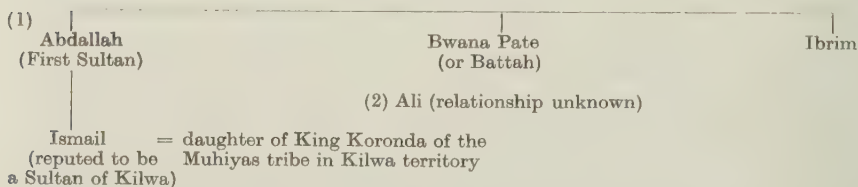
those who had rebelled and joined Sultan Yusef in 1630-5. The most notable ruler recorded was Mwana-Chambi-Chanda Ivor who was ruling when the great massacre of the Portuguese took place in 1630. He suppressed all the Persian customs among his people including the veiling of women, the use of wooden doors on huts, and the beating of drums. He was buried in a circle of stones with a monolith but these were destroyed in 1896. Since the eighteenth century the tribal rulers have assumed the title of Sherif. The first was Syed Abu Bakri ibn Sheikh ibn Abu Bakri el Masela ben Alowi (1700-1742). The investiture ceremony is a curious one and includes the wearing of a silver chain about the right knee.

The *Mombasa Chronicle* states that the last Shirazi ruler of Mombasa was Shahat ben Masham, or Mifta, who was called Shahat (Shah). The date of his deposition was 1592. It was subsequent to a revolt in 1528 when Nuna da Cunha offered the rule of Mombasa to Mougno Muhamad, a brother of King Wagerage of Melindi. Muhamad declined the rule as he was the son of a slave and suggested his brother Abubekr, who was a nephew of King Wagerage's successor.

The Watikuu (Bajuns) claim Juni ben Katada of Medina as their eponymous ancestor. Tradition states that he was driven out of the Hejaz circ. A.H. 50 and landed at Mogadisco. Some of his party went to Buralao. These people finally reached Gobwen and Kiunga (on the mainland). Later they settled at Faza. Tundwa was an old town of the Bajuns and as late as 1868 they fought under Sheikh Shakari with their neighbours of Faza, who were under Mzee Sefu.

Tumbutu Island. This place is mentioned by Yakut in the thirteenth century. Its situation rendered it a place of exile or refuge from Zanzibar (Angouya). The local tradition is that the place was colonized circ. A.H. 600 (A.D. 1204) by a Sultan Yusef ben Alowi of the Ahl Ali, who came from Tusi in the Basrah district. A genealogical table based upon the information published by Mr Ingrams might read as follows :—

YUSEF BEN ALOWI.



As the only recorded Sultan Ismail of Kilwa was Ismail ibn Hasan ibn Suliman, who ruled circ. 1442-1454, the tradition has no historical confirmation. There would seem to have been a similar tradition at Mafia. Burton says that the island was ruled by the Moslems of Songo-Songo and Changa until they were conquered by the Shirazi from Kilwa. There are two sites named Shanga

or Changa^(k). One of these was on Paté Island and the other on the mainland near Melindé. There was a site called Tekwiri (south of 8°42'59"S. Lat.) which was considered to be the ancient Kilwa and possibly the classical Rhapta. The local tradition was that the new town was founded by a Sheikh Yusef from Shangaya, who purchased land from Nependu, a pagan chief. Yusef built the old fort (at new Kilwa) at Kilwa Kisiwani and married Nependu's daughter. He then killed his father-in-law and seized the rule as the Shirazi Sultan of Kilwa.

The name Lamu or Amu is said to be derived from the Beni Lami an Arab people from the Persian Gulf who colonized the island^(l).

Stigand described the Siu people as Bani Sadu (Beni Saad) who came from Shanga on the mainland and claimed a certain Jaafar ben Abd el Melik (see *ante*) as their eponymous ancestor. It is a curious fact that a quarter of the ruined city of Paté is called the Battah quarter and this name appears in Swahili records. It is said to be the name of an Arab tribe from the Hadramut.

There is also a tradition that Brava was colonized by Arabs circ. A.H. 1000 from the Hatimu who traced their descent from migrants from Andalusia.

The name Ghiberti or Jabarti frequently occurs in Italian or French publications. It is an adaptation of the El Jabarta of El Makrizi. It means Swahili or Wazumba. These people claimed to be the descendants of Persians (or Asiatics) who had intermarried with pagans prior to the Moslem era. The last sultan of the Swahili was Ahmed ben Sultan ben Hasan el Alawi, who was entitled Muini Mkuu. Shangaya, north of Lamu (circ. 20°S.), was one of the earliest settlements. Leone Vivaldi, a Venetian, is said to have crossed Africa from the west coast to Mogadisco in the eleventh century⁽²⁵⁾.

Major Pearce has dated the existing ruins of the mosque and ruins on Pemba as from the tenth to the fourteenth centuries⁽²⁶⁾. There are pillared tombs⁽²⁷⁾ at Ndagoni and Mkumbuu which are claimed to be phallic. Msuka mosque has a graffiti dated A.H. 816 (A.D. 1414) when the mosque was then in ruins apparently.

The grave of the son, Mjawli, of the infamous Mkame Mdume, a diwani, who died about the time the Portuguese arrived, is known.

* * * *

CULTURE.—The distinctive culture of the Shirazi in addition to the architectural evidence will be found briefly dealt with by Stigand, Ingrams and other writers cited by me. It covers such a wide field, including that of naval architecture, that space precludes the subject being dealt with here.

I hope to publish a short paper illustrating the types of vessels used by the ancients, of which present types may be survivals.

(k) Burton suggested that Sanje Majoma may be the Changa of King Mtata Mandelima, who expelled King Daud from Kilwa. There were ruins of a mosque, well cut gateway, *mihrab* with Persian tiles and tombs of Shirazi sheikhs.

(l) The old name for Lamu was Kiwa Odeo from Ndeo Island.

The weapons in use on the east coast of Africa during the early part of the nineteenth century form a fascinating study upon which I am now engaged. Very few, if any, appear to me to be of an original African design. Roman, Arab, Indian, Malay and Portuguese types can be recognized among those which have been manufactured by native blacksmiths in a wide belt of Africa since medieval times. I cannot trace any Egyptian or Meroitic influences in these historical documents. Copper weapons are rare. Their absence is no proof, however, that native copper was not found and worked in Africa before the art of smelting was introduced. As the supplies of native copper were exhausted the metal would become of great value and any weapons made of the metal perhaps assume a sacrosanct character in much the same way that the first iron weapons have done. In North America there seems to have been a relapse in culture from working in flint and native copper to neolithic until imported manufactured iron was forged locally to meet native requirements.

REFERENCES.

(¹) *Documents sur l'histoire et le commerce de l'Afrique Orientale*, 3 vols. Part 1, "Exposé Critique des Diverses notions," is the most important. The Kilwa Chronicle is on page 177. Stokvis republished most of Guillaín's chronologies and gives lists of the Portuguese Governors in East Africa and at Goa.

(²) *Numismatic Chronicle*, March 1936. From the context of Guillaín's works he had access in 1846-48 to native chronicles which have disappeared since. Mr Revington has presented specimens of the coins found at Mafia to the British Museum, Ashmolean Museum and the Liverpool Museum, where they can be seen. The coins are not dated. No value is indicated and the same size die is used on two sizes of discs of copper.

(³) *Journal of the Royal Asiatic Society*, xiv, No. LIV, pp. 148, *et seq.* In 1723 the Sultan of Kilwa was Ibrahim ben Yusef ben Mumadi (Muhamad) ben Auli (Ali) *vide* Strandes, *Die Portuguesenzeit von Deutsch-und-Englisch Ostafrika*, Berlin, 1899, p. 86. He was succeeded by his son, Hasan, who ruled in 1759.

(⁴) *Journ. Roy. Anthro. Inst.*, xxx, p. 275, 1900.

(⁵) In August 1505 by Almeida. In March 1529 by Nuna d'Acunha. In 1587 by Martin Alfonso de Melo Bombeiro. In 1589 by the M'zimba (cannibals). In 1631 by the local Sultan Yusef, who fled to Arabia and Madagascar. In 1660 by combined forces of Omanese and Africans, etc.

(⁶) Appendix D. Amended with genealogies by A.E.R.

(⁷) W. H. Ingrams, *Zanzibar*, p. 43.

(⁸) Masudi, *Prairies d'Or*, edn. de Maynard and de Courteille, Paris, 1861, iv, Cap. LXXVI, pp. 190-2.

(⁹) In 1840 the Moslem Sultan of Bardere attacked Brava and fined the town five hundred *piastres* for religious laxity. He suppressed dancing and tobacco and insisted upon women being veiled (Guillaín, *Relation de Voyage*, II, 38).

(¹⁰) Genealogies of some of the Somali and more northerly tribes are given by Guillaín (*Relation de Voyage*, vols. 1 and 2). It is clear from contemporary records that the Galla raids were further south at the end of the eighteenth century than in the period 1860 to date.

(¹¹) J. Walker, "Some Recent Oriental Coin Acquisitions of the British Museum" (*Numis. Chron.*, xv, 1935, p. 240). The chronology for the invasion of Oman by Hajjaj ben Yusef is that adopted by the *Encyclopædia Britannica* ("The Caliphs").

(¹²) Badger, *The Imams and Syeds of Oman*, p. 12. The list published by Miss Werner (*op. cit.*) is not complete.

(¹³) *Prairies d'Or*, Maynard and Courteille's edn., Paris, 1861, v, pp. 216, *et seq.* Hajjaj married Hind bint Asma bint Abu Bekr.

(¹⁴) Pemba, the Qanbalu of Masudi, is said to have been conquered by Moslems circ. A.D. 730 when the Moslems occupied Crete; *vide* M. Devic, *Livre de Merveilles d'Inde*, Leiden, 1883-6, pp. 174-5.

(¹⁵) When Guillain visited Marka some of the stone built ruins were attributed to the Surati (Indians). It has been stated that the Ibadi sect did not assume any local importance on the east coast of Africa until the seventeenth century.

(¹⁶) Theal, *History and Ethnology of South Africa before 1785*, vol. 1, p. 465. The miners came out from Spain circ. 1634 and examined the mines in the territories of the Monomotapa.

(¹⁷) *Illustrated London News*, 12th October, 1935. The ruined cities of Somaliland are considered to have been evacuated some time after the sixth century. Judging by the photographs published there are architectural affinities between the Somaliland ruins and those of Gedi.

(¹⁸) Yehia was a brother of Muhainad ben Abdallah ben Hasan of the Alides (the Alowi of the Swahili and Somali). He was proclaimed Caliph at Medina in 762 but was killed. Basra was captured by Ibrim but he was defeated and killed at Ba-Khamra.

(¹⁹) Cites Richd. Branner's *Forschungen in Ostafrika, Mittheilungen*, 1868; also Baron Carl Clare von der Decken, *Reisen in Ostafrika in den Jahren 1859 bis 1861*. The third volume contains Tabellarische Uebersicht der Geschichte Ostafrikas. Mr Walker cites Justus Strandes, *Die Portuguesenzeit von Deutsch-und-Englisch Ostafrika*, Berlin, 1899.

(²⁰) Miss Werner *op. cit.*, *vide* Mr Reddie.

(²¹) *Zanzibar*, vol. 1, p. 82. It may interest readers to know that cowrie-shells were exported from Zanzibar to West Africa for use as currency. At the early part of the last century a fleet of sailing vessels ran from Zanzibar to Lagos with cargoes of cowrie-shells which were collected on the east coast of Africa. They displaced the Indian variety and I suspect that some of the museum specimens of head-dresses from the Congo, etc., are made from African shells.

(²²) Arabic extract in *Journ. Roy. Asiatic Socy.* (Strong, *op. cit.*).

(²³) "The Coinage of Kilwa" (*op. cit.*). The term Alowi used by the Swahili seems to the present writer more likely to indicate descendants of Ali ben Huseyn of Kilwa than the Alides faction of the first millenium of our era.

(²⁴) See my "Mahmal of the Moslem Pilgrimage" (*Journ. Roy. Asiatic Socy.*, January 1931), and "The Utfa or Camel-litter of the Arabs" (*Journ. of African Socy.*, January 1931), and the authorities cited.

(²⁵) Ingrams, *op. cit.*, p. 85.

(²⁶) *Zanzibar, the Island Metropolis of East Africa*, London, 1920.

(²⁷) There is a tomb of this type at Khartoum. It was erected to one of the early governors about a century ago.

Appendix A

THE RULERS OF KILWA OR QUILOA.

De Barros (Asia, I, VIII, etc.).

A. Solta Hocén.

(From Xiraz, i.e. Shiraz.)

B. Alé (his son).

(Came to Quilao, i.e. Kilwa.)

1. Alé Bumalé (? Ali ben Ali).

(Ruled 40 years, no sons.)

2. Alé Busoloqueté.

(Ruled $4\frac{1}{2}$ years, son of a brother in Mafia.)

3. Daut, son of Ali.

(Ruled 4 years, driven out by Matata Madelina (Rey de Xaga) the King of Shaga or Chaga. Died in exile at Mafia.)

4. Alé Bonébaquer (Ali ben Abubekr).

(Reigned for 2 years. He was a nephew of Matata and usurped the rule of Kilwa until he was driven out.)

5. Hocén Soleiman (nephew of Daut).

(Ruled 16 years.)

(? Cousin of No. 3.)

Arabic Chronicle (Sheikh Moheddin.)

A. Hasan ibn Ali, sultan of Shiraz, migrated with six sons to Africa.

1. Ali ibn Husain ibn Ali (? Abu Malek); went to Mafia where his sons ruled later, viz. :—

Muhamad ... $2\frac{1}{2}$ years.Bashat ... $4\frac{1}{2}$ „

2. Ali ibn Bashat.

(Ruled $4\frac{1}{2}$ years.) Walker says that he ruled at first over his uncles, Suliman, Hasan and Daud (sons of Ali). It is presumed that he was deposed by his uncle (No. 3).

3. Daud ibn Ali.

(Ruled 2 years; retired to Mafia to visit the tomb of his father and whilst there abdicated in favour of his son Ali, possibly No. 6 of Barros.)

4. Khalid ibn Bakr (the Usurper).

(Appointed king by the Matamandalin of Shaga and ruled for $2\frac{1}{2}$ years until driven out by the Kilwans.)

5. Hasan ibn Suliman ibn Ali.

(Ruled 12 years. He fled to Zanzibar as the Matamandalin invaded Kilwa. The invaders appointed the amir Muhammad ibn Husain el Mundiri as ruler of Kilwa.)

Hasan ibn Ali resumed the rule and reigned at Kilwa for a further period of 14 (?) years.

NOTE.—Judging from the general practice of the compilers of these native chronicles it is probable that the entire reign of Hasan ibn Suliman (including his exile) was sixteen years. He would have been ejected after two years, i.e. twelve is an error, and ruled for fourteen years after resuming the rule after a short interval.

De Barros—contd.

6. Alé ben Daut (nephew).
(Ruled 60 (?) years.)
? cousin.
7. Alé, nephew of No. 5 (?).
(He was deposed and cast into a well as a bad ruler. The tradition is that the well was near the old mosque.)
8. Hacen ben Daut (brother).
(Ruled 24 years.)
9. Soleiman (relationship unknown).
(He was of the blood royal and ruled 2 years. He was beheaded by the Kilwans as a tyrant.)
10. Daut (son).
(Ruled 40 years, he was ex-governor of Sofala and developed the trade there.)
11. Soleiman Hacen (son).
(Ruled 18 years, built a fort at Kilwa and other buildings of stone. He conquered most of the coast and occupied Pemba, Mafia and Zanzibar.)
12. Daut (son).
(Ruled 2 years.)
13. Talut (brother).
(Ruled one year.)
14. Hacen (brother).
(Reigned 25 years, no legal issue.)
15. Halé Bonij (Ali ben ?) a brother.
(Reigned 10 years. The fortunate member of the dynasty.)
16. Boné Soleiman (ben Suliman) nephew.
(Ruled 40 years.)
Possibly a contemporary of Hulagu. A bronze coin struck by Hulagu dated A.D. 1260 or A.H. 658 was found at Mafia Island.
17. Alé Daut.
(Son of No. 12, *vide* Walker. Ruled 14 years.)
18. Hacen (grandson).
(Ruled 18 years. He was an excellent horseman and struck

Arabic Chronicle—contd.

No mention.

There is some error here. It is most probable that the events and reign of No. 7 are correctly stated.

Walker considers Nos. 6 and 7 as identical. This is possible, but it is an unusual form of error, i.e. repeating the name with a variant (6 or 60) of the period ruled.

Hasan ibn Daud.

(Ruled 70 years (?).) The period of rule is not credible.

No mention.

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Hasan ibn Talut (Saul or Goliath).
(Ruled 18 years. Seized Kilwa by force. The name Talut and the fact

De Barros—contd.

coins dated by Walker as circ.
A.H. 684-702 or A.D. 1285-1302.)

19. Soleiman (son).
(Ruled 14 years. Killed outside Kilwa mosque. Struck coins dated by Walker A.D. 1302-1316.)
20. Daut (son).
(Ruled, (a) as regent for his brother when on the pilgrimage for two years.)
21. Hacen (elder brother).
(Ruled 24 years.)
Ruling when Ibn Batuta visited Kilwa in 1332. Walker fixed date of reign of Hasan as 1318-1341.
NOTE.—Bronze coins of Muhammad Khan (1336-7) found at Mafia.
22. No. 20 again as sultan.
(Ruled 24 years.) Struck coins dated A.D. 1341-1364 (second rule) by Walker.
23. Soleiman (son).
(Ruled 20 days.) He was deposed and superseded by his uncle Hasan.
24. Hacen (uncle).
(Ruled 6½ years.)
25. Taluf (Talut) (nephew).
(Ruled one year.)
26. Soleiman (brother).
(Ruled 2 years and 4 months. Deposed and superseded by his uncle Suliman.)
27. Soleiman (uncle).
(Ruled 24 years, 4 months and 20 days.)
28. Hacen (son).
(Ruled 24 years.)
29. Mahamed Ladil (brother).
(Ruled 9 years.)

Arabic Chronicle—contd.

that Hasan was a good horseman indicates exotic influences, of a non-African Moslem type.)

No mention.

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Hasan ibn Sulaiman ibn Hasan ibn Talut. (Ruled 14 years. Went to Mecca and Aden. Was known as Abu'l Mawahib.)

Daud ibn Sulaiman
(Ruled 24 days(?), regent for his brother Hasan when in Arabia. A pious man.)

No mention.

Husain ibn Suliman.
(Ruled 6½ years and died in a *jihad* with the infidels on the mainland.)

Talut ibn Husain.
(Ruled 2 years, 4 months and 14 days. Died *en route* to Mecca.)

No mention.
Coins found, struck by him.

No mention.

Husain ibn Suliman.
(Ruled 23 years, made the pilgrimage to Mecca.)

Muhamad ibn Suliman.
(Ruled 22 years, known as Al Malek al Adil, his wazir was Suliman and the amir was Muhamad ibn Suliman.)

De Barros—contd.

30. Soleiman (son).
(Ruled 22 years, no legal issue.)

31. Ismael ben Hacc (uncle).
(Ruled 14 years.)

32. The governor, i.e. amir, made sultan for one year.

33. The governor, made sultan for one year.

34. Mahum (a poor man of royal blood). (Ruled for one year.)

35. Haccé (son of Ismael).
(Ruled 10 years.)

36. Zayde (son).
(Ruled 10 years.)

NOTE.—Coins in the name of Daud ibn Al Hasan have been found. As a temporary measure they have been allocated to a brother of No. 39 and dated circ. 1460. There is no ruler of this name in the lists.

37. The governor, becomes sultan for one year. (His brother, the amir Mannudé, sent his three sons to posts in parts of the empire of Kilwa. Yusef, the governor of Sofala when the Portuguese arrived, was one of these sons.

38. Habedala (Abdallah) (brother of Said). (Ruled $1\frac{1}{2}$ years.)

39. Alé (his brother).
(Ruled $1\frac{1}{2}$ years.)

NOTE.—Coins were struck by this ruler and are dated c. 1480-1482 by Walker.

Arabic Chronicle—contd.

Sulaiman ibn Muhammad.
(Length of reign unknown.) Mosque that was in ruins in time of No. 21 rebuilt at a cost of one thousand *mithkals* of gold. Amir Muhammad attempted to seize the throne.

Ismael ibn Husain.
(Ruled 13 years. His wazir was Suliman and the amir Muhammad ibn Suliman. Said ibn Hasan (No. 36) revolted and sought aid from Hasan ibn Abubekr, sultan of Zanzibar. He was unsuccessful but was pardoned.)

Amir Muhammad, made sultan for one year. Wazirat (a) Suliman and (b) Said (No. 36); amir was Suliman ibn Muhammad (No. 37).

No mention. Possibly renewal of office.

Ahmed ibn Suliman.
(Ruled for one year and abdicated through poverty; wazir, Said (No. 36), and amir, Suliman ibn Muhammad.)

Hasan ibn Ismail.
(Ruled 10 years; wazir, Said (No. 36), and amir, Suliman (No. 37).)

Said ibn Hasan.
(During the reign of Said, Masud er Rasuli (who had been expelled from Aden by Ali ben Tahir c. 1454) arrived at Kilwa.)

The amir Suliman ibn Muhammad became sultan for $1\frac{1}{2}$ years. His brother Muhammad was amir.

Abdallah ibn Hasan.
(Ruled $1\frac{1}{2}$ years; wazir was Hasan ibn Suliman and the amir Muhammad Kiwab.)

Ali ibn Hasan.
(Ruled $1\frac{1}{2}$ years, wazir was Hasan ibn Suliman and the amir Muhammad Kiwab.)

De Barros—contd.

40. Hací (son of the tyrannical governor, No. 37). (Length of rule not stated.)

NOTE.—Coins struck dated by Walker, first reign 1482 and second reign 1448-1493. For details of types, etc., see *Num. Chron.*, fifth series, xvi, p. 30, and plate IX.

41. Xubo (of the blood royal).
(Ruled 1 year.)

42. Hacen (second reign of 5 years).

NOTE.—Coins, see *ante*.

43. Habraemo (son of Solta Mamudé).
(Ruled 2 years, but was deposed.)

Interregnum during which the Amīr Muhamad ruled.

44. Alfudail (nephew).
(Short reign.)

NOTE.—This sultan was murdered by the Amīr Ibrim circ. 1500.

45. Mir Habraemo (succeeded Alfudail but not called king (? sultan). Became the vassal of Portugal in 1502 but was deposed by Almeida in 1505.

46. Mahamed Anconij.
(Crowned by Don Francisco d'Almeida in 1505. He was murdered by a local king of Mafia at the instigation of Ibrim (No. 45), in 1506.)

47. Hocem (Agi) (son of No. 47).
He usurped the rule and was deposed by the Portuguese.

48. Micanté.
(Appointed by the Portuguese by whom he had been recognized as the successor of No. 46 at the coronation ceremony. He was deposed.)

49. Habraemo (? cousin of No. 48).
(Reinstated as ruler (and sultan) by the Portuguese circ. 1507.)

50.

Continuity of narrative and list ends here. Other rulers mentioned by later writers will be found in the Historical Summary.

Arabic Chronicle—contd.

Hasan ibn Suliman (el Amīr).
(Amīr was Muhamad Kiwab and wazīr Muhamad.)

Sabhat. (Ruled 1 year.)

(Walker gives as a son of Muhamad-al-Adil (No. 29) and a brother of Suliman (No. 30).)

Hasan ibn Suliman (No. 40). He was reinstated by the amīr Muhamad who deposed him again.

Ibrim ibn Al-Malik-al-Adil.

(Ruled 5 years, Hasan tried to regain rule, civil war.)

Muhamad ruled.

Al-Fudail (Al Fadil).

(Began to rule A.H. 901 or A.D. 1495-6. The ex-sultan Hasan was driven out as an exile, to Kilwa Kivinje (?). The amīr Muhamad died and his nephew Ibrim, a son of Sultan Suliman (No. 37), succeeded him.)

Amīr Ibrim.

In A.H. 906 or A.D. 1506 Don Pedro d'Alvarez arrived at Kilwa. Next year Don Joao de Nova arrived. In 1502 Don Vasco di Gama called.

Identical with Muhamad ibn Rukn-ed-Din-ed-Dabuli who was evidently a son of an Indian merchant. Ankoni (possibly the mother's name) was one of the richest and chief men of Kilwa but not of royal blood.

Haji Hasan ibn Muhamad Ankoni.

Muhamad Mikat.

Walker gives him as a son of the amīr Kiwab. He is generally described as the son of Al Fadil by a slave. He was dethroned and fled to the Querimba Isles, where he died.

Ibrim restored.

Said (brother of Ibrim, No. 49).

(Vide Walker's translation, etc.)

NOTE ON KILWA HISTORY.

1507. The fort which had been built in 1505 was destroyed by the Portuguese under orders from King Manuel. Pereira left for Socotra. The deposed ruler, Ibrim, reoccupied Kilwa where he ruled until his death (during the reign of King Manuel, prior to 1521).
1528. Nunho da Cunha reduced Mombasa. He fixed the coastal headquarters at Kilwa, Sofala and Mozambique, and left on the 4th April, 1529, for India. Kilwa and Melinde rulers were related by marriage at that time. The Mougno Muhamad, a son of the late King Wagerage of Melinde, was the son of a slave and he declined the rule of Mombasa in favour of his brother Abubekr who was a descendant of the Kilwa sultans. This Abubekr lost a hand in the attack in 1529 which ended in the surrender of Mombasa to the Portuguese.
1570. Vasco Fernandes Homem and Francisco Barretto arrived at Kilwa. (*Vide Dr Paiva e Pona, Proceedings Lisbon Geological Society.*)
1588. Kilwa was betrayed to the Mzimbe cannibals who destroyed the town and devoured many of the people.
1596. Francisco di Gama re-established Portuguese rule.
1635. Francisco de Cabreira, the captain of Mombasa, is said to have restored the lost towns to Portugal but Kilwa is not mentioned in his inscription. Mafia then subject to Kilwa. The fort at Mafia appears in Rezende's *Traite*, etc.
1696. Immediately the Portuguese fleet left, the Kilwans repudiated Portugal and declared for the Imam.
1698. The Imam of Muscat occupied Zanzibar and Kilwa and ejected the Portuguese.
1728. Kilwa surrendered to Don Luis Melo de Sampaio.
1813. (A.H. 1231). Date of inscription on fort on Kilwa Island, the text of which is not published (Burton, *op. cit.*, II, 356).
1857. Local Wali (at Kivinjiya) of Kilwa, *vide* Burton, was Saif ben Ali.
1890. Germany purchased Mafia Island from the Sultan Syed Ali ben Saad for four millions of marks.

Miss Werner's List—contd.

	Years ruled
23. Bwana Mkuu	4
24. Muhamad ben Abubekr ...	33
25. Ahmed ben Sheikh	6
26. Fumo Luti (II)	6
27. Bwana Sheikh	1
28. Bwana Sheikh ben Fumo Luti	1
29. Ahmed... ..	12
30. Waziri	1
31. Fumo Bakari ben Sheikh ...	12
32. Ahmed Simba (acceded in 1845 or A.H. 1262).	

Captain Stigand's List—contd.

	Years ruled
v. Fumo Luti	3
w. Fumo Madi (brother, vide Guillaïn, of v)	34
x. Ahmed ben Sheikh	5
y. Fumo Luti Kipinga	4
z. Sheikh ben Fumo Madi ...	3
aa. Bwana Waziri	3
bb. Bwana Sheikh, again ...	1
cc. Bwana Waziri, again ...	5
dd. Fumo Bakri ben Sheikh ...	14
ee. Bwana Madi ben Sheikh (acceded in 1259).	

NOTES.—(a) The years are lunar and not calendar. The chronology published is not accurate so it is omitted from these lists.

(b) Stigand (*Land of Zinj*, p. 163) gives the date on the tomb of Sultan Muhamad ben Sultan Abubekr ben Sultan Mkuu as A.H. 1024 or A.D. 1624.

(c) From Miss Werner's list the ruler when the Portuguese arrived was Abubekr ben Muhamad (circ. 1494-1538), but Stigand gives Muhamad ben Bwana Mkuu.

(d) The term "Bwana Mkuu" seems to mean "heir apparent" and "Bwana Tamu" the "heir presumptive." All the members of the royal family were called "Bwana," or "Mwana." The term "sheikh" is a title and not a proper name.

(e) Ahmed-es-Simba was the grandfather of Muhamad ben Fumo Omar, or more commonly known as Bwana Kitini, the owner of the undisclosed chronicle. Waziri of course means vizier and the Vizier Omar of Khadijah appears in some records as the Sultan Omari.

(f) The third list published by Miss Werner is so hopelessly inaccurate that I have not reproduced it. None of the lists published by her agrees with the dates she gives of the deposition of the ruler by Bwana Bakri and there is no date or name reconcilable with the tomb of Sultan Muhamad ben Sultan Abubekr (died A.H. 1024).

(g) It seems clear that there were two khadijahs. The first one was the daughter of Bwana Mkuu Muhamad Abubekr Omar whose sons, Bwana Abubekr and Bwana Madi, and the ruler Abubekr Mkuu Abubekr Mkuu Muhamad ben Omar (No. 17) were killed by Ahmed Abubekr Muhamad (No. 18) who was deposed as no rain fell. The husband of Khadija was shipped to Goa with some forty others and their son was called Imam el Hadi ben Bwana Mkuu. He is said to have ruled as Abubekr ben Bwana Mkuu (Bwana Tamu Mtoto) and to have been killed by his people who elected Khadija bint Mwana Darini Mkuu (Khadija I) to succeed him in 1762. This date is the same in both records.

THE SECOND COLONIZATION OF PATE.

	Years ruled
1. Suliman ben Suliman ben Muthafar en Babhani, A.H. 600-625 or A.D. 1203-1228.	25
Married daughter of Ishak, last king of Dynasty I. His brothers Ali and Othman did not rule at Paté.	
2. Muhamad (son of No. 1), mother/daughter of Ishak, A.H. 625-650 or A.D. 1228-1252. Aged 20 at accession.	24
Stigand gives three sons, Ahmed, Suliman and Ali. He destroyed Shanga. Siu became a place of refuge.	

3. Ahmed (brother of No. 2), aged 17 in 625 or 42 at accession, A.H. 650-670 or A.D. 1228-1271.

Contemporary of Rukn ed Din Mahmud Ahmed el Kousi of Ormuz (A.D. 1245-1277). Stigand states that he was the son of No. 2 and that his brothers, Suliman and Ali, revolted against him. By the advice of Ali Othman Saif Muthafar, an old man who had been with his father, he made peace (? by arresting them).

4. Ahmed ben Muhamad ben Suliman (nephew of No. 3) ... 20

Stigand (as No. 3) states that he had two sons, Omar and Muhamad, A.H. 670-690 or A.D. 1271-1291. He was a contemporary of Melik Omar ben Nabhan of Oman whose territory was invaded by Fakr ed Din Ahmed ed Daya of Shiraz in A.H. 674 (A.D. 1275-6), *vide* Guillain (*op. cit.*, p. 483). The Shirazis were expelled from Oman in A.H. 674 by Hilal ben Omar ben Nabhan.

5. Muhamad Ahmed Muhamad Suliman (son of No. 4), A.H. 690-732 or A.D. 1291-1331. Aged 40 at accession and would be aged 80 at death. 40

He conquered Faza and Manda. The latter town was destroyed and the fugitives fled to Shela and Melindé. Those at Shela joined Lamu. He is said to have exacted a tribute of a slave and twenty dollars from every chief man of each tribe. He was the first to instal a governor at Mogadisco. It is notable that Ibn Batuta described Sheikh Abubekr ben Omar el M'thafar as of Berbera origin and not Persian. The last Muthafar ruler of Mogadisco was Fake ed Din about the end of the fourteenth century as in 1402 the town was deserted. In 1499 it was a prosperous walled city, and sufficiently strong to deter both Vasco di Gama and Da Cunha (in 1507) from attacking it.

6. Omar (son of No. 5). One account states only son but Stigand mentions a brother, Ahmed.

He conquered Lamu and the Swahili towns (on the mainland) Ozi, Melindé, Kiwayu, Kitao, Miya, Imidhi, Watamu and reached Kirimba (? coast opposite Querimba islands). The *yumbe* or royal palace at Paté (in ruins) is by tradition attributed to Sultan Omar. He did not rule over Zanzibar, and Kirimba is considered as the frontier at that time between Paté and Kilwa. This sultan is said to have married a daughter of Bwana Shakwa, the King of Faza. There is a Haji Mwetha prominent in Faza affairs after Omar's marriage when that town was destroyed. The ruler of Kitao is said to have been a queen (Mwana Inali) and Liongo was the ruler of the territory between Shaka and Komwana. The younger son, Ahmed, is said to have been born at Magogoni and he conquered Ozi whilst his father was attacking Melindé. A third son, Abubekr, is also mentioned.

7. Muhamad ben Omar (son of No. 6), A.H. 749-797 or A.D. 1348-1394. 46

There are considerable inaccuracies and discrepancies in the text. His sons are said to have been Bwana Tamu, Ahmed, Abubekr and Omar. The reign is principally remarkable as giving the period at which vessels were constructed on the East Coast of sufficient size to make the voyage to India.

8. Ahmed ben Omar (brother of No. 7), A.H. 797-840 or A.D. 1394-1436. 43

There is something radically wrong here as Ahmed must have been over a hundred years of age if he captured Ozi during his father's

lifetime and ruled for forty-three years after his brother's death. There is some lacuna here such as Mr Walker has found in the Kilwa chronicle. I am inclined to think that a definite change of the dynasty took place.

9. Abubekr Muhamad ben Omar (son of No. 7), A.H. 840-875 or A.D. 1436-1470.

The chronology is not accurate and the history refers to a later ruler.

10. Muhamad ben Abubekr (elder son of No. 9), A.H. 875-900 or A.D. 1470-1494.

Miss Werner says that there is some inaccuracy here. There is no mention in this chronicle of a king who invited the Portuguese into his territory in 1531 and was deposed by Bwana Bakari and resumed the rule in 1537. *Vasco di Gama left Melindé for Goa on his first voyage in 1498* so that the allusions in both the versions of Stigand and Miss Werner to events in which the Portuguese are mentioned are fictions.

11. Abubekr ben Muhamad (son of No. 10), A.H. 900-945 or A.D. 1494-1538. He is said to have had a brother, Bwana Mkuu.

The first of a series of inaccuracies commenced with No. 7 where it will be noticed the name Bwana Tamu was introduced, and mention of the Portuguese was made. Abubekr ben Muhamad is generally considered to have been ruling when the Portuguese arrived on the coast in 1498 but I cannot trace any definite evidence to substantiate the statement. It was not until 1507 that da Cunha visited the Lamu archipelago. He seems to have arrived from Goa and although some resistance was shown he obtained the surrender of the islands and established a customs, so that the tribute could be collected I presume. Abubekr left two sons, Ahmed and Muhamad.

12. Bwana Mkuu Muhamad ben Abubekr (both of No. 11).

This is a most improbable succession in view of the fact that the previous ruler had two sons. It is very obvious that the chronology has been arranged in each list. I suggest that the list might read thus:—

- (a) Ahmed ben Abubekr (son of No. 11) acceded circ. 1531 or A.H. 938 and was deposed by Bwana Bakari, as stated by Miss Werner.

- (b) Probably Bwana Bakari (an uncle). List of Mshahame ben Kombo gives A.H. 920-938 (1514-1531); and then No. 12 or his son.

12. Bwana Mkuu ben Muhamad ben Abubekr ben Muhamad, A.H. 945-973 or A.D. 1538-1565. 27

NOTE.—There is a notable absence of any historical allusions to Lamu or Paté between 1507 and 1570.

13. Muhamad ben Abubekr (son of No. 11), A.H. 973-1002 or A.D. 1565-1593.

NOTE.—The stories of the discovery of the silver mine and the royal brass horn are curious. It is quite possible that the white metal was not silver. Malay weapons were notable for the whiteness of the steel and sacred horns and drums seem to have been part of the royal regalia.

There is great scope for anthropological research during the period prior to the arrival of the Portuguese. Mr Hornell's paper should be studied by all who may be interested in native customs, etc., on the east coast. The bibliography cited is invaluable. Swahili is so generic in its application that it probably embraces as many clans as the term Bantu has as nations or tribes.

Said to have made a treaty with the Portuguese and left a son, Abubekr, who succeeded him. Stigand states that Muhamad ben Abubekr (A.H. 1017-1018 or A.D. 1608-1609) was deposed by the Portuguese and replaced by Abubekr ben Bwana Mkuu. This term Bwana Mkuu seems to have been equivalent to that of "Crown Prince" originally.

In 1570 Francisco Barretto and Vasco Fernandes visited Paté. The people were defiant but paid a ransom of five thousand pounds to save the places from destruction.

In 1586 Ali Bey, the corsair, arrived from the Red Sea. He seized a Portuguese ship at Louiviza. The commander, Roque de Brito, and some of the crew fled to Lamu. The local ruler there handed them over to Ali Bey who enslaved them. De Brito died in Constantinople. Lamu accepted Turkish sovereignty. Martin Alfonso de Melo Bombeiro in 1587 arrived with a fleet.

In 1589 Thomas de Souza Continha arrived at Lamu and beheaded the sheikh, who was a brother of the ruler of Kilifi (Guillain, *op. cit.*, pp. 396-401). The sheikhs of Paté, Siu and Faza, were forced to assist at the executions, and an indemnity was placed on the islands. Mandra Island was sacked and the Sheikh of Siu imprisoned.

There is a tomb at Paté with an epitaph to Sultan Muhammadi ben Sultan Abubakr ben Sultan Bwana Mkuu Nabahan al Batawi which is dated the year A.H. 1024 or A.D. 1616. None of the three lists give the name of any ruler who ceased to reign at the date. He was probably deposed and died later.

14. Abubekr ben Bwana Mkuu ben Muhamad ben Abubekr (son of No. 12, and uncle of the heir Abubekr ben Muhamad), A.H. 1002-1041 or A.D. 1593-1631.

In 1631 the massacre of the Portuguese by the renegade Sultan Yusef took place.

In 1632 (2nd January) a fleet from Goa arrived at Faza under Francesci di Moura. One ship returned to Paté from the south and wintered there under the orders of Pedro Rodriquez Botelho, after the seige of Mombasa had been abandoned and before its fall in 1635, to Francesco de Cabreira. In 1635 Paté paid tribute after the walls of Siu had been destroyed by Cabreira and the rebellious chiefs executed. Many of the people fled to Madagascar where they joined the Sultan Yusef of Mombasa. Yusef was attacked unsuccessfully by the Portuguese in 1635 (May).

Stigand states that Sultan Abubekr made terms with the Portuguese and was made ruler of the island but his people deposed him in A.H. 1040 and appointed his nephew. He left two sons, Bwana Mkuu and Abubekr.

In 1615 the Yaarebi tribal ruler, Malek ben Abu'l Arab of Rustuk, died. The first Yaarebi imam was Nasr ben Murshid (A.D. 1624-1649). Father Lobo arrived at Paté in 1624. Stigand states that the only Christian church was at Siu.

15. Abubekr ben Muhamad ben Abubekr, A.H. 1041-1061 or A.D. 1631-1650.

He attacked the Europeans who bombarded Paté before it was conquered. This refers to the attack by Francesco X. de Cabreira (*ante*), and followed the attack by the Imam Nasr ben Murshid in 1633 on the town of Sohar (Oman) occupied by the Portuguese then. The Portuguese attacked Paté before Mombasa was relieved. This sultan had two sons, Abubekr and Ahmed.

16. Bwana Mkuu ben Muhamad ben Abubekr, A.H. 1061-1100 or A.D. 1650-1688.

He made a treaty with the Portuguese and lived part of the year at Lamu where he had a wife. The Wafamau revolted against him and he destroyed Siu and brought survivors to Paté. The headman fled to Dondo, the Portuguese headquarters, and demanded the release of the Siu people. The Portuguese kidnapped the sultan's cousin, Bwana Mkuu, with a number of his adherents and took them to Goa where they died. He drove the Portuguese out of his territory. There is another story of kidnapping at the instance of a Sultan Ahmed at an earlier period. Guillain states that when the Imam Sultan ben Saif ben Malek (died 1658) ruled in Oman during 1649 the ruler of Paté was Bwana or Fumo Shah Ali. His successor, Bwana Tamu, was the son of a Nabhani (one of the sherifs buried at Lamu) governor of Paté who married a princess from Kilwa. This sultan had two sons, Bwana Abubekr and Bwana Madi, and a daughter, Mwana Khadija (Mwana Darini Bwana Mkuu Abubekr).

Mombasa fell into the hands of the Swahili in 1660 after a long seige but in 1661 a Portuguese fleet arrived and resumed possession (*vide* Guillain). Bombay was sacked by the Omanese in 1663 and Siu suffered a similar fate in 1670.

17. Abubekr ben Bwana Mkuu ben Abubekr, A.H. 1100-1103 or A.D. 1688-1691.

He was killed after a short reign by Ahmed, the brother of Bwana Mkuu, who had been kidnapped. Stigand's story is that Sultan Muhamad (A.H. 1040-1060), who replaced his uncle, married his son, Bwana Mkuu, to a daughter (? Khadija) of the deposed Sultan Abubekr who resumed the rule and then imprisoned Muhamad. Sultan Abubekr arranged the kidnapping of Bwana Mkuu. Later Sultan Abubekr and his brother, Bwana Madi, were killed by the people and Bwana Mkuu's son, Bwana Tamu, succeeded as Abubekr. The other story is applied to No. 18.

18. Ahmed ben Abubekr ben Muhamad ben Abubekr Muhamad Omar, A.H. 1103-1111 or A.D. 1691-1700.

He attacked the Portuguese and drove them out. The husband of Mwana Darini Bwana Mkuu Abubekr went to Goa (in the time of Sultan Ahmed, see *ante*), and her two brothers, Abubekr and Bwana Madi, were killed by Sultan Ahmed ben Abubekr. A circumcision feast for her son Bwana Tamu (the younger), by the kidnapped man, also known as El Inam l'Hadi who ruled later as Abubekr was arranged. Sultan Ahmed tried to prevent her using the royal brass horn of Siu. Mweniji Bayagi Mkuu (a sherif of the l'Aili clan (?) Alides) made another (now in the Zanzibar Museum). The ancient brass horn was lost at sea later.

In 1696 a Portuguese fleet called at Mombasa, which was occupied in 1698 by the Imam Saif ben Sultan who placed a governor there. A general massacre of the Portuguese then occurred on the coast. It is notable that the local chronicle states that Sultan Ahmed abdicated as there had been no rain for seven years. Father Lobo travelled to Juba and described the people of the district as Gallas.

19. Abubekr (Bwana Tamu Mkuu) ben Bwana Mutiti ben Abubekr, A.H. 1111-1152 or A.D. 1700-1739.

Guillain states that a Sultan Bwana Tamu (grandson of Shah

Ali) ceded Paté to the Portuguese in 1728 before the Liwali surrendered to the fleet under Luiz de Mello Sampaio on the 12th March of that year. The Portuguese were ejected on a Sunday, the 29th November, and the local chronicle states that Sultan Bwana Tamu Mkuu sent a force which was included in the attackers on the fort. Guillain states that Bwana Tamu (of 1728) was succeeded by his son, Fumo Bakri (Abubekr), who ruled Lamu, Mandra, Pemba and the littoral between Kilifi and the Juba river.

Ingrams states that the Imain Saif ben Sultan placed a governor at Zanzibar in 1710. In 1727 Hasan, king of Zanzibar, fled to Paté where the people placed themselves under *Portuguese protection*. After the surrender of Mombasa to the Portuguese, Musa ben Hasan went to Zanzibar by their orders. Sultan Abubekr (No. 19) is said to have gone to Arabia and made an agreement there to expel the Portuguese from Mombasa. His son did not succeed him.

Stigand says that Sultan Bwana Mkuu ben Sultan Abubekr married a Lamu woman and built a mosque there as his mother was a native of Lamu. He divided the rule of Pemba with the governor of Zanzibar (? Mazrui).

20. Ahmed ben Abubekr ben Muhamad ben Abubekr Omar, A.H. 1152-1160 or A.D. 1739-1747. 20

He left a son, Bwana Gongo, who did not succeed him. In 1746 the Busaidi Imam Ahmed ben Said appointed Abdallah ben Djad as governor of Zanzibar. Guillain states that when the Busaidi Imam was elected in 1744 the ruler of Paté was Fumo Bakri ben Bwana Tamu, and the people of Paté killed all the sympathizers with the imam, including the Nabhani, except the children. Fumo Bakri was replaced by Bwana Mkuu (surnamed Melani-Gniombe) who was replaced by a daughter of Bwana Tamu named Mwana Tamu and later by a chief, Fumo Omar, who maintained Paté independent of Oman.

21. Bwana Tamu Mtoto, also called Imam l'Hadi but real name Abubekr ben Bwana Mkuu ben Abubekr Muhamad (?), A.H. 1160-1176 or A.D. 1747-1762. Killed by his people. 15

There is nothing in the local chronicles beyond that statement, and that the Yaarebi imam attacked Paté but could not subdue it. Lamu revolted against Paté and the two towns fought. Guillain states that Pemba revolted against the vizier (Omar) of Mwana Mimi (Khadija ?), and Ali el Mazrui appointed his uncle, Khamis ben Ali, as the governor there. Paté then at the request of the M'vita attacked Mombasa and burnt Kilindini. About 1760 Masud ben Nasr el Mazrui sent a force under Ahmed ben Ahmed to support Fumo Luti against the Vizier Omar who had been deposed. The ex-vizier was imprisoned at Mombasa for five years and then returned to Paté where he was assassinated.

22. Mwana Khadija (the Mwana Mimi) alluded to previously. ? A.H. 1176-1187 or A.D. 1762-1773. 11

Guillain states, circ. 1755, the Vizier Fumo Omar wanted to marry the ruler Mwana Mimi and was sent to attack Juba on the question of the sovereignty of that territory. In his absence Fumo Luti, a younger brother of the queen, acted as vizier but refused to give up office to Omar who was imprisoned at Mombasa.

23. Bwana Mkuu ibn Bwana Sheikh ibn Bwana Tamu Mkuu, A.H. 1187-1191 or A.D. 1773-1777. He was murdered in the palace.

This omits the first rule of Fumo Luti who was nominated by the Mazrui on condition that he recognized their sovereignty over Paté. He did so prior to 1773 and became an ally against the Yaarebi. Abdallah ben Masud el Bouhoury was then placed at Paté as the Mazrui representative. He was replaced by Khalif ben Nasr. Fumo Luti was killed at Paté in A.H. 1188. In 1190 (A.H.) Paté accepted the Yaarebi imam's sovereignty.

24. Bwana Fumo Madi or Muhammad ben Abubekr Bwana Mkuu, A.H. 1191-1224 or A.D. 1777-1809.

33

His people revolted against him and he defeated them. He executed forty men of high rank (including two brothers) and there was peace.

Guillain states that in 1773 Masud ben Nasr died and Abdallah ben Abdallah succeeded at Mombasa. In 1774 Fumo Madi succeeded at Paté. Badi Suliman was murdered at Paté and it became independent of Mombasa.

25. Ahmed ben Sheikh ben Fumo Luti ben Sheikh ben Bwana Tamu, A.H. 1224-1230 or A.D. 1809-1814.

6

With forces from Mombasa he attacked Lamu and defeated them. The people of Lamu sent an envoy to the Imam Said ben Sultan ben Ahmed and placed themselves under his protection in A.H. 1228 or A.D. 1813. The kingdom of Paté consisted of Paté only. Fumo Luti Kipunga, a son of Bwana Fumo Madi, attacked the Sultan Ahmed who died of disease (wounds).

Guillain gives the date of Fumo Madi's death as the 28th January, 1807, and that Fumo Luti ben Fumo Luti attempted to take the throne but was defeated and taken prisoner to Mombasa. He ruled after No. 25. A deposed Sultan Bwana Mkuu was seen by Captain Owen in 1817.

26. Fumo Luti (Kipunga), son of Bwana Fumo Madi, A.H. 1230-1236 or A.D. 1814-1820.

After an abortive attack on Shela (Lamu), Mubarak of Mombasa agreed to reside at Paté. The local chronicle states that Sheikh Mataka ben Mubarak was a vassal sheikh of Siu under Paté.

Appendix C

A SELECTED CHRONOLOGY OF SOME OF THE PRINCIPAL EVENTS
IN THE HISTORY OF EAST AFRICA

(UNTIL THE NINETEENTH CENTURY).

FIRST CENTURY. Trade between East Africa and Mocha (Muca) described in the "Periplus of the Erythrean Sea." Dioscuros sailed south on the African coast to a point assumed to be the Rovuma.

SECOND CENTURY. A Roman embassy reached China. Great maritime trade with the East and Rome via the Red Sea, etc.

THIRD CENTURY. Roman embassy to China. Last recorded king of Saba and Raydan. Decline of the Roman eastern maritime trade.

FOURTH CENTURY. Axumite dynasty divided. Sapor of Persia invaded Arabia. Control of the Red Sea trade passed from Roman hands. Ezana of Axum invaded Somaliland and Afan. Christianity replaced paganism in Axum and territories under its influence.

FIFTH CENTURY. Philostorgius described Somaliland as inhabited by Syrians. King Mogallana of Ceylon founded a war navy.

SIXTH CENTURY. Wasin Island said to have been visited by the bishops of Socotra (*Journal of the Royal Anthropological Institute*, xxx, 284). The Jats from the Indus occupied the Bahrein islands. The Axumites repulsed from Mecca (A.D. 570). The Persians occupied eastern and southern Arabia. A viceroy administered the territories with local princes or chiefs.

A.D. 622. The year "al Hejira" or Moslem era. Muhamad fled from Mecca to Medina and assumed regal authority there.

632. Death of Muhamad. Islam accepted in southern Arabia. The Caliph Abubekr nominated the Beni Nezar (Ghafiri) as rulers of Oman. Persia invaded.

638. Caliph Omar (634-644) made treaties with the Zott (Jats), Sayabiji, and other exotic tribes and mercenaries in Mesopotamia, etc. Egypt invaded by the Arab Moslems.

655. Caliph Ali ben Abu Taleb (655-660). Revolt of Ayesha suppressed. The Dual caliphate; Basra (or Alides) and Damascus or Omayyads.

661. Persia became the Shi-ite centre of Islam after the death of the Caliph Ali, who had restored the Hinawi rulers of Oman in 644. Hasan ben Ali renounced the caliphate.

680. Huseyn defeated and killed at Kerbela.

689. First recorded Arab colonization of Moslem fugitives from El Hajjaj, the governor of Mesopotamia for the Caliph Abd-el-Melik.

697. Kharejite revolts crushed by El Hajjaj.

730. Arabs settled at Pemba. Chinese coins dated 713-742 found on Mafia Island and at Mogadisco.

759. Emosais settled at Mogadisco and southern coastal districts.

c. 800. Shaka (Mwana Antana) reputed to have been founded by fugitives from the Caliph Harun el Rashid. Coins of that ruler were found in Zanzibar.

834. The Jats (Zott) were expelled from the Euphrates Delta and some seized Socotra and became pirates.

845. Chinese coins (dated 713-742) found in *ninth century* deposits at Mogadisco. Twelfth century Chinese coins also found.

- 870-1. Basrah sacked by the black slave (Zinj) troops of the Arabs.
883. The great Zinj rebellion in Mesopotamia.
905. The Carmathians conquered the Yemen.
908. Arabs from El Hasa landed at Mogadisco and ejected the Emosoids who intermarried with local tribes. The Emosoids founded the dynasty known as "El Mudafar," in East Africa.
915. Masudi travelled on the East African coast. Ha-fun, then visited by Azdite Arabs from Oman. Masudi travelled from Qanbalu (Pemba) to Oman.
945. Reputed Chinese invasion of Pemba (HORNELL).
- c. 975. Ali ben Sultan Hasan Ali es Shirazi founded Kilwa and the Alowi dynasty of East Africa. Chinese coins dated from A.D. 845 have been found at Kilwa.
1094. The Caliph Muqtadi of Baghdad died. Melik Shah occupied Baghdad.
1107. Kizinkazi mosque (Zanzibar) founded by Abi Amram Mfaume el Hasan.
1154. Melindé iron mines mentioned by El Idrisi from hearsay.
- „ El Fellah ben Muhsin founded the Nebhanite dynasty of Oman.
1168. Traditional date of the foundation of Malayan colonies in Madagascar.
- c. 1170. Zanzibar mentioned in the Kilwa Chronicle during the reign of Sultan Hasan ben Suliman ben Ali. He is said to have established Kilwan rule as far as Sofala.
1203. The second foundation of Paté by Suliman ben Suliman ben Mudafar en Nebhani who established the Nebhani dynasty (1203-1744). The Shirazi foundation of Vumba of which the first sultan was Zumbura is said to have been contemporaneous.
1228. A vessel from the Comoro islands to Kilwa was blown by storm to Aden.
1238. Inscription on the ruined mosque at Mogadisco by Muhamad ben Abd es Shadad (possibly founder and a local ruler).
- THIRTEENTH CENTURY. Ibn Sayd described the king of Zinj as resident at Mombasa and Kilwa as "Gezira el Mend" (an Indian tribe, *vide* Guillain).
1257. Hulagu occupied Baghdad. A bronze coin of this ruler was found at Mafia (WALKER).
1331. Ibn Batuta travelled along the African coast. Sultan Abul Muzafar Hasan was ruler of Kilwa where there was a colony from the Hejaz.
1336. Two bronze coins of Muhamad Khan of that date found at Mafia (Walker).
- c. 1400. The Bantus from the interior settled south of the Zambezi.
1402. Abu'l Muhasan, the Qadi of Lamu. Zanzibar then the chief seaport on the coast.
1420. An Arab dhow from East Africa said to have rounded the Cape. An Egyptian instructor and a Circassian mameluke made swords and taught their use in Abyssinia against the Falasha.
1430. A Chinese fleet visited Mogadisco (HIRTH).
1454. Masud er Rasuli who had been ejected from Aden went to Kilwa.
1457. Planisphere of Fra Mauro showed the Cape of Devils (Good Hope) and the island of Sofala.
1485. Diego Cam took four hostages from the Congo to Portugal.
1492. The civil wars in the Congo began.

1498. Vasco di Gama (unable to make Kilwa by adverse wind) arrived at Mombasa on the 7th April (PRESTAGE). He left Melindé for India on the 30th April. Melindé and Mombasa were then at war.
1499. Vasco di Gama (homewards) bombarded Mogadisco and sunk the shipping (OSORIO). He took an ambassador from the king of Melindé to Portugal. He victualled at Zanzibar on the 27th February, *vide* Osorio.
1500. Cabral arrived at Kilwa (26th July). He had lost four ships on the voyage out. The local ruler was the Amir Ibrim who had murdered the late Sultan El Fadil, and was impersonated by Luqman ben El Malik al Fadil to Cabral. Omar, a brother of the king of Melindé, was then at Kilwa with his uncle Fotriema who had been captured on a dhow by Cabral. Yusef was governor of Sofala for Kilwa.
1501. A ship of Sancius Tovar drove ashore at Mombasa. The Portuguese abandoned the wreck but the king of Mombasa salvaged the guns by diving and mounted them in his fort. Juan di Nova visited Kilwa and Melindé.
1502. Cabral called at Kilwa homewards. Vasco di Gama called at Kilwa on the 19th July with nineteen ships from Portugal. He put Ibrim in irons and demanded a tribute of fifteen hundred gold *meticals*. Muhamad Ankoni paid a ransom (two thousand *meticals*) and this metal was used to make the gold monstrance of the Belem cathedral. The king of Melindé then was Wagerage and the ruler of Mozambique was Sherif Muhamad al Alowi who wrote to King Manuel in 1517.
On the 3rd of October Vasco di Gama burnt the pilgrim ship *Miri*, and two hundred and sixty persons on board the vessel perished.
1503. Ravasco cruised on the coast and captured shipping. He collected a hundred *meticals* as tribute at Kilwa and similar amounts elsewhere. Muni Kamé ben Muni Said, the son of the king of Terendikunde (Mafia) and a nephew of the Amir Ibrim of Kilwa, was captured and held for ransom by the Portuguese. Ravasco was attacked by a flotilla of boats at Zanzibar as he blockaded the port. The Zanzibaris were repulsed and the king's son killed. Twelve notables of Brava were seized at Mombasa and ransomed by their citizens.
1504. Saldanha arrived at Mombasa and forced a peace with Melindé. Lopes Soares (homewards) demanded tribute from Ibrim of Kilwa but it was refused. King Ahmed of Aden contemporary ruler.
1505. Almeida arrived at Kilwa (22nd July). The trading vessels under Mayer and Sprenger formed part of his fleet. The inhabitants of Kilwa (estimated variously from twelve to thirty thousand) deserted the town which was sacked by the Portuguese. Muhamad Ankoni was crowned with a golden crown (of Indian origin) by Almeida and Micante, a base-born son of El Fadil, proclaimed heir-apparent. Fort Santiago (illustrated by Strandes) was built at Kilwa and a garrison under Pedro Ferreira Fogaca placed there. Almeida arrived at Mombasa on the 3rd of August and sacked the town. He left Melindé for the Angedive islands where he received word of the murder of King Muhamad Ankoni by the king of Terendikunde. Civil war broke out in Kilwa between Haji Hasan (son of Muhamad Ankoni) and Ibrim who strove against Micante for the throne. The merchant population moved from Kilwa to Mombasa in consequence of restrictions placed upon the Sofala trade (removed December 1506). Cy de Barbuda called at Kilwa from Sofala, circ. July 1505.

- The king of Portugal prohibited the publication of East African charts.
1506. Micante (Muhamad ben El Fadl es Sultan) was appointed by the Portuguese but was deposed by Haji Hasan as a debauchee. Haji Hasan with the Bantu chief, Munha Monge, attacked Terendikunde. The town was burnt and the inhabitants deported and enslaved by the Bantus. Nuno Vaz Pereira arrived at Melindé in November as governor of the coast. The Portuguese looted a wrecked Indian ship and the officer who was responsible was sent under arrest to Goa. Haji Hasan was deposed by order of Alneida and Micante reinstated. He attacked Ibrim in revenge for his father's murder. Lionel di Coutinho and Tristan d'Acunha (governor of the coast) both called at Kilwa. Oja was sacked.
 1507. Vasco d'Abreu (governor of Sofala and Mozambique) lost off Kilwa with three vessels. D'Acunha anchored at Lamu (*en route* to Socotra) and the people agreed to pay an annual tribute of six hundred *meticuls*. Payment was made in Venetian silver, *vide* Strandes. D'Acunha burnt Brava (a walled town under a form of republican government) as no tribute paid since 1503. The Portuguese annihilated the garrison of the king of Kechen at Socotra and turned their mosque into a church for the use by the garrison and servile Jacobite natives. Mondragon, the French corsair, appeared at Mozambique. He was captured by the Portuguese in 1509 in European waters. Ibrim was appointed king of Kilwa by Pestana (Commandant).
 1508. Duarte de Lemos appointed governor of Ethiopia and Arabia (resident at Mozambique). The Portuguese defeated by the Egyptians in a naval action at Chaul.
 1509. Duarte de Lemos visited Kilwa and possibly confirmed Ibrim as the sultan after Micante had fled to the Querimba islands, where he died. De Lemos attacked Mafia and Pemba successfully. Zanzibar was sacked. The Egyptian fleet was destroyed by Albuquerque at Siu.
 1510. Goa (originally built by Arabs) occupied by Albuquerque who made it the Viceregal capital.
 1512. The Portuguese garrison evacuated Kilwa and destroyed their fort. Subsidies were paid to native chiefs to keep the trade route to the interior open.
 1514. A Papal bull was issued on the 3rd of November defining the colonial possession of Spain and Portugal.
 1515. The Portuguese formally annexed Kilwa, Mombasa and Melindé. A master of artillery was stationed at Melindé and it is believed that control over the smelting of iron there was exercised (as on the Congo) for military and trade purposes. Wagerage, king of Melindé, wrote to the king of Portugal.
 1517. The sultan of Turkey occupied Egypt and assumed the caliphate. The Red Sea ports were occupied by the Turks, and Mamelukes seized the rule of southern Arabia. They deposed Zafir II.
 1519. A Portuguese vessel with two hundred men which had been blown from the Persian Gulf to Marka reached Melindé. The shipwrecked crew of the *San Jorge d'Albuquerque* were massacred by Arabs at Zanzibar.
 1520. Portuguese mission (Alvarez and Rodrigo di Lima) to Abyssinia.
 1522. King of Zanzibar, with the factors Joao de Mata and Pedro di Castro, attacked the Querimba islands and the capital was destroyed.

1524. Inscription to Sherif Abu Bakari at Paté (dated by Stigand).
 1527. A French corsair called at Kilwa (Strandes). The crew of a French ship entered Moslem service in India.
 1528. Nuno d'Acunha (viceroi) provisioned at Zanzibar in May and arrived at Melindé in September. He had suppressed a rebellion at Mozambique.
 1529 (March). With natives from Otondo, Melindé, etc., d'Acunha attacked and destroyed Mombasa after a four months' seige. He appointed Sidi Abubekr (nephew of the king of Melindé) ruler of Mombasa but he lost a hand in the assault on the fort. This man was a descendant of the sultans of Kilwa. Melindé was garrisoned by eighty Portuguese. Kilwa, Sofala and Mozambique were made the headquarters of the Portuguese in East Africa. The Lamu archipelago was practically independent.
 1535. Axum sacked by the Moslems who subsequently overran Abyssinia.
 1538. Socotra occupied by the Turks.
 1539. Diego Botelho reached Lisbon from Goa in a boat fifteen metres by three.
 1541. Joao de Sepulveda called at Melindé and Mogadisco. Great massacre of the Portuguese in the Congo.
 1542. Joao de Souza called at Mozambique, Melindé and Mogadisco. M. A. de Souza, viceroy of Goa.
 1544. Kilimane founded. Portuguese and Bantu half-breeds called "Mozungas" (*vide* Theale).
 1545. Joao de Castro (viceroi) called at Mozambique *en route* to Goa.
 1546. Lake Nyasa (Maravi) appeared on Portuguese maps.
 1547. Francisco Barretto arrived at Kilwa (Strandes).
 1548. Massacres of the Portuguese in Madagascar. After that date all sentences of death pronounced in East Africa required the confirmation of the viceroi at Goa.
 1553. Twenty-four survivors (out of three hundred and twenty-three) from the wrecked ship *Sao Brao* reached Mozambique from the Umtata river.

NOTE.—There were numerous shipwrecks and missing ships. A large proportion of the crew were negro slaves and when these people reached the shore they generally fled to the bush and joined the local natives. The survivors who reached Portuguese settlements were generally Portuguese, Indians or Portuguese half-castes (Theale).

 1554. Ship *L'Espadarte* of Pedro de Mascarenho's squadron at Mombasa.
 1555. Francesco Barretto (viceroi) reached Mozambique from Goa in 1559 *en route* to Portugal but his ship was so unseaworthy that he had to return to Goa.
 c. 1555. The Augustines settled at Mombasa. I cannot trace any evidence of the "auto-de-fe" which was introduced into the West Indies but the missionary efforts of the priests created a political situation similar to that of Uganda three hundred years later.
 1560. Mosque at Marka built (*vide* inscription).
 1561. Don Gonzales de Silveira murdered by the Monomotapa near Zimbabwé.
 1659. Francesco Barretto arrived at Mozambique as governor of Africa. He visited Kilwa, Mafia and the coast ports. At Paté the people were defiant but paid a ransom of five thousand pounds to save their

towns from bombardment (*vide* Dr Paiva e Pona). He crushed a revolt of the negroes at Zanzibar.

1570. The Muzimbé (cannibals) from the Congo dispersed before Tete and a horde marched north.
1580. Spain annexed Portugal and Spanish domination lasted until 1640.
1581. F. de Mascarenhas succeeded F. Telles de Menezes as viceroy of Goa.
1586. Ali Bey, the corsair, arrived on the coast from Jeddah. Roque de Brito Falcao (ex-commandant of Melindé, *en route* to Goa), whose ship was disabled at Lamu, fled to Faza. There, he was handed over to Ali Bey who enslaved him with other Portuguese prisoners. De Brito Falcao died subsequently at Constantinople in slavery. With the exception of Melindé and Mozambique, the entire coast (including Brava and Juba) accepted Turkish sovereignty and protection against the Christians. As an instance of the communication across Africa at that time, a trade blanket from the Congo was identified at Manica and taken to Sofala.
1587. Martin Alfonso de Melo Bombeiro arrived at Mogadisco from Goa with nineteen ships. He restored the Portuguese rule on the coast and burnt Mombasa. The Bayake raids (1542-1587) ceased in the Congo and the Muzimbas ravaged the east coast of Africa.
1588. The Muzimbas were repulsed from Melindé by Mattheo Mendes de Vasconellos, the Portuguese commandant. The Portuguese at Pemba were massacred by the inhabitants and the diwani (loyal) fled to Melindé. Kilwa was betrayed by a Moslem to the Muzimbas. They sacked the town, carried off the young women and ate about three thousand of the people.
1589. Thos. de Souza Continhos (brother of the viceroy) left Goa with a fleet on the 20th January, and arrived on the coast in March. He reinstated the diwani of Pemba. An indemnity of four thousand *crusados* was placed on Paté and the local king was deposed. The sheikh of Siu was imprisoned and the various local rulers on the coast forced to assist at the executions of the natives. Bwana Bashiri, the king of Lamu (and brother of the sheikh of Kilifi), was executed for the betrayal of de Brito Falca. Muzimbas had invested Mombasa, and the Portuguese made a treaty with the savages under which the place was attacked by sea and land. Ali Bey was captured by the Portuguese and taken to Portugal, where he died. The Muzimbas sacked Mombasa and the inhabitants suffered a similar fate to those of Kilwa. The king of Melindé was made paramount native ruler on the coast by the Portuguese. He was chief of the Waseguyo (Mosseguios) and a descendant of Wagerage, the king, who sent an embassy to Portugal. The people of Paté claim to have conquered Melindé c. 1340 as it harboured fugitives from the Lamu archipelago towns.
1590. A ship from Lisbon to Goa was captured by the British and taken as a prize to England.
1591. Sir James Lancaster wintered at Zanzibar (left 2nd February, 1592) and visited Pemba, where there was a Portuguese factor.
1592. The king of Melindé deposed the last Shirazi ruler (Shaho ben Mshahm) of Mombasa after desperate fighting between the Mombasans and the Kilifi against Melindé (Waseguyo). Ahmed ben Hasan, a descendant of the Kilwa sultans and a relative of the king of Melindé, was made ruler of Mombasa. The carrack *Madre di*

- Dios from Goa was captured off Flores and taken to Plymouth as a prize.
1594. The Earl of Cumberland captured Nuno Velia Pereira (ex-governor of Sofala) in the carrack *La Cinque Llagas* off Fayal. The Mombasa fort was built.
1596. The viceroy, Francisco di Gama, arrived at Mombasa in December. He stayed there until February 1597. He reinstated Emmena (Amin), the previously exiled diwan of Pemba, who had been deposed again. Permission was given for the Indian princes to send a pilgrim ship annually to Mecca. Antonia Godinho d'Andrade was made commandant of the fort at Mombasa on its completion. Emmena of Pemba went to Goa in 1597.
1596. Nuno d'Acunha farmed the Mozambique and Sofala trade for nine thousand six hundred pounds per annum plus all customs dues.
1598. Rebellion in Pemba. Fiki Vane Munganante, governor (*vide* Ingrams). Portuguese settled at Lamu and Faza. Ruy Soares de Mello, commandant of Mombasa.
1602. Dutch East India Company formed.
1604. Ahmed, king of Melindé, overlord of Pemba. His son, Hasan, succeeded in 1609 (Strandes).
- c. , A princess of Faza accepted Christianity and was married to Joao de Monteiro Fonseca.
1607. Don Phillip (ex-diwan of Pemba) accepted Christianity and married Dona Anna, an orphan (Strandes). Estevan d'Ataide repulsed the Dutch from Mozambique. A fleet under J. Continho landed a hundred men at Mozambique *en route* to Goa.
1610. Manuel de Melo Pereira, commandant of Mombasa.
1614. As the result of intrigues by Muigni Naja (uncle of Ahmed), Hasan the ruler of Mombasa fled to Kilifi. He returned and was assassinated by treachery. Muigni Naja was made local ruler with Muigni Muhammad (brother of murdered Ahmed) by the Portuguese. An uncle of Ahmed was known as Don Alfonso.
1615. Yusef (son of the murdered King Hasan), then aged seven, was sent to Goa from Mombasa. He was baptised as a Christian in India.
1616. Gaspar Bocarro reached Kilwa from Tete by land after a journey of fifty-three days via Shire and Nyasa.
1617. Orders *re* custom houses issued by the king of Spain (22nd February), *vide* Strandes.
1624. Father Lobo left Goa for Paté (26th January). He travelled to Melindé and Juba.
1627. Portuguese factor on Angoxo Island murdered by natives.
1630. Yusef ben Ahmed (Don Geronimo Chingoulia) returned from Goa and was installed as king of Mombasa, on the 23rd August. Pedro Leytan de Gamboa, commandant of the fort.
1631. Yusef was discovered praying at his father's tomb and feared denouncement to the inquisition as a renegade. He killed Gamboa and a general massacre of the Portuguese took place. The Christian churches were destroyed. The sheikhs of Tanga, Mtangata and Motone joined Yusef. The commandant at Paté sent a messenger to Goa who reached there in October with news of the rebellion. In December Pedro Rodriques Botelho and Andre Vasconcellos arrived at Paté and blockaded the coast.
1632. Miguel da Noronha (son of Count Linhares, the viceroy) and Francesco de Moura arrived at Faza on the 2nd of January and at Mombasa

on the 10th. Botelho and Vasconcellos, after visiting Zanzibar, had abandoned their ships. Yusef embarked his artillery, family and adherents on these ships and sailed for Arabia. The town of Mombasa was destroyed by these events and became a desert. Strandes gives Mwana Chamba Chande as the ruler of Vumba.

1633. Two Franciscan priests who left Mogadisco for Abyssinia were killed by the Gallas.
1634. Spanish miners sent from Europe failed to discover any ancient underground workings in Manica (*vide* Theale).
- c. , Antonio Carneira Salema Pimentara visited the coast. Melindé fort was garrisoned but the people were neutral in the rebellion.
1635. Yusef returned from Arabia and settled with the Arabs at Bweni Bay (in Madagascar) under a Sultan Masselage. He was joined by numerous sympathizers from Paté and other places. Francisco de Cabreira reoccupied Mombasa, Pemba and Paté. He appointed Fiki Ali as the local ruler of Mombasa and recolonized the island by twenty families from Paté and Zanzibar. Mafia was then under Kilwa and tribute was paid to the commandant of Mombasa (Rezende).
1636. (17th May). Roque Borgas with two ships from Mozambique made an unsuccessful attack on the ex-king of Mombasa, Yusef, in Madagascar. It was stated that the failure was due to the lack of co-operation by Cint. Carneira Sallema (Strandes). Paté was attacked by Cabreira, who fined the inhabitants eight thousand *pardos*, Siu one thousand five hundred *pardos* and Mandra fifty *pardos*. He razed the walls of Siu and executed the rebellious chiefs. Zanzibar was ruled by Sheikh Sandarus and a fine of five hundred *pardos* was imposed. Strandes gives rulers of Paté as Hasan Mtaka and Chande Mtaka.
1637. Treaty made between Paté and Portugal (29th January) under which no Arab was allowed to settle there. Customs were established. Chaka (see Barros, 11. 1. 2) made tributary to Portugal (Mombasa inscription).
1638. Ruler of Waseguyo of Melindé then was Menge Eisen (Strandes).
1644. The slave trade between Mozambique and Brazil initiated.
1645. (3rd December). Petitions from Paté, Faza and Siu against the commandant of Mombasa sent to Goa.
1648. Captain Salvador Correa de Saerbot arrived on East Coast from the West Coast (Strandes).
1649. The Inam Sultan ben Saif ben Malek of Oman succeeded (died 1668). Guillain states that Bwana (Fumo) Shah Ali of Paté whose successor the Bwana Tamu was the son of a Nabhani governor (and a native princess), was a contemporary.
1650. (26th January). Muscat surrendered by Portuguese to the Omanese.
1652. The Omanese were repulsed in an attack on Zanzibar.
1653. Francis de S. Cabreira arrived at Zanzibar with one hundred and twenty Portuguese, forty Indians and one hundred and twenty Waseguyos and crushed a revolt. The Queen Mwana Mwena Fatima and her son Otondo were driven out and four hundred Portuguese prisoners released. Tribute was levied from Zanzibar, Pemba and Otondo. The king of Zanzibar was exiled and all the dhows belonging to Mafia and Kilwa which he had seized were restored to their owners (Strandes).

- 1655-1659. Numerous deputations were sent from Paté, Zanzibar and other places on the coast by the Moslems to the imam of Muscat. They asked for aid in ejecting the Portuguese in return for recognition of his sovereignty.
1660. Mombasa surrendered by the Portuguese to the Somali and Omanese. Muhamad ben Mubarak appointed governor by the imam of Muscat, Sultan ben Saif.
1661. A Portuguese fleet arrived and resumed possession of Mombasa.
1662. Jos. Botelho de Silveira commandant of Mombasa, and Munha Agho native Moslem ruler.
1670. Paté revolted against the Portuguese. Moslems repulsed from Mozambique.
1678. Pedro d'Almeida (viceroi) arrived at Paté (12th August). Faza and the Wagunga were allied with the Portuguese. A four-month siege of Paté and Siu took place before they surrendered. The Portuguese commander made his headquarters in the principal mosque and built a fort at Paté. The inhabitants were fined thirty thousand *crusados*, and the kings of Paté and Siu were imprisoned.
1680. Trade on the coast thrown open to the Banyans.
1682. The ship *Nosra Senora da Ayuda* was seized by pirates. The pirates were captured at Mozambique and sent in irons to Goa.
1686. The deposed ruler of Faza then at Mombasa in exile. Joao Antunes, Portuguese commandant at Mombasa, attacked Paté.
1687. (April). Francesco P. de Silva left for Paté and attacked the town in May. The prince of Paté and his retinue were deported to Goa (*vide* Strandes and native records). Paté fort (near Makupa) garrisoned with one hundred men under the Bwana Daud ben Sheikh and Joseph Pereira de Brito as local governor. In October an English galiot from Surat arrived at Paté. Before the end of the year the Portuguese occupation of Paté ceased.
1690. Free trade on the coast interdicted (30th March). It was not until 1783 that the Banyans were expelled from south of the Zambesi.
1692. Portuguese sovereignty of the Lamu archipelago ceased.
1696. Joao Rodrigues Leao, commandant of Mombasa (23rd October). The Somalis and Omanese invested Mombasa in November.
1697. (27th January). A Portuguese fleet under Luis de Mello Sampayo arrived at Mombasa from Goa. In March, the Moslem governor of Mombasa was Fiki Valla di Muigni Mutamo. The king of Tanga Island was Guaba di Muizabo. Sampayo arrived at Mozambique on 16th August and the viceroy reached Goa from Lisbon on 23rd December. Last letter from Ant. Mogo de Mello from Mombasa dated 15th March, 1697.
1698. Kilwa and Zanzibar joined the Moslems against the Portuguese, under an Omanese commander. Mombasa surrendered and Nasr ben Abdallah was appointed governor by the imam of Muscat. A general massacre of the Portuguese (including the half-castes) is said to have taken place along the coast. Renegades from the Moslem faith seem to have suffered a similar fate to that of Christian renegades inflicted by the Portuguese. The Omanese fleet was repulsed from Mozambique (Guillain).
1699. A fleet of five ships with nine hundred men left Lisbon under Henrique Jaques de Magelhan.
- c. 1700. Sayid Abu Bakri ben Sheikh ben Abu Bakri el Masela ben Alowi became the first sherifian sultan of Vumba (Hollis).

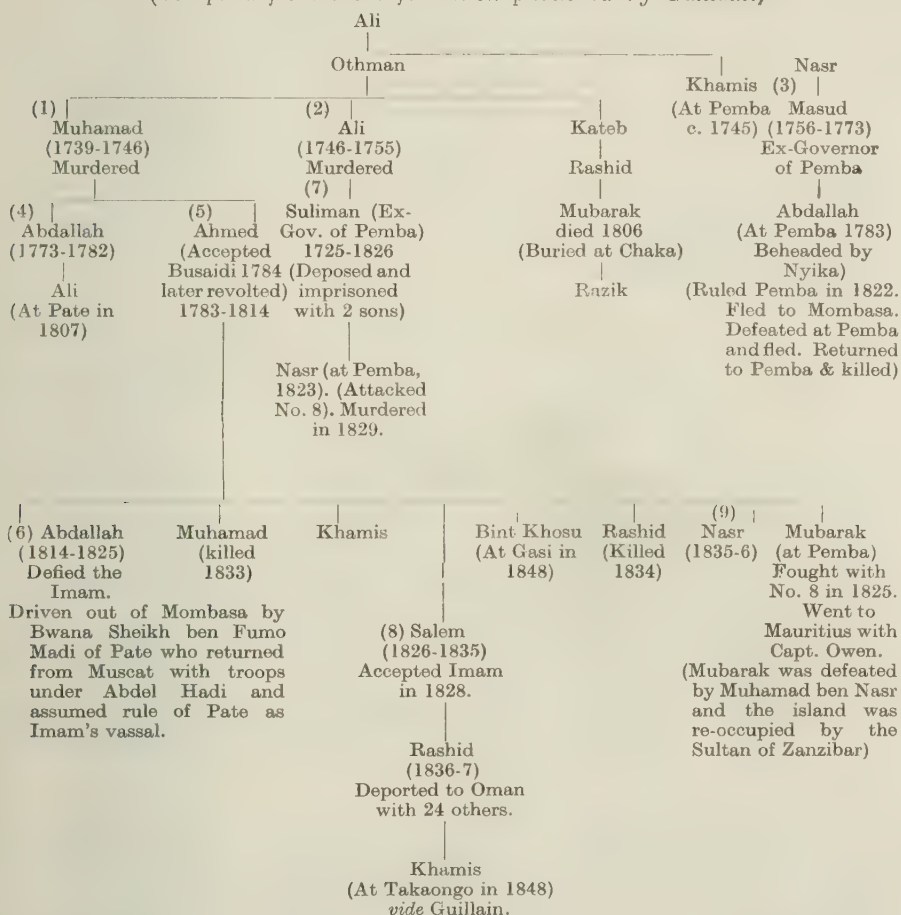
1710. The Bwana Daud of Faza in exile at Goa. Sheikh Nasr of Kilwa then had a garrison of fifty men.
1719. A king of Kilwa (un-named) mentioned by Strandes.
1720. Paté suzerain to Muscat.
1723. Ibrim ben Yusef ben Munadi ben Auli (? Ali) then the sultan of Kilwa (*vide* Strandes).
1727. (12th December). Envoys from East Africa, including Bwana Amadi ben Muallem Bekr, invited the Portuguese to eject the Omanese and resume the sovereignty of the coast. Treaty made on the 24th December between the Bwana Tamu Abubekr ben Muhamad of Paté and the Portuguese by which Paté was placed under the protection of Goa (for a cash consideration paid to the ruling king). Bwana Amadi ben Zayd (the titular ruler of Zanzibar) was then in the Hejaz on the pilgrimage.
1728. Luis de Mello Sampayo arrived at Paté and hoisted the Portuguese flags at Paté and Siu. The Liwali Muhamad Abdin Syed (*vide* Strandes) surrendered Mombasa to the Portuguese and their allies on the 12th March. Antonio de Albuquerque de Coelho appointed governor of Paté with a garrison of three hundred men. Alvaro Caetano de Mello e Castro appointed governor of Mombasa. Nasr ben Abdallah returned to Oman. Kilwa (which had joined the Moslems) surrendered to the Portuguese, also Ben Sultan Alowi the ruler of Tanga and Mkam Erumba the ruler of Mtangata.
1729. (29th November). The Portuguese were again ejected from Mombasa by the Moslems. The sultan of Paté sent a force against the Portuguese. Sece Romba, an Omanese usurper, was sent to Mozambique and died there. A deputation was sent to Muscat to ask the imam to resume possession.
1730. A fleet under Luis de Mello left Goa for Africa on the 2nd January. Two of the vessels sunk in heavy weather and the remainder were dismasted. The attempt to regain possession of Mombasa was abandoned and the coastal rulers became independent of each other under a nominal suzerainty to the imam of Muscat.
1733. The Bwana Tamu Mkuu (Abubekr ben Muhamad) of Paté was succeeded by his son, Bakari (*vide* Strandes).
1735. Saleh ben Said el Hadermi, governor of Mombasa for the imam.
1739. Muhamad ben Osman el Mazrui replaced Saleh ben Said at Mombasa. Ahmed ben Sheikh ben Ahmed ben Sheikh el Melindi (a descendant of the father of Sultan Yusef) was the vizier (Guillain).
1744. Lamu and Brava refused to recognize the Busaidi Imam Ahmed ben Said who had been recognized by the sherif of Mecca. Massacre of the Nebhani at Paté by the Sultan Fumo Bakri ben Bwana Tamu.
1746. Revolt in Pemba against Queen Mwana Mimi of Paté. Paté attacked Mombasa and Marka sent envoys to the Imam Ahmed ben Said. Ali ben Othman el Mazrui of Mombasa declared his independence from Oman, which was then in Persian occupation, and Sultan ben Murshid had committed suicide.
1755. The Mazrui of Mombasa attacked Zanzibar.
1759. A messenger from Sultan Hasan ben Yusef of Kilwa arrived at Mozambique.
1760. Civil war in Paté in which the Mazrui intervened (*vide* letter of the sultan of Kilwa dated the 12th May, cited by Strandes). Siu (Portuguese station) raided by the Omanese.

1768. Titular prince of Faza at Mozambique in exile with a pension of one hundred *serafinos* monthly from the Portuguese.
1769. Caetano Alberto Judice made a final and unsuccessful effort to recapture Mombasa for the Portuguese.
1770. The Arabs expelled from Mozambique by the Portuguese.
1776. William Bolts hoisted Austrian flag at Delagoa Bay and introduced the Maria Theresa dollar for currency.
1784. The deposed Inuan Saif ben Ahmed arrived at Lamu from Zanzibar and resided there until his death. His son, Badir, was murdered in Oman on the 31st July, 1806.
1790. The Biemal tribe ejected the people of Marka and occupied the town (Guillain).
1811. Lamu partially destroyed by the Mombasans.

Appendix D

THE MAZRUI RULERS OF MOMBASA.

(Compiled from the information published by Guillain.)



Appendix E

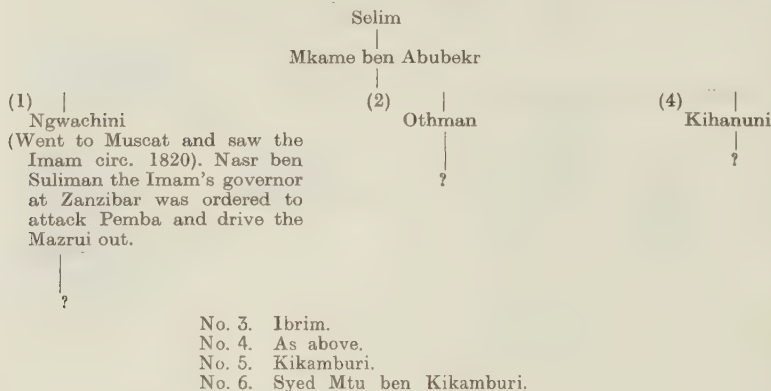
PEMBA.

Original line of Rulers (Liwali) and Counsellors (Diwani) reputed to be Shirazi from Kilwa.

1508. Duarte de Lemos attacked Pemba and tribute exacted. Most of the population fled to Mombasa.
1528. Pemba and Zanzibar loyal to Portugal against Mombasa.
1587. Massacre of the Portuguese at Pemba. The pro-Portuguese Liwali fled to Melindé. He was reinstated by Thomas de Souza Continho.

1594. The Liwali again ejected and fled to Mombasa, where he became a Christian. He went to Goa and was reinstated by Francisco di Gama in 1596. This man's name was Emmena (Amin, *vide* Guillain). He was probably the last of the Shirazi.
1598. A rebellion at Pemba was reported to Goa.

IN 1740 A NEW DYNASTY OF LIWALI FROM PAGI WAS FOUNDED.



NOTES ON PEMBA.—

1608. Captain Sharpey was attacked at Pemba.
 1635. Francisco Xeixes de Cabreira attacked Pemba.
 1637. Tribute was collected.
 1698. The Imam Saif ben Sultan occupied Pemba and ejected the Europeans.
 1710. Pemba garrisoned by the Imam.
 1728. Diwani Mwenyi Mkuu ben Sultan Manyu saw Luis de Mello de Sampayo at Mombasa.
 1739. Pemba revolted against Oman.
 1746. Ali ben Osman appointed his uncle, Khamis ben Ali, governor of Pemba.
 1753. Masud ben Nasr governor of Pemba.
 c. 1774. Badi ben Suliman, Mazrui chief at Pemba, murdered by adherents of Fumo Amadi of Paté.
 1783. Abdallah ben Masud sent to Pemba as governor for Mazrui. He revolted.
 „ Suliman ben Ali (cousin of Ahmed ben Muhamad el Mazrui) sent as governor of Pemba.
 1825. Captain Owen saw Nasr ben Suliman el Mazrui.

Notes for Appendix F

NOTES ON ZANZIBAR AND TUMBUTU.—(1) There is no record of the rulers and Ingram states that practically nothing is known of any prior to the Mazrui. There is an inscription in the Kizimkazi mosque to Es Sheikh es Seyid Abi Amram Mfaume el Hasan ben Muhamad which is dated A.H. 500 or A.D. 1107. The inscription is attributed to the founder of the mosque.

(2) This may be the Queen Fatima of 1653 who was driven out of the island by the Portuguese when they released four hundred prisoners. Her son (Otondo) was banished with her (*vide* Ingram's, *op. cit.*, p. 114). Burton (*op. cit.*, I, p. 284) states that the Europeans at Zanzibar were massacred after the fall of Mombasa in 1660. It is possible that Mwenyi Mkuu Yusef, son of the banished queen, was the ruler then.

(3) This queen sent a letter to Goa in 1697. The Portuguese had sent a fleet in 1696 but both Zanzibar and Mombasa were occupied by the Imam Saif ben Sultan in 1698 (*vide* Guillain, *op. cit.*, p. 522).

(4) Mwenyi Mkuu was born in 1785 and died in 1865. During the latter part of his life he lived with Sheha (Shah) Kiriemata ben Ngwamchanga of the Wa-Changani. Mwenyi Mkuu is notorious for the large numbers of slaves which he slaughtered to consecrate the foundations of a palace which was incomplete after ten years' intermittent work.

(5) The grave of Mwana Mwatima bint Mfaume Madi es Shirazi (who is not otherwise recorded) and the grave of her son, Mfaume Ali Sherif, are at Kizimkazi.

The old regalia of the Zanzibar kings included two wooden drums and two wooden horns (trumpets) now in the Zanzibar Museum.

Appendix F

ZANZIBAR AND TUMBUTU.

GENEALOGIES. (After Guillain and Ingrams.)

Zanzibar.

In the thirteenth century the ruler was:—

Hasan ben Abubekr (*vide* Kilwa Chron.)
(Of reputed Shirazi descent). (1)

(2)

Mwana Mwema=An Arab from Yemen

Mwenyi Mkuu Yusef
(of Otonda)

Bakari
(Kazimkazi)

(Rule divided)

Fatima
(Zanzibar)

(3)

Queen Fatima=Abdallah, Mek of Otondo

Hasan
(Ruling in 1728)
A fugitive at Pate

Musa
(Went to Zanzibar
from Pate in
1728)

Sultan

Ahmed (Ruled prior to 1744)

Hasan II=Mwana bint Mwana
(at Bweni) (Queen of Tumbutu)

Ali (Ruler of Tumbutu)

El Wazir Muhamad ben Ahmed
?brother of Hasan II

(4)

Mwenyi Mkuu
Ahmed (1865-1873)

Daughter=Muhamad
ben Ali

Daughter
(died 1871)

Daughter

Mwana Nguya=Muhamad ben Saif
(Bint Mkuu) (died 1899)

(a)

Tumbutu.

Mwana b. Mwana=Mwenyi Mkuu Hasan II
(of Zanzibar)

(b) Ali

(c) Fatima

Mkadam
(d) Vuai

Kombo
Ngala

(e) Mwana Kazija

(f) Ali
(Last of the
Royal line)

Geological Notes on the Coastal Region of Tanganyika

By G. M. Stockley

THE coastal region of Tanganyika may be divided into two distinct areas, using the Rufiji river as an intermediate boundary. The northerly triangular shaped section has its base along the Rufiji river and its apex a few miles west of Tanga. The western boundary is somewhat irregular but part of it is limited by the Fall's Line Fault*, passing through Ngerengere on the Central Railway. The southern area is roughly shaped to a narrow quadrilateral or truncated triangle with its base along the Rovuma river and its northern side bounded by the Rufiji river. From Newala northwards the western boundary is an irregular erosion scarp. Although the area of the coastal sediments narrows considerably and finally is broken in the north, it nevertheless persists to as far as the Mombasa coastal region of Kenya. Similarly in the south the coastal sediments continue into the Portuguese colony of East Africa.

This division of the coastal region into two areas is particularly useful, as it enables certain features to be contrasted; differences of topography, which may only be interpreted by tectonics, are thus sharply defined. These features may be briefly summarized as follows:—

(1) The northern triangle has relatively few hills: it is a gently undulating country rising to about seven hundred and fifty feet above sea-level, seventy miles west of Dar es Salaam. The Pugu hills and the Maneromango district directly west and south-west of the capital form the one exception. These hills rise to over one thousand three hundred feet above sea-level.

(2) The southern quadrilateral rises from sea-level to over two thousand feet within seventy to eighty miles from the coast at Mikindani.

(3) The western boundary of the northern section is partly faulted: if the Karroo rocks are also included then there is a sharp, faulted boundary between the fossiliferous sediments and the rocks of the Basement Complex.

(4) The western boundary of the southern section consists of frowning cliffs at least one thousand feet high, which from the south decrease in boldness of profile northwards to close to the Rufiji river. As a matter of fact there is a sag in the topographic features between the elevated Makonde-Mwera plateaux of the south and the hills of the Matumbi district south of the Rufiji river.

*Mr. C. Gillman, F.G.S., Chief Engineer of the Tanganyika Railways, first pointed out the existence of falls and rapids in most of the rivers from north to south, coinciding with a south-west fault, commencing west of Tanga to as far as the Ulunga river and possibly to the Rovuma.

(5) Both regions have high ground in their southern portions and descend topographically to the north. The northern section descends more or less gradually to sea-level near Tanga (the Amboni Caves on the coast are formed of Jurassic limestone) while the southern section ends off, more or less abruptly, just south of the Rufiji.

(6) Both areas have drowned coastlines, incisions cut into the coast forming bays and creeks. But there is a distinct zig-zag outline to the northern region formed by relatively straight coastlines. In the south the coastal fringe is more or less curved, and more indented.

(7) The smaller rivers in the Makonde and Mwera plateaux have cut deep valleys and gorges in their upper reaches. Similar rivers in the Kiturika and Matumbi hills flow in shallower valleys, but exhibit the same youthful features. These conditions it should be noted, are conspicuously absent in the northern triangular region with the exception of the Pugu hills. The Pugu hills exhibit the characters of the southern region; they are more elevated in the south and die away to the north.

Thus the Rovuma and Lukuledi rivers flow through deep, wide gorges before they reach the coast and the entrance to these gorges coincides with the outcrop of the Mesozoic rocks. On the other hand, in the northern region the rivers meander through mature valleys in a coastal plain. In most cases, with one exception, the rivers flow directly from west to east. The tendency of rivers in the southern region to flow north-eastwards is also exhibited by rivers of the northern region, but to a much less extent. The one exception is the Ruvu river, which curves from a south-east direction directly to the north-east as soon as it enters the region of the coastal sediments.

It should be pointed out that the plateaux of the south descend in almost a straight line to the coast line; a small interruption to this inclined plane may be observed near Lindi town. But the eastern slopes of the Pugu hills are marked by numerous notches or benches from summit to base. These benches are formed by periodic halts in the general uplift of the coastline. They are in fact "fossil cliffs."

The actual coastal fringe is usually flat and was formed at a much later date. It consists of coral reefs with a rich accumulation of the dead tests and shells of echinoids and mollusca.

Now, the topographic features enumerated above are not without significance; they are definitely governed by geological and tectonic conditions. The geology shows that in both regions the sediments dip at a low angle eastwards to the coast. The rocks of the Pugu hills form an exception as they dip to the north-west. This area is quite distinct and should be separated from both the main regions. Otherwise there is an apparent conformability of Jurassic and Cretaceous rocks in both regions. In the south, however, the Jurassics lie unconformably upon rocks of the Basement Complex; while in the north the Jurassics rest upon unfossiliferous sandstones, presumed to be of Karroo age. These Karroo rocks have been proved

by boring to lie upon the Basement Complex, but at the surface they are faulted against the latter downthrown to the east.

In the northern section no Paleogene (early Tertiary) rocks have yet been discovered; the earliest Tertiary rocks are found on Pemba Island, east of Tanga port and separated both from the mainland and Zanzibar Island by a deep trough. There is a possibility that earlier Tertiaries underlie the older Neogene (Miocene). Paleogene rocks are known only from the Lindi and Kilwa coasts. These rocks are faulted against the Mesozoic near Lindi town.

The outcrop of Mesozoic rocks, which end more or less abruptly at the Rufiji river, and which are repeated in the Maneromango area east of the Ruvu river, suggests a repetition by strike faulting. This is supported to a certain extent by the opposing dips. The dips revealed in the cuttings of the Central railway through the Pugu hills are to the north-west, while the dips on the west of the Ruvu river are to the east and south-east. This of course may be interpreted as support for a synclinal structure. Against this conception is the general absence of folding in this area, the lack of repetition of Cretaceous and Jurassic rocks on the eastern slopes of the Pugu hills, and the possibility of the correlation of this fault with the extension southwards of the western fault of the Pemba Trough. This trough is in reality a miniature rift valley, drowned below sea-level. The strike fault must therefore occur in the vale of the Ruvu river and probably accounts for the sudden change in the direction of drainage. The southern extension of this fault coincides with the eastern boundary of the Karroo south of the Rufiji river. The Karroo rocks are known to dip eastwards into the Basement Complex and must therefore be bounded on the east by a south-west fault.

A fault with a general east-south-east direction, lying close to the Rufiji river is indicated by certain considerations. In the first case there is the abrupt ending of the Mesozoic, where the Ruvu river swings round to the north-east. There is a faulted boundary to the Karroo rocks south of that point. There are certain topographic features to the east, which suggest a higher elevation of the Pugu block relative to the coastal area to the south. The presence of a hot spring in the Rufiji valley, west of Mohoro, along this line may be connected with this fault. In addition there is the blunt ending of the outcrops of the Basement Complex, between the Karroo rocks on the west and the coastal sediments on the east, south of the Rufiji river.

Other faults are suggested by the evidence of the rapid descent in submarine soundings close to the coast and to the islands of the Zanzibar Protectorate. There is very little doubt that faults occur all along the coastline, around Pemba Island, and on the east coast of Zanzibar Island.

These dislocations may now be classified as follows:—

A. *Paleogene Faults*—probably late Eocene to early Oligocene age.

1. Fall's Line Fault, direction NE.

2. Probable Rufiji Fault, E.-W.

3. General foundering of the coastline with the completion of the formation of the Indian Ocean.

B. Neogene Faults—probably late Miocene.

1. Pemba Island Faults, directions NE., NW. and WNW.
2. Ruwu Fault may be extension of Pemba Trough or *vice versa*.
3. Lindi Fault—a small dislocation near Lindi town.

C. Younger Neogene Fault—probably late Pliocene or may be Pleistocene.

1. Sadani-Dar es Salaam coastline, direction NW. (Pliocene rocks on Mazingini ridge near Zanzibar town are probably downthrown to the west, as Pliocene rocks are known to occur at a considerable depth below Dar es Salaam.)

Summarizing all the evidence briefly outlined in the foregoing, a general appreciation of the geological conditions governing the formation of the coastal region may now be described.

The coastal region divides itself naturally into three blocks—the southern block south of the Rufiji river, the Pugu block, and the Ngerengere-Tanga block. Each block has been shown to contain the same inherent geological characters with certain modifications. The southern block belongs to the major shield of Africa and it has been uplifted to at least two thousand feet above sea-level and tilted slightly northwards. The Pugu block has been uplifted from sea-level to approximately one thousand three hundred feet and tilted north and westwards. The third block has been elevated and then faulted down to its present level. It may be that the whole coastline, by the end of the Oligocene period, was raised to the one level and subsequently each block foundered to different elevations. While there seems to have been a fairly even uplift of the southern block, the Pugu block, on the other hand, had a more interrupted history.

The figure two thousand feet is the highest level of the Mwera and Makonde plateaux and may be the highest elevated area of the coastal region. This figure may be modified at a future date to allow for the later drowning of the coastal region, data for which are not yet known, but it approximates to the truth.

Finally it is possible to trace the general sequence of events that followed on the lacustrine-marine sedimentation of the late Permian and Triassic periods.

(a) Mesozoic sedimentation, estuarine in the south passing to general marine in the north. This is probably a continuation of the Paleozoic sedimentation in the Kidodi-Ngerengere-Tanga regions.

(b) Uplift of coastal belt to within a few miles west of existing coastline.

(c) Early Rift Faulting—differential hinging downwards to the north in both regions. This was of early Eocene to early Oligocene age. It was followed by either the foundering of the region now occupied by the Indian Ocean or the separation of India from East Africa, commenced by continental drift.

(d) Consequent on this faulting and uplift began the sculpture of the

present topography. Rivers cutting into newly formed coastal rocks concurrent with a rising land surface aggraded in a general east and north-east direction following the dip and tilt directions.

(e) During the sedimentation of Paleogene and Miocene times there appears to have been a deeper water facies in the south and a shallower facies in the north. This is specially indicated in the Miocene. It is complete reversal of the conditions extant during Mesozoic times.

(f) Second uplift of coast narrowing the difference between present and past coastlines to a very narrow margin.

(g) Upper Miocene faulting—Pemba Trough formed.

(h) Pliocene sedimentation—limited to Zanzibar Island, Mafia Island and Tanga-Sadani-Dar es Salaam coastal fringes.

(i) Uplift followed by general submergence: formation of relatively shallow Zanzibar Channel partly by NW. fault and partly by marine erosion.

(j) Pleistocene sedimentation.

(k) Uplift and exposure of Pleistocene sediments in coral reefs.

(l) Present coastline formed by general submergence; and drowning of coastline. At the end of the Pleistocene period and also within recent times there has been a small uplift of five to nine feet with exposure of beach sandstones. This was followed by a slight submergence in late historic times. At Kilwa the floor of a mosque, which cannot be of great age, is now below sea-level.

(Continued from page 91, No. 2, October 1936.)

The Story of Mbega
By Abdullah bin Hemedi bin Ali Liajjemi
Translated by Roland Allen

CHAPTER XV.—BUGE IS SENT FROM VUGA TO BE EDUCATED BY HIS
MOTHER'S FAMILY.

THE MEN of Bumburi say that after the birth of the child, the people sat down to discuss the matter, and they said, It will never do for the child to be brought up in the country of Vuga, for he will not get to know us his kinsfolk and cannot become familiar with us; he will be familiar with the people of Vuga; and they strove saying, We shall be of no account compared with them. They discussed the matter till they were all of one mind, and they chose out men of standing to go to Vuga with the father of Mbega's wife.

They went to the house of their tribal friend in Vuga, and they were asked all the news of Bumburi. Then they sent the man to look for the brother-in-law of the chief, that is, their son who came to Vuga with his sister at the first. He went and told him, I have been sent by your elders, they call you, they have come, they are here at my house. He answered, Very well, and they went together and came to the house, and he greeted them, and then they told him all their business. He said, I agree, but I will go to the Great House and ask my sister. They said, Go, and he went and found his sister in the house, and he told her, Our father has come and he greets you; he has come with an uncle and very many of the elders of Bumburi to persuade your husband to let them take you and your child home with them. They want you to bring up the child with his grandparents rather than by yourself, because he will be a trouble to you; a little child causes both care and trouble every day. His sister said, If you agree, I will agree, let us go back to Bumburi. The lad said to his sister, I agree; and they settled the matter together. Then the lad said, I will go and tell the elders to talk it over with their son-in-law, and that, if they come to terms with him, we have made up our minds, we have no objection. The elders said, We are very glad that our children are agreed. Now let our friend go to the chief and tell him that his kinsmen are here. He went and said, There are guests at my house. Mbega asked, Where do they come from? He said, They are your wife's family and elders of Bumburi. Mbega said, Tell them I have heard. He went and said, I gave him your message and he said: It is well, and a goat and pork and beef and much food is coming. The men who brought it said, The chief says, When you have finished eating tell your

friend to bring you to him. They said, Thank you. We will come. They ate, they were given cane beer and they drank. Then they said, Now take us to see the chief. They went and greeted him; he made them welcome, and they sat down. He said to the men who were there, Ask them their news, and they were asked the usual polite questions. Then they said, Chief, we want privacy to tell you what has brought us to you. He said, Very well; and they went apart with five elders of Vuga and two men of the guard.

CHAPTER XVI.—THE MEN OF BUMBURI ASK MBEGA TO MAKE
BUGE THEIR CHIEF.

The men of Bumburi and Mbega went aside and they said, We have come to greet you and to see the child. Mbega answered, It is well. Then they said, We have a proposal to make, and we want you to agree to it. He asked, What sort of proposal? They said, We have all taken counsel, all your relations and brothers-in-law, men and women all of us, and they all want the child to be brought up with them, because they know that your wife will have great trouble to bring him up by herself alone. Well, let us agree on this. This is the reason of our coming. Mbega answered and said, It is an excellent plan; but I will go and ask my wife and her brother, and if they agree, I will give you an answer. They said, Go.

CHAPTER XVII.—BUGE GOES TO BUMBURI.

After this Mbega went to his wife's house and called her and sat with her. He told her, I have had news to-day, have not you heard it? She said, No. He said, Have not you seen your father? She said, He has not been to the house since he came. He said, If you have not seen him, I have seen them all and your uncles as well. They all called me, and elders of Vuga were with them, and they told me, We have come to ask you to let your wife go with us home to Bumburi with her child Buge that his grandparents may bring him up, because you are very busy and have much to do; if the child falls sick you cannot tend him, you have too much business; and I said, It is well, wait and I will speak to her, and, if she and her brother agree, I will give you an answer. Well now I want your answer to give them. His wife answered, I have nothing to say, and my brother has nothing, we listen to you. Her husband asked his brother-in-law, What do you say? His brother-in-law answered, I have nothing to say. Whatever you and your wife decide, the matter is ended, because I should not have come here except to be a comfort to my sister, and now, if you agree that she should go with her father and uncles, I must go with her, for I shall not stay here. The chief said, I like the plan, go to Bumburi and bring up the child there; and as for you, I think it is better that you should go with your sister and look well after her. So she does not know that this business was really finished yesterday. And he said, To-morrow I will answer the elders.

In the morning the elders of Bumburi were called and Mbega said to them, I will answer your proposal of yesterday. They said, What is your

answer? He told them, I talked the matter over with my wife and she agrees to go, so I want to know your plans. They said, We want to start to-day. He answered, Very well, and he prepared for them food for the journey and gave his son ten milch kine and very many goats, and he took leave of him in due form and gave him clothes, and he set out with guards and very many young warriors and much people, a great army without number, and Mbega charged them straitly. When you halt for the night, kill an ox and five goats, it is not good that the people should fail in their prayers or lack meat; for they are on the king's errand. They obeyed him; they went that day and halted at the grove, and killed an ox and five goats and they ate. In the morning they started and went to Tekwa and they halted there and killed an ox and five goats and they ate. In the morning men went to Bumburi to report, and when they reached the town they said, We have come to tell you that the caravan is at hand. We come with the chief's wife and her son and very many people, and guards and young warriors, and we have been sent to tell you. When the people of the town and the elders heard that, they took counsel, saying, What do you think? Where shall he go to stay? They agreed, Let him go to Lukoka the town of his grandfather.

Many people and all the young warriors of Bumburi went out to welcome him on the road and they met him and returned with rejoicing and gladness, and entered Lukoka the town of his grandfather and his mother's sisters. At their coming in they killed an ox, and her father brought two oxen as a thank-offering for his daughter's safe delivery, and the people ate and divided the meat. Then her father talked with the men of Vuga who had come with her and said, When you want to go, take leave of me. They said, It is well, and they lay down. In the morning they took leave of him and they were given an ox for food on the way, and they departed. When they reached Vuga, they told Mbega all that had happened at Bumburi.

CHAPTER XVIII.—THE EDUCATION OF BUGE.

Buge came to Bumburi and was brought up there with all honour and was waited on, and had his field cultivated and his cattle pastured well, and whenever a case came before his uncles, if cattle were forfeited, he was given a beast. Very many days passed and Buge grew to be a child that could speak, and his father sent a man to call the men of Bumburi, elders and young men, and they went to Vuga, and he said to them, I have called you to ask how the child is doing. They answered, He can talk now, and he knows the names of all the people near him. Then Mbega said, I want to give you a man to watch over him and to live with him in the Great House in Bumburi till the boy is grown, and I have a plan to lay before you. They answered, It is well. He said, Choose out a man of understanding and considerate character, not a covetous man, a good speaker and a man of courage, one who can walk from morning till night, not an overbearing man, not a man who can insult the child. So take counsel with the men of Bumburi

and of Mahezanguru and of Mwavula, and of Zeba and of Shembekeza and of Barangai, call them all, let not one be absent, and let them all agree on the man whom you choose, and when you have found him send men to tell me.

The elders of Bumburi said, It is well, we have heard. They went and came to Bumburi and slept that night, and in the morning they tied three knots — the third day was the day of meeting — and they went to the districts which had a right to be called, and on the third day all who had been called came. Mbega's design was fully explained to them, and they chose a man whom they knew to have such a reputation, and they said, Let us send a man to Vuga to report to Mbega, and men were sent to tell him what had been done. Mbega asked them whom they chose, and then he called all the men of Vuga and said to them, I want to set up in Handei Zikoi a man to be their leader and to govern them; so my son will have a judge among all the people. The men of Vuga said, It is well. Mbega said, I sent men to search out the man, and they have found him, and now I want a man of Vuga to go to instal him in the Great House in the room where I myself stay. In the morning he took the man and said to him, Do not go alone, take two men with you. The man went with two or three others and came to Bumburi. He was received with all respect and the child was told that an elder had come from his father and to bring an ox to give to him. He gave it and he killed it.

CHAPTER XIX.—A GUARDIAN IS APPOINTED FOR BUGE.

In the morning they said, Let the people be assembled; and they met together and went aside and sat down in private, and they asked, Does this man know of this order? They said, He does not; we propose to send young warriors to move his goods for him. They agreed, and all the young warriors were brought out, and they went to the house of that man on whom they had fixed, and they looked to see if he had a talisman, and the young men went into his house and brought out his beds and all his goods, and they laid hold on the man, and they took one of his goats and killed it there at his door and ate it there. The people of the town were astounded, because they did not know what to think, the thing had come upon them suddenly, and they said, Tell us what this means. The messengers answered, If you want us to tell you, come with us to the town of Zikoi to the house of Buge the son of Mbega; it is he who has sent us to seize this man and his chief wife, but we were not ordered to take his second wife. The people followed them to the town, and when they got there they saw a great multitude of people without number. The messengers set the man in the courtyard; and Buge brought an ox and gave it to them. Then Mbega's messengers held aloft the spear and gave instructions to the man, Dwell with the lad in all honour, do justice without respect for any man's person, even though it be your son or your brother, judge according to the law. Then they took the man and his wife into the Great House, and they brought the leg and half the breast and the

kidney of the ox and presented them to him as the king's agent, and they said, Whenever a case comes before you and a goat is killed, your share of the flesh is a leg and half the breast; that is your due. So they ended, and in the evening he brought a goat, and the elders assembled and went into the house and they sat there all night and instructed him fully in all things and they ate the goat.

At dawn he brought an ox and they set the guard for him and in the morning he brought a goat and they went to show him the farm, and they killed the goat there, and they cooked bananas and ate, and they instructed him, If people come here to the farm to work, when they go home, give a goat to the guards who came with them as Mbega himself directed you. Then they returned to the town.

In the morning the men of Vuga said, We will go our way; but if Mbega has any message for you here in Zikoi he will send me; if you do not see me you will see this man, or this man; look well at them that you may not forget them, and if any other man comes, unless it is this man, or this man, or I myself, do not accept him, even if he bring the spear of Mbega, do not accept him. So good-bye. Then the herald and his two sons departed and went to Vuga and reported to Mbega all that had been done, omitting nothing, and Mbega said, I have heard; and they abode so.

CHAPTER XX.—THE PLOT OF THE MEN OF UBIRI AND THE BIRTH OF KIMWERI.

After these things the men of Ubiri heard what had been done, and they gathered and took counsel together and they determined to take one of their children and to send her to Mbega to be his wife, that they might gain the same benefits, for they said, If we send him our child, we shall get flesh every day, and honour; and if she gives birth, we will go and fetch our child and grandchild to bring him up here, and we shall get property and dignity. So they chose out a very beautiful girl, and they said, Let men go to Vuga, and tell Mbega some tale and talk with him cunningly. The messengers went and came to Mbega and greeted him. He asked them after their welfare, and they said, All is well; we have come to ask if we may go hunting with you. He said, I am not going hunting to-day, but perhaps to-morrow. They said, We will stay the night, and they did so. In the morning Mbega said to his guards and young men, Come, collect the dogs; we will hunt to-day. They collected all the dogs and they took the wallet of charms, and they went into the thick forest, and they found very many pigs, and they killed them, and collected them, and sorted them, and laid them in order. The men of Ubiri said to Mbega, The reason why we have come on this hunt is because we want meat, we have a feast to make for our children. He said, What do you want? They said, We want flesh. He gave them much, many loads, enough to spare. One man of Ubiri came forward and said, Chief, let us speak in private. Mbega said, Come. When they came to the place, the

man of Ubiri said, I have a request to make, but will you grant it? Mbega said, If it pleases me, I will give you five portions. He said, In our village there is a beautiful girl; since you came to this country you have not seen her equal; if you wish you shall have her. Mbega said, Well to-day let us pass your village and sleep at Ubiri and let me see her. He said, Come. Mbega gave him five portions, and told the men of Vuga and the young warriors, Pass on before me: I will go by Ubiri, and if the sun sets I shall not go further; I shall sleep there. The men of Vuga went off with their loads and the guards and the men of Ubiri went with Mbega to Ubiri.

The people of Ubiri assembled to greet him, and they brought an ox and made him a feast, and all who heard of it came and the author of the plan, and as they were standing at the chief's house, just then the girl passed by to be seen and Mbega was charmed with her. He said, To-morrow I want to go on my way. They said, You cannot go to-morrow because there are many matters awaiting your judgment. He spent the night and the next day there and gave his judgment on all their questions; he left nothing unsettled. Then he took leave of them and departed, and when he came near to Vuga he said to his guards, In the house next to that to which we went is my wife; but let us go into the town and I will inform the people. When they arrived he called all the elders and told them, I have seen a woman in Ubiri and I want her, and I want you to send men to fetch her. The men of Vuga said, She will be fetched and her parents will not deny her.

Men were sent to Ubiri and when they arrived they were asked their errand, and they said, All is well. We have been sent by Mbega; he has seen the daughter of so-and-so and he wants her. They all understood those words; it was their plan; and they said, Stay here to-night and in the morning go with her. In the morning her father brought a goat and gave it to the guards and he gave them his daughter, and they went with her to Vuga. She went into the Great House; but Mbega said, This woman should go to a house of her own, for this is Burira, it is the house of the Queen; and a house was built for her and she went in and dwelt there. And she conceived and bore a daughter, who died, and she conceived again and bore a son, and that son was Kimweri.

The people of Ubiri came and took their grandchild to Ubiri and Kimweri dwelt at Ubiri. He fell sick and they sent word to Vuga, and Mbega went out to Ubiri to tend his son. He took the omens and he saw that the child would not recover in Ubiri, and he said, Let him be moved and go to another place; there is a good house at Shashui. Kimweri was moved to Shashui, and Mbega tended him there, and he recovered.

CHAPTER XXI.—THE CIRCUMCISION OF BUGE AND KIMWERI.

Before he was quite well, the men of Bumburi came to Vuga. They enquired for Mbega and they were told that the chief had not yet returned, and that it was a day's journey. So they said to their friend, Take us, and

let us go, and they started out and went to Shashui. They greeted Mbega and he asked of their welfare, and they answered, All is well; we have come to consult you about the circumcision of Buge, for he is now a full-grown lad. It is for you to decide, if you say. Let him be circumcised at Bumburi — well, or let him come to Vuga — tell us. Mbega answered, Bring him with his mother and his grandparents, and the elders and the agent, come all of you. They departed and went to Bumburi and reported all that had happened and they said, We start to-morrow.

They came to Shashui, and they gave Buge the place of honour and they went and told the captain of the guard, Go tell the chief that his guests have come from Bumburi. He said, It is well, and he went and told Mbega, saying, The men of Bumburi have come with the boy. Mbega said, It is well, let him stay where he is, and let the men of Bumburi and the agent come to see me. The captain of the guard went and told them, You are called, rise and come with me. They went with him and came where Mbega was and greeted him. They sat down before the whole assembly of men of Vuga, of Ubiri, of Shashui, and they were asked their news, and they said, We sent news of the boy and your answer was reported to us, and we have come with the boy and his mother and his grandparents and uncles: the agent will come to-morrow; we were with him but he turned back on the road because he was summoned to entertain a stranger. Mbega said, Stay the night here, and to-morrow, when the agent comes, let us take counsel, and let us send men to Vuga to call the elders and the headman Turi. They were given an ox and they went to the place where they stopped and they killed the ox and sent a leg and the breast to the chief.

In the morning men were sent to Vuga to call the people and all the elders came and the agent of Bumburi and they met in council and discussed all the arrangements for the circumcision. Then Mbega said, If you have finished, let men go to the bush to fetch Mwanyange and Mngodo. They were brought and told all these words. Then men were ordered to cut sugar cane for beer everywhere, and in the morning the lad was circumcised with his brother. Very many oxen were killed and much food prepared, cakes made of bananas and maize, and all manner of confections of bananas and fruits of all kinds, and the people came with drums and weapons after their custom. The second day was as the first, and the third day the people scattered, and the men of Bumburi departed, and the child stayed, and Mbega went to Vuga, till the children were healed, and the elders of Shashui sent word to Vuga. The chief said, My friend will go to see them, and his friend went and saw that the children were completely healed, and he reported so to Mbega.

Mbega ordered the people to cut sugar cane as at the first, and many people assembled more than at the first, and there was a great feast greater than the first and oxen were killed more than at the first and there was a great war dance with drums and rattles and the people rejoiced and danced with horns and trumpets and singing for six days, and on the seventh day

the boy was sent to Bumburi with an army of people with rejoicing, and on the road oxen were killed and the poor had rest because they received food in abundance and goat skins were given them, and so they came to Bumburi and brought the boy to the house called Hevumo. Then his mother and the elder women went into the town of Bumburi and directed sugar cane to be cut, and in the morning all the people cut sugar cane and brought it to the town and every town brought much food and they killed three oxen and goats and sheep and made a great feast for three days and the women danced their dances, and they ceased.

CHAPTER XXII.—THE APPOINTMENT OF BUGE AS
CHIEF OF BUMBURI.

When Buge was fifteen years old, the elders of Bumburi took counsel with his uncles and grandfather that no word of their design, if they agreed, might be reported beforehand in Vuga and they settled the matter and they said, Let us go to Vuga and ask the chief to let us instal the boy as our chief here in Bumburi. Then the elders set out with the agent and came to Vuga and they went to that man who had been sent to Bumburi before on the king's errands. He asked them how things were going in Bumburi, and they told him, We have come to see the chief : we have words for him about the boy ; we want to set him up as chief in our town : the people will till his fields ; they will wait on him, and from all the suits which are brought to be judged he will get oxen and goats and sheep and clothes and the king will be relieved of the burden of sending food to his son. The man of Vuga said, Wait, let me go and inform the chief ; and he went and greeted him. Mbega asked him to sit down, and he sat down, and he said, I have come to tell you that your agent and elders of Bumburi have come to my house, and when I asked their errand they said, We want Buge to be our chief now. What do you say ? Mbega said, Bring them to me. He went and brought them, and they went in the great hall where the chief sat to give judgment on the suits which men brought against one another. That hall is celebrated and all men know it, even strangers all know it. There they met and they were asked their business. They said, We have come because we want to set up Buge as chief in Bumburi ; he is grown up ; the people have agreed to wait on him, they have agreed that he shall be their judge, they have agreed to till his fields and to plant them, and that men shall wait on him, each for two days. Mbega answered, If you are agreed on this, I too approve ; but let me ask the elders of Vuga. They said, It will be better so, because, if he is Governor, you will be relieved from sending goats for his food. The elders of Bumburi went to the house of the herald and slept there, and in the morning they took leave of the chief, and he said to them, Do not let him go into Bumburi, but wait the coming of my herald. They answered, Yes, and they went to Bumburi, and the people came together and asked them what news they brought from Vuga. They told them all and then they said, The chief told us not to set up the boy till his herald came. On the

day the men of Vuga came to Karange, the agent and the elders received them and gave them goats.

They lay down; and in the morning the people near Bumburi came together, and the men of Vuga brought a great ox and a black sheep, and when they met the men of Vuga said, Bring Buge. They went and brought him from Lukoka where he was, and they took him round with the sheep by the way by which his father had gone when he went to Vuga till they set him in the house; the name of that house was Mwевumo and it was a very famous house; it was there that the guard slept, it was there that all their public business was done. In the morning he was brought out and set in the Great House of the chief in Bumburi, and they beat the war drum, and the sound went throughout the country and the people came from Shembekeza, that is Nguru, and Mwamavala and Kwagoroto and Baga and Mtunda and Mahezanguru and Tamota and Kiriya and Pararu and Ngugo, and Barangai, and Vanga, and Zeba, and Ngere, and Garambo, and Tekwa, all the country subject to Bumburi; they all assembled, and every man who came asked, What is it? Tell us. When they were all assembled, and not one was lacking, not a village from which men had not come, then the agent of Bumburi stood up and took the Sambara spear and the Sambara shield and he held them aloft and cried aloud, Hearken to me all you who are here present, our chief is Buge here, the son of Mbega. Mbega has sent men of Vuga saying, Go to Bumburi and instal Buge as chief; and every dispute which arises in this country, bring to Bumburi. So he spoke, and he was answered, *Muramba*, *Muramba* (Hurrah, Hurrah). Then the man from Vuga took the spear and going round the courtyard, said, Hearken to me, your herald; if you see another man of Vuga coming and saying, I have been sent by Mbega with this or that message, if he has not this spear which I now hold as his token, bind him; either the messenger must bring my token, or I must come myself. I have been sent by Mbega to come to give you his son, lo! he is before you, hearken to him. If he does wrong, call me and tell me, and I will correct him; and if he does not listen, he shall be removed and his brother Kimweri of Ubiri set in his place. The people answered, So be it. Then they brought Buge into the courtyard and gave him the spear and shield, and he held them aloft and when he brandished them, he was answered with the same cry. That is their custom to this day. When the Chief of Vuga brandishes his spear he is answered, *Mbogo*, and when the Chief of Bumburi, *Muramba*. Then the herald said, Keep silent, that I may give you a message from the Chief of Vuga. He gave me this ox as a formal mark of respect for your rite of respect. Take his son; kill the ox; but present him with one leg with the tail, that is the leg of the chief with the breast and kidney, and the flesh due to the agent comes from the leg of the chief, and the neck appears to belong to his two assistant officers. When the herald had ended, they divided the flesh, and the agent and the men of Bumburi brought an ox and his uncles brought an ox and they were both

killed, and they united the whole country and they took their leave and went their way. And in the morning the herald took leave of them and departed.

CHAPTER XXIII.—THE NEWS IS TAKEN TO MBEGA.

The herald put on his arms, his sword and spear and shield, and his sons packed the flesh and they started out and entered Vuga in the afternoon and went into the herald's house. The herald ordered them to undo the flesh that they had carried and he divided portions for the elders and the children, and for his sons who had gone with him, and he said, In the morning come and let us report to the chief all the news of Bumburi. They went and lay down, and in the morning they came and went to the Great House. The men of Vuga were there, and they filled the house. When they saw the herald they welcomed him and asked his news. Mbega took his seat, and the herald said, I went where you sent me, and your son entered Bumburi, and they gave him a wife, and the people of the towns came and they agreed to till his fields for him and to wait on him and to bring their disputes to him; that is our news. Mbega said, When will he come to greet me? The herald said, I will send men in ten days' time. They waited till the days were fulfilled, and then he sent a man to Bumburi to say, I have been sent by the herald, and the order is this, Send Mbega's son to him.

CHAPTER XXIV.—BUGE RULES IN BUMBURI.

When the men who had been sent by the herald came, they said what they had been taught, and the elders of Bumburi and the king's agent gathered an assembly of all the people of the country. They took three oxen and about a hundred pots of cane beer and they took their spears and girt on their swords, and very many young warriors went with them, and they took horns and trumpets. A great host accompanied the lad to Vuga. They went to the house of the herald and he went to the chief's house and reported their arrival. Straightway he was told, Bring the boy; and he returned and took all the men of Bumburi with the boy and they entered the Great House which is called Burira. Buge and his father greeted one another, and the men of Bumburi cried, *Simba Mucuc!* and Mbega answered them, "*Eee.*" The men of Bumburi cried again, Your son! and the herald said, Your son has brought three oxen as tribute. Mbega said, It is well, let them take them back to your house. Then he told his guards to take six oxen and give them to the elders of Bumburi and their child, that they might make a savoury mess. They took them all and killed them. Then he went out to the people and ordered the crier, Tell the people of Vuga to bring sweets for our guests, and in the morning the people brought confections of every kind and they were sent to their guests. That night the Chamberlain of Vuga came and took the lad to the king's house and he took him into the house to show him the magic of the Sun, and very early in the morning he took him to the herald's house to rest. In the afternoon he said to the herald, Come take leave of us

at the Great House. He went and said, The men of Bumburi want to go home. Mbega replied, Tell them that they may go. They all girded themselves for the journey and they sounded the horn, and they went and slept at the grove, and next morning they entered Bumburi.

So Buge ruled in Bumburi, and there was great peace between him and his brethren. One was Kimweri who was set over Ubiri, one was Chief of Mlalo, one was Chief of Mlola and one was Chief of Mrungui, and of all these Buge was the greatest. So he dwelt and was very strong in his kingdom.

CHAPTER XXV.—THE DEATH OF MBEGA, AND THE CROWNING OF BUGE.

The day of Mbega's death was known only by five elders. He was sick for only three days, and his children did not hear of it, nor even the people there in the town. It was his custom not to appear in public but to keep in his house for as much as ten days together, and his guards told any who came that the chief was detained by his magic. When he pleased he went out, that was his custom. So his sickness passed unnoticed, and when he died his death was not apparent.

Men went to Bumburi by night, and when they arrived, they roused some who woke the king's agent and told him who were there, and he went to the Great House and woke the chief. He asked the king's agent, What is it? And he said, Two men have come from Vuga and one of them is the herald and he wants you. Buge answered, Bring them here. The agent went and brought the men and set them before him, and he asked them, What news do you bring that you come by night? They said, Your father is very ill, and he has sent us to fetch you tonight. Instantly he said to the agent, Take your weapons, and call two of the guard. The agent went to the guardroom and roused two men of the guard, and went to his house. Buge girded himself and went out and said to the herald, I have told the agent we are going. They started and reached the grove by cockcrow. There they met two men who told Buge, Your father is dead; but we have kept up the pretence that he is alive, till you come. He said, Go quickly into the bush and tell those men of Kilindi there, Your brother is dead, and I am here at the grove; and if they come, let them come here. His messengers went and brought the men of Kilindi to the grove. Buge asked them, How do you bury? They said, First kill a black bull, and take the hide and lay it in the grave; then take a black cat and a young man and a maid and make them go down into the grave before the corpse and lie down there woman and man as a man and his wife lie in a bed. When the dead body is lowered into the grave, let them go, and do not let them set eyes on you again as long as you live. Buge said, It is well.

They went on their way and they seized two of the people, and they dug a grave, and then they took those two and put them into the grave. Then

when the corpse was brought, they made the cat stay in the grave (they had already laid the skin there) and they buried Mbega.

Still the people in the town knew nothing. When they had finished, they asked, What shall we do now? Many said, Let Buge take his father's place. He said, I had better go back to Bumburi and take counsel there, and do you behave as if Mbega were still in the house, and let the doctors stay, and if any one asks whether Buge came and the cause, say that he was called by his father. Then quietly make arrangements. The chief officer of Vuga said, I do not like that plan, for if this comes to your brothers' ears, they will seize Vuga. Buge said, That is true, and they decided to bring Buge into Vuga, and to send men to Bumburi to fetch his wife and to bring her where he was. that is, to the grove.

When his wife arrived, she rested at the grove and at dawn she was taken into Vuga. They showed her the grave of Buge's father and she visited it and sacrificed two oxen there. Whilst it was yet dawn orders were given that the great drum should be beaten with the war signal. The drum sounded throughout all the country, and the people thought, There is war with the men of Pare or of Zigua; and they all took their weapons and came to Vuga. There they saw a great mourning, a host was there of every tribe and men were now wailing, now shouting, Buge is Chief. On the side of the men of Ubiri, their agent held up his spear and demanded attention, and said, O officer of Vuga, we hear you proclaim Buge Chief of Vuga. When did Mbega give the country to his son, and where has he gone? Tell us. The officer took the spear and said, Our Chief is dead; we buried him the day before yesterday; and he gave these orders on his death bed, Take my son Buge secretly and instal him Chief in Vuga. As for me, I have followed his commands in that I did not tell the people. Hearken then, and hearken all ye people, the Chief of Vuga is Buge. They all assented, and they brought out Buge and presented him to all the subject tribes. Then they gave him his father's spear and he raised it aloft and he was answered, *Mbogo, Mbogo*. Then all the people went each to his own place, and Buge reigned in Vuga.

Notes on the Fipa

By G. D. Popplewell

THE Fipa district is roughly bounded on the west by Lake Tanganyika, on the north by the uninhabited *miombo* woodlands of southern Kigoma and Uruwira (Tabora district), on the east by Lake Rukwa and its tributaries, the Rungwa and Momba, on the south by the upper waters of the Momba, known as the Saisi, by the upper reaches of the Lumi river and by the lower reaches of the Kalambo river. This southern boundary coincides with the northern boundary of north-eastern Rhodesia.

Geographically the district can be divided into the following three areas:—

(1) *The Fipa Plateau*.—This plateau, six thousand feet above sea-level, is shaped like a saucer. The centre is composed of open rolling country, comparatively treeless, except along the margins of the five largish rivers that traverse it (two flowing west into Lake Tanganyika and three east into the Lake Rukwa system) and their tributaries. The sides slope upwards to scarp edges that drop on the west to Lake Tanganyika, on the east to Lake Rukwa. These upward slopes to the west, north-east and south-east are clothed in *miombo* woodlands (dry forest). On the east these slopes are comparatively treeless, except for a small patch of true rain forest. In the south the open country becomes merged into the *miombo* woodlands of north-eastern Rhodesia.

(2) *Lake Tanganyika*.—On the west the scarp drops down precipitously to the shore of Lake Tanganyika (three thousand feet above sea-level) except where it is cut by rivers from the Fipa plateau or by streams rising in the scarp itself. Here expanses of treeless, flat country have been formed, varying in extent from several square miles to a few acres.

(3) *Lake Rukwa*.—On the east the scarp falls sheer to the Lake Rukwa valley (three thousand feet above sea-level). The central portion of this valley is filled with the waters of Lake Rukwa itself and with the larger area to the north of the actual lake that has been flooded since 1904 (?). Further to the north lies the river Rungwa and its main tributary, that rises in the Fipa plateau. To the south lies the river Momba. The country between the escarpment and the Lake Rukwa system is flat and covered with *miombo* woodlands and is intersected by many streams (some perennial, others merely seasonal) that have their origin in the scarp itself. Around the river Rungwa and along the fringes of Lake Rukwa the country is open and marshy in the rains. On its eastern side the Rukwa valley is bounded to the north by the hills of Ukonongo and is here some thirty miles wide. Towards the middle it broadens out and narrows again at its southern end where the Mbeya hills form its eastern wall.

CLIMATE.

The mean annual rainfall of the district is between thirty and forty inches. This is spread over the months from December to May, with the heaviest falls usually in January, February and March. The nights and early mornings on the plateau from May to July are extremely cold, for the rest of the year cool. The mid-day sun is hot but never excessively so. On the eastern side of the plateau, from April to August, very strong easterly winds blow and earthquake shocks are occasionally felt. The climate of the Lake Tanganyika shore and the Rukwa valley is hot, except for a short period after the rains. Cool winds off Lake Tanganyika arise at night.

TRIBAL DISTRIBUTION.

The whole of the plateau except for a small area along the Rhodesian border is inhabited by the Fipa tribe. The Fipa have also overflowed on to the eastern shores of that part of Lake Tanganyika that lies within the district and into the Rukwa valley to the east and south-east of the district. The tribe, at the present day, is divided into two chiefdoms. Originally they acknowledged one chief, but the usual war between two rival claimants occurred and the tribe split into two. The more important chief with his headquarters at Sumbawanga, the present district headquarters, rules over the northern half of the plateau, the Fipa country on Lake Tanganyika and the northern half of the Fipa territory in the Lake Rukwa valley. The lesser chief, a woman, reigns over the southern half of the plateau and the southern section of the Rukwa Fipa. All the Rukwa Fipa are known as "Wakwa." The Fipa proper are of Bantu stock but their chiefs have Hamitic blood in their veins. Tradition has it that two women of Hamitic stock came down from the north. After many wanderings, the elder usurped the chiefdom of Fipa. To obtain heirs, they married Nyika husbands but, thereafter, to maintain racial purity marriage outside the family was forbidden. Be that as it may, both the present chiefs show distinct traces of Hamitic origin, the man being of a much lighter colour than the average Bantu, while the woman has the slender limbs and figure of the Hamite. The Hamitic blood, however, in spite of tradition, has been much intermingled with Bantu. Interspersed with the Fipa of the plateau, but not nearly so numerous, are the Nyika. They are supposed to have been forced up from the south by the Angoni invasions towards the end of the last century. Though they acknowledge the Fipa chiefs, they keep more or less to themselves. The combined population of the Fipa and Nyika is approximately fifty-six thousand adults and children.

VILLAGE DISTRIBUTION AND AGRICULTURE.

(a) THE FIPA PLATEAU.

(i) *Habitat and Water Supply.*—The villages of the Fipa are built on rising, open ground near streams, of which the majority never dry up. Shallow wells are dug in the beds of those that do. The villages are compact, though of no settled plan. The individual huts are rectangular, built of poles

with a thatch roof. The poles are frequently not plastered with mud. The huts are divided into two rooms, with an outside door leading into one room. An open space to the left or right of the connecting wall forms the door between the two rooms. No courtyards are built. Owing to the comparative dearth of trees, building material is not easy to obtain. When villages move—which they do frequently owing to the previous site being fouled—the huts are pulled down and the old poles used for the new huts. The new village as a rule is not far from the old site. The villages of the Nyika, also built above streams, are scattered mainly along the upward slopes towards the eastern edge of the plateau, away from the main centres of population. They are primarily a hunting people and prefer solitude near to the haunts of game. Their huts originally were grass structures like wigwams, some ten feet high, with wooden doors some four feet high. Nowadays they are more and more tending to follow the Fipa pattern.

(ii) *Agriculture and Village Economy*.—The fields of the Fipa are always some distance from the villages owing to the predatory habits of goats, sheep and cattle. Owing to the lack of trees, the Fipa cannot use wood-ash to increase the fertility of the soil. Therefore, after the rains in April, they select a piece of ground and, cutting the sods with a large hoe, heap them up into cones some three feet high and some three feet in diameter at the base, the grassy sides of the sods being turned inwards. The decomposition of the grass fertilizes the soil. This work is performed by the men. In November, before the rains, these cones are levelled, hoed and eleusine millet planted. The following year after the rains the field is extended by turning fresh cones. The old field is ridged the following November and maize, beans and some groundnuts planted. This process is continued for a third year. Thereafter, a new field is chosen as the fertility of the soil is considered exhausted. The eleusine millet is harvested from June to July, the maize, beans and groundnuts earlier, in April, May and early June. The planting and harvesting are done mainly by the women.

Eleusine millet is the main economic crop, large quantities being transported by head portorage to the Lupa goldfields, some two hundred miles to the eastward in Mbeya district. Considerable numbers of Fipa emigrate thither in the dry season in search of work, mine sinking, gold washing and the like. The majority of these, however, return before the planting season commences. In the extreme north of the plateau many of the men go off to the uninhabited woodlands of Gongwe that lie on the Kigoma border in search of beeswax. This, when found, is transported by head portorage to the Arab and Indian shops at Mtakuja, a small trading settlement in the north of the Fipa coast of Lake Tanganyika.

The agricultural methods of the Nyika are similar to those of the Fipa. It must be remembered, however, that the Nyika were primarily a hunting people, who have only recently taken to agriculture, owing to the increasing scarcity of game round their haunts. Their favourite method of hunting—to surround a game haunt, to fire the grass and to shoot the escaping animals

with poisoned arrows—gives some idea of the rate of destruction of game by these people in the past. Hunting parties, complete with dogs and poisoned arrows are frequently seen.

(b) LAKE TANGANYIKA.

(i) *Habitat and Water Supply*.—The villages are nearly all situated on the lake-shore itself, at the outfall of rivers and streams, where expanses of treeless flat country, flooded either by the rains or, if these are not sufficient, by irrigation, produce excellent crops of rice. The water supply is obtained either from the lake itself or from the rivers and streams.

(ii) *Agriculture and Village Economy*.—The staple food is cassava, which is interspersed at planting with maize and/or groundnuts. The fields are cultivated round the actual villages. Planting takes place in December, the ground being ridged in October or November. Harvest of maize occurs from April to May; of groundnuts from May to June. The principal economic crop is rice. This is planted in the flooded areas in December and is reaped from May to July. All planting and harvesting is done by the women, while the preparation of the fields is shared between the sexes. Fishing is extensively practised. The chief catch is *dagaa* (whitebait) which, when dried, is exported to Kigoma and the ports of Ruanda-Urundi to feed labour. The main season for *dagaa* is from April to September. The fishing takes place at night. Lighted torches are affixed in iron holders to the bows of canoes. The shoals are attracted by the light and are caught in nets. When a whole fleet of canoes are out, the lake appears to be dotted with innumerable fairy lights and is a picture that remains long in the memory.

(c) LAKE RUKWA.

(i) *Habitat and Water Supply*.—Many streams from the Fipa escarpment flow to the Lake Rukwa system. In the course of years these have cut out widish beds in the *miombo* woodlands at the foot of the escarpment. These beds vary in width but average some quarter to half a mile. Their banks are steep and are from ten to twenty feet high. The actual streams average some ten feet in width in the rains, though a few flood a much wider area. Some completely dry up, but the majority are perennial, though they shrink in volume in the dry season. The villages are built on the banks of the beds. These beds are very fertile and are planted with cassava, eleusine millet, maize, mangoes, bananas and pawpaws. The fields are usually some quarter to half a mile from the village.

Water is usually obtained from the streams. In a few instances during the dry season wells have to be sunk in the dried-up courses.

(ii) *Agriculture and Village Economy*.—The staple crop is eleusine millet, though cassava is starting to run it a very good second. The ground is prepared by clearing the beds of the luxuriant grass and bush that is their natural covering and by hoeing up long parallel ridges. This clearing and hoeing should take place just after the rains in May or June. In November

the ridges are levelled and eleusine millet planted. Cassava and maize and/or groundnuts are planted the second and third year. Every year fresh ground is broken for the eleusine. Rice is planted only in the larger streams that flood a considerable area in the rains. It is planted in December and harvested in May and June. Here as elsewhere the preparation of the fields is the work of the men, planting and harvesting mainly that of the women.

The chief economic crop as on the plateau is eleusine millet, transported by head portorage to the Lupa goldfields. Some cassava flour is also sold there, and many tribesmen go there to work but return to their homes before the planting season.

STOCK.

In the old days there were few herds of cattle in Fipa. Those that did exist belonged to the chiefs and important headmen. Now, however, with the exception of the people on the Lake Tanganyika shore, the majority of the Fipa own cattle. Goats and sheep abound everywhere. Cattle cannot exist by Lake Tanganyika owing to a tsetse belt—uninfected with sleeping sickness—varying in depth from thirty miles in the north to four miles in the south that cuts off the plateau from the coast. In each village the cattle are herded at night into two or three common kraals, while the sheep and goats sleep in the sleeping rooms of the village huts. These cattle kraals are solid structures of split poles some eight feet high with piled masses of dry thorn branches on the outside, the whole being designed as protection against lion. The cattle are let out about eight or nine o'clock in the morning and are herded by small boys, armed with sticks and small bows and arrows. They graze on the grasslands abutting on the tree-fringed rivers and streams and lie up among these trees during the heat of the day. The grazing is usually good all through the year. The grass fires take place in July to September. Thereafter the young grass affords good grazing which is increased by the rains. If the burning is unduly delayed, some scarcity of grazing occurs.

GAME.

Game is still plentiful in the Fipa country in spite of the depredations of the Nyika, who have denuded certain areas of game, notably on the plateau, within living memory. In the north can be found roan, hartebeest, topi, eland, bushbuck, reedbuck, duiker, buffalo and lion. In the Rukwa valley herds of zebra, hartebeest, roan, eland, reedbuck, duiker and impalla roam the open plains that fringe the lake. The thick vegetation round the streams hide buffalo. Elephant and lion abound. In the *miombo* woodlands are kudu. In the centre of the plateau, *situtunga* dwell in the thick reed-beds that border certain rivers. In the south, roan, topi, reedbuck and duiker can easily be seen. On Lake Tanganyika hippopotami cause much damage to the rice, and crocodiles infest the waters. In the *miombo* woodlands of the western escarpment dwell buffalo, roan, kudu and sable antelope.

LAND TENURE AND NATURAL PRODUCTS.

In the old days before the European occupation neither strangers nor natives had to get leave from the chief to cultivate, though the former had to ask permission to build. Everyone, however, had to send a basket of eleusine annually to the chief. The chief had no right to eject anyone, but no land could be transferred either by gift or sale. The produce only was the cultivator's own, to dispose of as he liked. Goats were frequently put into another's care and field produce was the usual payment. Food had to be given to the chief and his advisers when they visited a village. His wives never accompanied him. The position is substantially the same to-day though no one can cultivate without the leave of the chief; which, however, is never refused. Grazing is communal to the village. Any tree, in the old days, could be felled without permission. One leg of every game animal killed had to be given to the headman of the village. Except for this, game was free to all; but hunting parties could not go far afield for fear of raiding Wembe from the south or Makalunga from the west.

No salt is found in the whole district. This was obtained by individuals from what is now Northern Rhodesia in exchange for tobacco. Nowadays it is imported either from Uvinza in Kigoma district or from the salt pans to the east of Lake Rukwa.

EUROPEAN INFLUENCE.

The first and prime European influence on the Fipa has been that of the White Fathers' mission, the headquarters of which is in Algiers. In the eighteen-eighties a body of these missionaries landed at Bagamoyo and, after a journey of extreme hardship, reached Ujiji via Tabora. From here in the last decade of the last century they founded four missions on the shore of Lake Tanganyika. Thence they extended their field of operations until to-day there are seven missions in Fipa, two on Lake Tanganyika, three on the plateau and two in the Rukwa valley. One of these latter is not in Fipa proper but lies just to the north in Pimbwe country, whose people share a native treasury with a section of the Fipa. The mission stations, designed and built by the missionaries themselves with the aid of native Christians, are beautiful buildings of burnt brick and tiles, the majority with large churches of the same material. These stations are oases of exotic trees, each with its own gardens and orchards. On the plateau coffee and wheat are grown to supply the needs of all the White Fathers' missions in the territory. Excellent oranges are grown. In the Lake Tanganyika and Rukwa missions mangoes, bananas, pineapples and other tropical fruit grow in abundance. At each mission there is a small dispensary and a large school for boys and girls, the latter of whom are taught by the sisters. Many village mission schools are scattered throughout Fipa. As a result some eighty per cent of the Fipa are Christians while a large proportion, especially of the young generation, are literate. The most striking feature of any visit to Fipa, especially on the

plateau, is the abundance of young children in any village. Large families—the average is over four—are the rule. While doubtless many factors combine to produce this result (climate, absence of fever for a large part of the year, steady male population) mission medical work in combating venereal disease and mission teaching that promotes the sanctity of family life may fairly claim no small share.

In the past, many males emigrated yearly to Tanga and elsewhere on the coast in search of work on the plantations; the majority of them did not return. It was feared that a serious depopulation might result. Some three years ago, therefore, recruiting of labour, except for a limited yearly number, was forbidden. Consequently the male population is fairly constant. The demand for labour for the Lupa goldfields does not greatly affect the population, as the great majority of those tribesmen who go thither in search of work return to their own homes before the planting season. The demand for foodstuffs to feed the labour on these gold mines has stimulated production in Fipa. The yearly export to the mines is estimated at five hundred tons, mainly carried by the producers themselves to the Lupa market. The export of cattle to the Lupa from Fipa is chiefly in the hands of one or two European settlers, who buy a large proportion of their stock from the Fipa. The latter, too, are yearly increasing their own export. The rise of the Lupa goldfields, therefore, has resulted in an increased circulation of money in Fipa, which, in turn, is reflected in a higher standard of living, typified by a greater demand for cloth, imported hoes, shirts, knives, lamps and kerosene.

A Note on Some Ruins near Bagamoyo

By Norman Forster

THE RUINS herein referred to, which apparently are of Arab origin and of considerable antiquity, are situated near the village of Kaole approximately five or six miles south-south-east of Bagamoyo on a sandy elevation raised slightly above the level of the swampy ground surrounding it. The site is approached from Bagamoyo by a road along the crest of a coral ridge, evidently an ancient coastline, which serves as a protective rampart for the land behind it against possible inroads by the sea. The height of this natural sea-wall enables an uninterrupted view of the Indian Ocean to be obtained from it through a wide arc over the tops of the coconut palms growing on the flat ground between it and the present-day high water mark.

At Kaole—a comparatively modern successor to the village destroyed by the patriot Bushiri bin Salim in 1889—a pathway diverges from the road, descends the abrupt escarpment of the old coastline and crossing a belt of marshy ground, beautiful with water-lilies, leads to the remains of an ancient graveyard.

These monuments of an earlier invasion than ours comprise (a) two ruined mosques and (b) a series of some twenty or more tombs all of which are in various stages of disrepair and, what is of special interest, are of different ages. As has been mentioned, the site occupies a slight but definite rise in the ground, a “whale back” the configuration of which makes it appear likely that it was once either an off-shore island or a sand-bank, dry at all states of the tide. In view of this and the purpose to which it has been put, it is not unreasonable to suppose that this was once a “holy island” of Islam, a place of honoured sepulture for those Moslem venturers who were among the earliest immigrants to these shores.

The remains of what evidently is the older of the two mosques (subsequently referred to as mosque “A”) are found towards the north-western end of the site. The walls and vaulted roof of the *mbirika* (the annexe devoted to ceremonial ablutions at the entrance of the mosque) are still standing intact (see illustration 1) while adjacent may be seen the well whence centuries ago worshippers drew water for their religious cleansing. Much of the side walls and the whole of the roof of the main structure have collapsed and their fragments lie in a confused heap on the earth-obscured floor of the mosque. An examination of some of these fragments seems to indicate that the building had a flat roof. Apart from the *mbirika* there are no traces of vaulting supported by pillars, the doorways having simple square lintels which rested on wedges of stone cemented at an angle into the walls on either side. What, for convenience, may be termed the (ecclesiastical) “west” wall is still standing,



Fig. 1



Fig. 2



Fig. 3

supported by a massive buttress the outer slope of which is fashioned into steps (probably to enable the muezzin to gain access to the roof) but this wall is badly cracked and before long no doubt it also will fall.

The *kibula* (Arabic, *mihraqb*) or recess at the "east" end—strictly that end of the building nearest Mecca—is still standing and there are traces of what appears to be an inscription on its vaulting.

Nearby are several tombs, the most imposing of which (tomb 1), evidently that of someone of importance, is shown in illustration 2. A wall of coralline limestone, probably of local origin, approximately four feet six inches in height, surrounds the grave and encloses a rectangular space of about nine feet by four feet; the occupant of the grave, in accordance with Moslem custom, being interred on the right side with the face towards Mecca. Near one corner of the wall is inserted a stone commemorative mural tablet decoratively incised with Arabic characters of a primitive but conventionalized type (see illustration 2). Unfortunately this tablet is badly weathered but it is possible to transcribe what appears to be the name "Mahomet" and a date (?). The tablet, though coralline, is of a different stone to that used in the wall and either is of another age, probably earlier, or has been subjected to chemical influences that have coloured it a dark slaty grey. (Circumstances unfortunately did not permit of the taking of a plasticene "squeeze" of this tablet whence a plaster-of-paris cast could have been made for more leisurely study and reference, but it is hoped to do this on the occasion of another visit.) The transverse wall at the head of the grave is surmounted by a coping which has a convex face turned inwards, and it is suggested that this may be a conventionalization of a pillow typifying the grave as a place of rest. This, however, is only a suggestion and the opinion of competent orientalists in the territory would be welcomed.

A stele about twenty feet high divides the head-wall vertically into two shallow recessed panels. The stele is of square section (octagonal if the chamfering of the angles is taken into account) and tapers gracefully towards its apex. Apparently it was surmounted originally by a stone knob or "turban", similar to the "pineapple" seen in some Palladian work, but this knob has fallen to the ground. The outer face of the stele was decorated with five glazed porcelain bowls of a delightful reseda green colour, and measuring about six inches in diameter, which were cemented into the masonry, but the destroying hand of Time, or of the vandal, has left only the two topmost bowls *in situ*. As it is the three most easily accessible that have disappeared, Time it would appear is absolved. (Incidentally, as it seems inevitable that ultimately this stele will come crashing to earth as those on some of the adjacent graves already have done, would not the careful removal of one of the remaining bowls for safe keeping be justified?) As may be seen in illustration 3 each bowl was placed nearer the one above it than the one beneath it. Was this merely a conventional and arbitrary arrangement of a decorative motif or were the bowls so placed in order to enhance the illusion of tapering height?

Again, the placing of the bowls on the sunward side of the stele may indicate Persian influence.

The shallow recessed panels on the outer face of the head-wall on either side of the base of the stele are of considerable interest. These recesses frame thin slabs of white coral worked to a high degree of smoothness and beautifully engraved with what appear to be eulogistic epitaphs or pious texts. Owing to the softness of the stone, however, which has weathered to the crumbling flakiness of dried whitewash, these inscriptions are now almost completely indecipherable but sufficient traces remain to encourage squeezes being taken. They appear to be of later date than the mural tablet already mentioned, their delicate script being more cursive and less conventionalized. Along the upper rim or architrave of each recess runs a repeating "tau" pattern similar to that seen in Arabic monuments elsewhere, notably in the Hadhramaut.

It is not easy to fix the date either of this tomb or of mosque "A" with any degree of accuracy. One would like to assume that they are relics of the seventh century and of one of the earliest Moslem contacts with Africa but, dilapidated as they are, their condition makes it questionable whether they are quite so old.

It is interesting to notice that the main features of this tomb have been to a greater or less extent copied and modified by the men who raised the neighbouring ones. Thus, on the other and presumably later tombs, one observes a progressive shortening of the stelæ, scarcely any two of which are of the same height though all are shorter than that of tomb 1. It may be that this shortening represents an economy of cost and effort by those responsible for the entombment, but whatever the reason, the stele eventually became reduced to the dimensions of the "Prince of Wales' feathers" type of monument seen on the two dark-coloured tombs in the foreground of illustration 3. These apparently are of later date than tomb 1. Not only has the stele all but disappeared but the memorial panels are replaced by diaper pattern decorations similar to that sometimes seen in Early English Gothic.

Illustration 4 shows a development of this idea of memorial panelling. The rectangulation seen in the illustration is formed by oblong blocks of finely dressed coral that in colour and texture resemble white marble and which are stuck on to the cement-smoothed inner surface of one of the surrounding walls of a simple tomb contiguous to the "east" end of mosque "A". Evidently the rectangular recesses thus formed once contained obituary plaques. In view of the small size of the compartments (nine feet by six feet) these may have been encaustic but it is more likely that they were similar to the inscribed marble panels seen in tomb 1. In any case no trace now remains of them. It is interesting to speculate whether and to what extent the small lattice moulding seen in the top right corner of the head-wall of the central tomb in illustration 3 is derived from this appliqué stonework.

Mosque "B", which, as has already been noted, is almost certainly of later date than mosque "A", lies towards the south-eastern end of the site.



Fig. 4



Fig. 5

Its ruins have been tidied up and in part restored. Illustration 5 shows the *kibula* and part of the "east" wall, subsequent to restoration, and also the bases of the pillars which supported the roof. No doubt this was vaulted and triple domed as is the ruined mosque at Kilwa Kisiwani and which mosque "B" so closely resembles that it is not unreasonable to surmise that these two buildings are contemporaneous and possibly the work of the same builder.

As in the case of mosque "A", the well near mosque "B" may still be seen, but only the foundations of the *mbirika* remain.

In conclusion, it is to be observed that this note is the result of a brief visit only and time, unfortunately, did not permit of a more detailed examination being made or of accurate measurements being taken. It seems likely, however, that some trenching and excavation on a quite modest scale would be sufficiently fruitful of results to make such an enterprise worth while.

Voyage de Marseille au lac Tanganyika en 1902 via Mozambique et lac Nyasa

By Sister Rose,

des Soeurs Missionnaires d'Afrique Soeurs Blanches

LE PARTIS de Marseille le 3 Juin, 1902, à bord d'un vieux bateau allemand, le *Bundesrath*, qui faisait son dernier voyage. Deux autres Soeurs Blanches et deux Pères Blancs s'étaient embarqués en même temps que moi. Ces trois Soeurs Blanches sont encore vivantes aujourd'hui, et elles travaillent sur les bords du Tanganyika. Les deux Pères sont morts depuis déjà plusieurs années.

Nous fîmes une première escale à Naples et, comme le bateau devait y charbonner, nous en profitâmes pour visiter un peu la ville. Notre seconde escale fut Port Saïd. Dans le cours du voyage le bateau s'arrêta aussi à Aden, Mombasa, Tanga et, le 8 Juin, il arrivait à Zanzibar. Comme le *Bundesrath* devait aller à Dar es Salaam et revenir à Zanzibar, nous restâmes là à l'attendre, et les Soeurs de Cluny chez qui nous logions, nous firent visiter la ville et les environs.

Le 2 Juillet nous remontâmes sur le *Bundesrath* qui fit escale à Quilimane. Là encore nous descendîmes et nous allâmes voir les Soeurs de Cluny. Ces braves Soeurs voulurent nous faire un cadeau : deux paires de dindons qui furent mises en cages et que nous emportâmes jusqu'au Tanganyika. Il y avait là une bonne vieille Supérieure que tous les européens connaissaient et qu'ils appelaient "Mère Très-Chic." Elle nous gâta littéralement, et de toutes les manières.

De Quilimane le bateau nous amena en face de Chinde. Là, on nous descendit dans des corbeilles et nous fûmes déposées dans un petit bateau qui attendait les voyageurs et qui reposait "à sec" car c'était à marée basse. Il était huit heures du matin. La marée haute ne le fit flotter que vers quatre heures de l'après-midi. La descente dans ces corbeilles était beaucoup plus intéressante pour les passagers qui contemplaient la manoeuvre du pont du *Bundesrath*, et qui, eux, n'allaient pas être "mis en panier," que pour nous qui n'étions qu'à demi rassurées, ainsi suspendues et balancées entre le ciel et l'eau.

A marée haute le petit bateau put donc flotter et il nous déposa à Chinde. Nous allâmes loger à l'hôtel de l'African-Lacs. Nous restâmes là quatre jours à attendre le bateau pour remonter le Zambèze. Nous profitâmes de cet arrêt pour faire quelques lettres. Nous trouvâmes bien des timbres à la poste Portugaise, mais ils n'avaient pas de colle, et nous dûmes nous ingénier à trouver un moyen pour les faire tenir sur les enveloppes.

Enfin, le bateau arriva. C'était la *Queen*, le plus grand et le plus beau de la compagnie. L'agent de l'African-Lacs nous dit que ce bateau était très "suitable" pour nous car, étant des Religieuses, nous étions par le fait même les "ladies," . . . donc des queens.

Nous voguâmes sur le Zambèse pendant quatre jours. Le bateau s'arrêtait tous les soirs un peu avant le coucher du soleil, et nous en profitions pour faire une petite promenade à terre. Sur les deux berges du fleuve il y avait des crocodiles en quantité. Un passager, un chasseur, en tira plusieurs. On put même hisser une de ces bêtes sur le pont du bateau, et le chasseur voulut se faire photographier devant son trophée. Pour une plus grande "mise en scène" il résolut même de se faire photographier avec un pied dans la gueule de l'animal. Mais comme les marins essayaient d'ouvrir les mâchoires du croco avec un bâton, ce dernier donna un coup de queue qui produisit, parmi les nombreux spectateurs, un vrai "sauve-qui-peut." Pourtant, l'animal n'ayant plus donné autre signe de vie, la confiance finit par se rétablir, et la photo fut prise . . . mais sans le pied du chasseur dans la gueule du croco.

Nous quittâmes la *Queen* à Chiromo. Vu son tonnage un peu fort, ce bateau ne pouvait plus aller plus loin, le niveau d'eau du fleuve ne le permettant pas. Nous restâmes à Chiromo deux jours pour attendre un bateau plus petit, et à fond plat, qui devait nous conduire jusqu'au Shiré. Dans cette rivière les eaux étant encore beaucoup plus basses que dans le Zambèse, notre petit bateau devait souvent obliquer à droite et à gauche pour éviter les petits monticules de sable disséminés de ci et de là au milieu de la rivière. Assez souvent le coup de gouvernail n'était pas donné à temps, et le bateau allait donner du nez dans le sable. Il fallait faire alors machine en arrière, mais quelquefois la machine, malgré tous ses efforts, n'arrivait pas à nous "dépanner." Alors tout l'équipage sautait à l'eau et venait au secours de la machine.

A Chiromo nous passâmes la nuit chez une brave famille danoise. Le matin, au moment des adieux, l'une d'entre nous oublia son casque dans cette maison hospitalière. Mais bientôt un boy de nos hôtes arriva à notre poursuite en toute vitesse, nous apportant le casque qu'il tenait bien haut, comme un flambeau, au bout d'un long bâton.

De Chiromo nous arrivâmes à Katonga, mais là il fallut mettre pied à terre : nous étions dans le voisinage de petites chutes qui, sans avoir la réputation mondiale de celles du Niagara ou du Victoria, étaient pourtant assez puissantes pour dire à notre petit bateau : "tu n'iras pas plus loin." Mais l'African-Lacs avait toujours tout prévu et nous trouvâmes, près de ces chutes, des machillas et des porteurs, et, le soir, nous étions à Blantyre. A mi-chemin nous rencontrâmes un "rest-house," et, près de ce rest-house, toujours par la prévoyance de l'African-Lacs, un magasin où l'on pouvait se procurer des vivres, des conserves surtout. Nous primes là ce qu'il nous fallait, et nous signâmes un petit chèque. Par ce moyen, si peu compliqué, nous eûmes la preuve que les anglais étaient un peuple bien pratique.

Blantyre, en ces temps-là, n'avait encore que quelques maisons européennes, mais déjà les anglais, en colonisateurs prévoyants, avaient tracé de belles routes, bien droites et très larges. Dans les environs immédiates il y avait de belles plantations de café . . . et partout des fleurs, surtout des rosiers. Nous fîmes là une bonne provision de graines et de boutures dont nous remplîmes trois

caisses, chacune de nous se proposant de faire, pour son propre compte, au Tanganyika, un autre petit Blantyre.

Un brave anglais, qui voyageait avec nous depuis Blantyre jusqu'à Matope, avait un chien magnifique auquel il tenait beaucoup, et ce chien devint même comme la mascotte de toute la caravane. Un jour, un léopard traversa la route que nous suivions. Le brave chien, n'écoulant que son instinct et son courage, se lança à sa poursuite, mais, d'un coup de patte, le léopard lui fit une profonde blessure à la cuisse. Nous pansâmes aussitôt la plaie sur laquelle nous mîmes un bandage fait d'après toutes les règles de l'art. Le soir et les jours suivants le pansage était consciencieusement renouvelé. Nous parlions ensuite souvent de ce brave chien, et chaque fois nous faisons des souhaits pour son complet rétablissement.

Arrivées à Matope nous nous embarquâmes dès le soir et nous allâmes jusqu'à Fort-Johnston. Cette ville était tout à ses débuts, seulement quelques maisons comme à Blantyre, mais comme à Blantyre également les anglais avaient vu là grand, et de belles et larges routes étaient tracées. Nous étions alors au premier Août. Je le répète : à tous ces nombreux points de départ et d'arrivée nous n'avions qu'à nous laisser faire ; partout l'African-Lacs s'occupait de tout et très bien.

De Fort-Johnston nous fûmes conduits au lac Nyasa par le motor-boat de l'African-Lacs. Nous voyageâmes quatre jours sur le Nyasa. Souvent nous voyions des hippopotames qui venaient ronfler tout près du bateau. Le lac fut très mauvais, et le mal de mer, auquel nous avions cru dire adieu en quittant l'Océan Indien, nous reprit et nous fit voir que les lacs Africains pouvaient avoir eux aussi leurs tempêtes.

Nous débarquâmes à Karonga le 5 Août dans la soirée. Nous eûmes le plaisir de voir, au débarcadère, une centaine de porteurs, venus du Tanganyika, et qui nous attendaient. Karonga nous laissa le souvenir d'un véritable four à chaux, et d'un endroit où tous les rats de la création s'étaient donné rendez-vous. Durant cette nuit passée à Karonga, nous fûmes littéralement assiégées par une armée de rats rangée en bataille et qui n'hésita pas à nous attaquer par les pieds, par les mains, et même par les oreilles et par le nez. Aussi ce fut avec un vrai sentiment de délivrance que nous prîmes la route du Tanganyika.

Ce voyage, Nyasa-Tanganyika, dura trois semaines. Tout d'abord nous suivîmes la fameuse route Stevenson qui relie les deux lacs. Mais, arrivées à Fife, nous obliquâmes à droite, vers les hauts plateaux de l'Urungu et de l'Ufipa. Nous faisons des marches de Sept, huit et même neuf heures. Nos porteurs étaient dans un "very high spirit," et ils ne firent que chanter durant toute la route. Il faut dire que nous les nourrissions bien. Le gibier étant assez abondant tout le long de la route, l'un des deux Pères qui nous accompagnaient eut presque chaque jour la chance de tuer un antilope ou un sanglier.

Durant cette dernière partie de notre voyage nous eûmes plusieurs fois, pendant la nuit, à nous garder des lions. Certains villages où nous campions étaient même fortifiés à cause des incursions nocturnes de ces gros chats de la

brousse. Je me rappelle que pour entrer dans ces villages fortifiés il nous fallait, non seulement nous baisser, mais ramper à quatre pattes. Toute la nuit un grand feu brûlait dans le camp pour éloigner les fauves. Ce feu était loin de nous incommoder car la température sur ces hauts plateaux était très fraîche, surtout pendant la dernière partie de la nuit.

Trois jours avant d'atteindre Kala—mais déjà nous avions aperçu, à deux ou trois reprises, les eaux du Tanganyika, but de notre voyage—nous arrivâmes aux chutes du Kalambo—une vraie merveille comparée aux petites cascades que nous avions vues sur le Shiré, et les plus belles, dit-on, après les chutes du Victoria Falls.

Le 28 Août nous étions à Kala, mission que je n'ai jamais quittée depuis. Jamais je n'ai revu ni Marseille, ni la France, ni l'Europe. Toutes les inventions modernes qui ont surgi en pays civilisés depuis trente-cinq ans, je ne les connais que par oui-dire, et lorsque j'en entends parler j'ai bien du mal à me les représenter. Pourtant, durant ces dernières années, j'ai vu une demi-douzaine d'aéroplanes survoler le Tanganyika, au large de Kala. C'est du haut du ciel que j'espère contempler toutes ces merveilles dont on m'a parlé.

QUELQUES DATES CHRONOLOGIQUES.

- 13.3.1857: Burton et Speke découvrent le lac Tanganyika.
- 12-14.9.1876: L'Association Internationale est fondée à Bruxelles par le Roi Léopold II. Elle subsiste de 1876-1884.
- 24.2.1878: Départ des premiers Pères Blancs pour le Tanganyika. Ils y arrivent le 29 Janvier, 1879.
- 1.10.1884: La Société de Colonisation Allemande se fonde et envoie Peters dans l'Est-Africain. Presque à son arrivée Peters proclame le protectorat allemand sur les provinces voisines de la côte.
- 12.6.1885: Le Sultan de Zanzibar, Saïd-Bargash, qui a reçu notification du démembrement de la côte du Zanzibar, se fâche et refuse de reconnaître le protectorat allemand.
- 1.11.1886: Traité de Londres: accord entre l'Angleterre et l'Allemagne relativement aux Etats du Sultan de Zanzibar et à la ligne de partage dans l'Est-Africain. A la suite de cet accord, constitution, à Berlin, de la Compagnie Allemande qui se substitue aux droits de la Société de Colonisation du 1.10.1884.
- 16.8.1887: Salves d'artillerie qui saluent le drapeau allemand arboré sur quatorze ports de la côte. L'Allemagne a l'administration du domaine du Sultan de Zanzibar et la régie des douanes, jusqu'au 17.16.1890, date de l'accord Anglo-Allemand relatif à Zanzibar.
- 6.3.1890: Emin-Pacha, deux ans après avoir été secouru et ramené à la côte par Stanley, s'engage au service de l'Allemagne et devient Gouverneur de la colonie.
- 29.7.1890: Emin-Pacha arrive à Tabora.
- 4.8.1890: Les Arabes de Tabora acceptent le drapeau allemand des mains d'Emin-Pacha.
- 9.11.1890: Proclamation, à Zanzibar, du protectorat anglais sur cette île.
- 1.1.1891: Les territoires cédés par le Sultan de Zanzibar à la Compagnie Coloniale Allemande passent sous l'autorité de l'Empire.
- Nov. 1890: Fondation de Bukoba.
- Oct. 1893: Le Lieutenant allemand Sigl prend possession d'Ujiji.

Anti-Locust Measures Memoirs

By R. C. Jerrard

MUCH valuable data has been collected and written regarding anti-locust measures, dealing mainly with hatching, eggs and egg-laying, hoppers, adults, life history of the red locust, how to distinguish between the red form of the tropical migratory locust, their natural enemies, and so on. This information is admittedly of the most profound importance. There is, however, another side to the question and that is the all-important one of persuading the local natives to deal efficiently and willingly with such swarms.

It is all very well to be told how to deal with invasions of the migratory locust such as flew across the territory from the north-east to the south-west in October 1932 or the swarms of the red locust which literally poured into the territory from the north in November 1933 but, however good the advice and however painstaking those appointed to deal with them may be, the success of any such undertaking must depend mainly on the open and willing assistance of the natives themselves, since without them little can be achieved.

Exchanges of ideas, and records of the methods employed in various provinces would, I think, be of considerable value in dealing with future invasions, should they reappear, at the same time greatly enhancing the value of the biological reports. It is with this object in view rather than the desire to rush into print that I venture somewhat timidly to place the following on record.

As already stated, a large infestation of the red locust (*Nomadacris septemaculata* Serv.) from the north along the Zambezi river began to enter the territory in November 1933. By January 1934 they arrived in the Muheza area of the Tanga district and it is no exaggeration to say that they laid in practically every part of this area on a front of some twenty-two square miles. The natives themselves at that time were saying, "*Loo! hao sio nzige tena ila baa*," meaning that this invasion was more like a serious epidemic than a locust infestation so great were their numbers.

I was duly appointed a locust officer and I have to admit that the task did not look a particularly easy or pleasant one. I first called in the *jumbe mkuu* also the other *jumbes* and headmen from the twenty-two areas concerned and gave them detailed instructions as to what was to be done, such as searching for and digging up eggs and beating hoppers. The vital necessity of persuading their people to turn out for this work was duly impressed upon them; this was important as the organization of the anti-locust campaigns is in the case of natives in the hands of native authorities, headmen and *jumbes*, directed by European officers in the event of large infestations.

I quickly discovered that the natives were not turning out in anything like the numbers required if their work was to be of any material value. Considerable time was then spent by the *jumbe mkuu* and myself in training gangs

in the best methods to be used in dealing with the locust, and from these trained men I despatched two or three to each of the areas, to train further gangs.

By the 12th of February hoppers had begun to make their first appearance and I had to find the most suitable implements for dealing with them, taking into consideration the materials available for such use locally. A few sprayers and flame throwers would obviously be of little use in such an area so heavily infested.

I decided on the use of the main ribs of coconut leaves (i.e. *makuti ya minazi*); these proved very effective for beating hoppers but still the natives seemed none too keen on the work. They were difficult to turn out and most anxious to leave the hoppers to do their worst and to return to their homes after a paltry couple of hours' work, to curse their luck and the "*baa la nzige*" and, I have no doubt, to add a few kind words about my stupidity in daring to ask them to undertake such a hopeless task. This was all very distressing; in fact I began to feel rather like giving up the ghost or whatever it is one does give up under such circumstances. I had to find some method which would keep them keyed up and interested and I began to envy other more fortunate locust officers elsewhere who had the King's African Rifles or police to help them instead of unpaid and voluntary, but not really keen or willing, helpers.

It was this thought perhaps which persuaded me to endeavour to turn the uninteresting task of swatting locusts into a game and make it as little as possible like hard work or, as so many natives were calling it, "*kazi bure*"—a waste of time. It struck me that as children most of us liked playing soldiers and I have frequently noticed that this is also a favourite game with native kiddies and also young men; given a stick, a drum, a kerosene tin or a penny whistle, they will play at soldiers for hours.

I accordingly had large quantities of *pongoo za minazi** cut and distributed; I then formed what I called my various companies of *askaris* (soldiers), each company being anything from fifty to a hundred strong. The daily routine was parades at six in the morning followed by an inspection of arms (i.e. *pongoo*); these parades were held by the *jumbes* concerned, and I held at least one of them myself every day. The companies were properly drilled in the art of sloping and presenting arms with their *pongoo*. This over, they were as far as possible so arranged that they could compete against one another in their efforts at swatting locusts, the honour of the day going to the company who had killed the largest number of hoppers. I found it possible, much to the amusement of my soldiers, to work in a lot of jokes and leg-pulling and soon keen competition started between the various companies.

Funnily enough the morning parades and inspections became very popular especially over the inspection of *pongoo*, which had to be cut flat at the broad end, straight and with as broad a surface as possible at the striking end. Great was the glee when Mohamed or Juma dropped his "musket," and

*The central rib or stem of a coconut leaf.

shouts of joy would resound when one of them was duly reprimanded by the inspecting officer for being on parade with a fine large *upongoo* which on inspection was discovered to have a large hole or hollow in the business end. I must admit that I, too, got a lot of fun and amusement out of it.

The natives soon began to know the numbers of the various companies remarkably well and this was of considerable help in sending late-comers to their correct posts.

Often in the evenings after a good day's *vita* (war) I would wander into the villages and discuss results with my by then tired lads, summing up the merits of the various companies, laughing over numerous amusing events of the day and, where possible, stimulating renewed interest for the following day's battle.

The result of all this was that over a period of five months seventy thousand natives in the Muheza area turned out to work on locust duty (excluding school children and mission boys), and I am sure that the locusts, in spite of their overwhelming numbers, must have agreed that my trained army of natives was not so contemptible after all; in fact so good were they that not a single flying swarm escaped from this area and very little damage was done to crops.

A Story of the Origin of the Name of Bandar-es-Salaam, which in the old days was called Mzizima

By Morwenna Hartnoll

NOTE.—This story is translated chiefly from a typescript belonging to Pazi Degelubozi bin Mlawa, *ndewa* of Marumbo, who states that it was written down at his dictation and that he was told it by his father, and partly from verbal versions of the same tale given by various Zaramu natives and amended and added to by Ali bin Said, an Arab of Dar es Salaam who, according to his own statement, first came here more than seventy years ago and personally knew most of the people mentioned herein.—M.M.H.

AT THE time of this story the chief men of Mzizima were the leaders of the Shomvi clan*—Kitembe, Gungulugwa, Tambaza of Zalala, Chomvilali and Abdallah Usisana; and a half-bred Arab, Said bin Abdallah, son of Abdallah Marahubi, a wealthy Arab of Zanzibar and his slave concubine, *binti* Nyaganyaga, daughter of Pazi Nyaganyaga, half-brother of Pazi Degelubozi of the Pazi clan.

Said bin Abdallah's position as a man of high standing in Mzizima is explained by his close kinship on his mother's side with the Pazi and the fact that they in common with the Shomvi had good reason to remember his birth, for on that occasion they had shared between them a present of three thousand *reale* (twelve thousand shillings) sent them by Abdallah Marahubi, whose first son was Said bin Abdallah. In addition, Said bin Abdallah was a friend and favourite of the then Sultan of Zanzibar, Said Majid (1856-70).

In those days there lived where Sea View now stands a rich Banyan merchant named Mamula, whose son Mtoro committed adultery with Mwatatu the daughter of Kitembe. They were surprised and caught in the house and Mwinyishehe, the girl's brother, took the boy Mtoro and strangled him. When Mamula the Banyan discovered the murder of his son he took Mwinyishehe to Said bin Abdallah and laid his complaint before him saying, "Mwinyishehe bin Kitembe has strangled my son." Said bin Abdallah asked Mwinyishehe, "Why did you do this?" To which the son of Kitembe replied, "Are not my commands merely a child's orders? Why should I have strangled him? I know nothing about it." Then said Said bin Abdallah, "You ordered a man to be strangled for no reason. This is a lawless country. I shall go to Unguja (Zanzibar) to consult with Said Majid."

*The Shomvi were the ruling clan of the coast, the Pazi the ruling family of the hinterland. Since the time when the Pazi under their leader, Pazi Gurajazi, had come to the assistance of the Shomvi by defending the invading Kamba and banishing them from the country, the Shomvi, though they still ruled in their areas, tacitly acknowledged the supremacy of their ally and paid yearly tribute to the Pazi.

Said bin Abdallah departed immediately and when he reached Said Majid he said to him, "There is a fine country."

"Which country?" asked Said Majid.

"Mzizima."

"Who lives there?"

"Firstly, Kitembe and his family, secondly, Gungulungwa and Tambaza and thirdly, Shomvilali, Palalugwe, Zalala and Abdallah Usisana. These are the chief men of Mzizima," replied Said bin Abdallah. The sultan was interested and said, "I will go to this country to see it for myself."

So Said Majid set sail in a three-masted sailing ship (*manchen*) and came to Mzizima, where he anchored outside the channel. He sent Said bin Abdallah ashore in a rowing boat to summon Kitembe and his Shomvi kindred. Said bin Abdallah gave a letter to Kitembe and informed him and his relations, "Said Majid is here and calls you to him. He cannot come into the channel so he has sent for you and all your male relations." The Shomvi obeyed the summons and when they arrived Said Majid said to them, "I have sent for you on my arrival here because I wish to settle in your country." Mwinyimkuu Chimba stood up and answered, "We do not want you to live in our country." But Kitembe said, "That is not right. It is our duty to let him settle here if he comes in peace." Said Majid finding that opinion was divided decided to leave the Shomvi to themselves, saying to Said bin Abdallah, "Tell them to go to their homes now and think it over and later call them together again; but every one must be present when they give me their answer."

Said bin Abdallah constituted himself the emissary of Said Majid and advised the Shomvi, "Do not refuse him admittance; allow him to live here in peace." Which advice they eventually agreed to follow. They returned with their answer to the sultan, who was pleased and said to them, "Now I am going back to Unguja. Later I will return and bring my people to build in your country." And he departed with Said bin Abdallah.

On his return he sailed right through the channel into the harbour. Said bin Abdallah and many Arab soldiers were with him and also a carpenter named Baruti *wadi* Saburi. Kitembe was sent to summon the Pazi Kilama Sultan Degelubozi and Nyaganyaga and their children and grandchildren and all the tribe of the Zaramu. When they were all assembled Baruti *wadi* Saburi the carpenter made the coffee of peace before beginning to build houses of stone in Mzizima which was not yet called Bandar-es-Salaam.

Said Majid stayed several months, during which time there was much feasting, and he gave gifts of every kind to the Pazi and Shomvi. Then he sent for all the Arabs who had followed him and said to them, "Plant the seeds* which I shall send you from Unguja and till my land in this country which I now love, I, Said Majid. Its name shall be called Bandar-es-Salaam†

*Coconuts.

†Said Majid copied Haroun-al-Rashid, who named Baghdad "Dar-es-Salaam," because he took it without any bloodshed.

(the port of the haven of peace) because I took it peacefully, I did not fight with the Pazi nor with the Shomvi. I am pleased with the Pazi and the Shomvi." The Pazi and the Shomvi replied, "We also are pleased because you and your people live here in peace and do not quarrel with our people." They adopted the new name and the country prospered.

One day Said Majid sent for Kitembe and publicly enquired of him about the death of Mtoro saying, "I have heard that your son Mwinyishehe bin Kitembe strangled Mtoro the son of Mamula the Banyan. For this Mwinyishehe must be imprisoned because he made trouble in the country of Uzaramu by strangling a man for no reason." Kitembe replied, "It was not by my order that he was killed. It was but a children's quarrel." Said bin Abdallah stood up and said, "If you had forbidden your son to strangle the boy, Mtoro would have been imprisoned and judged by his father, who is now dead." Then Kitembe fell down before all the Arabs crying, "Said Majid wants to punish me for my son's crime." Said Majid gave judgment saying, "Certainly you must pay for the blood of the Banyan child who was strangled in the country of the Pazi."

Kitembe mortgaged his *shamba* to Said bin Abdallah and he and his family between them paid one thousand Persian *realc* (four thousand shillings) to the relatives of the Banyan. The *shamba* which Kitembe mortgaged was close to the Magogoni ferry. The boy Mtoro was buried there and his grave can be seen to this day.

Said Majid returned to Zanzibar. Before he left he made Said bin Abdallah *akida* of Bandar-es-Salaam and put him in charge of the cultivation of the *shamba* given him by the Pazi and the Shomvi which covered the areas of Gerezani and Kichwele.

After a time Said Majid came back and lived for several years on his estate. One day he fell down and broke a bone in his shoulder which pierced his lung. Seeing how badly injured he was, the Arabs placed him on board his *manchen* and took him straight to Zanzibar, where he died. He had no son, so his half-brother Said Barghash reigned in his stead. Said Barghash reigned from 1870 to 1888. He stayed all the time in Zanzibar and never visited Dar-es-Salaam.

This then is the story of how Said Majid came to this place, the story of Mzizima in the country of the Zaramu which Sultan Said Majid loved.

The Pain of Individualism

By T. M. Revington

THE EUROPEAN is an individualist and the tribalized African has as yet little conception of his own personal entity. In the words of Oldham and Gibson in *The Remaking of Africa*: "In contrast with the disastrous atomization of western society, native society in Africa still possesses an organic unity. In the life of the family, the clan and the tribe, men remain bound to one another in mutual obligation." In other words whereas the actions of a European are visited upon his own head those of an African ripple outwards, like the water when a stone is flung into a pond, bringing into their orbits many members of the family, the clan and the tribe. If this is an exaggeration it must be admitted that many others are directly interested in an African "cause" than merely the several protagonists and their nearest relations. Hence the intense local interest in what appears to the European to be an insignificant matter brought to him for decision.

The individualism of laws imposed by the European and the "monism" of European judgments stupefy and bewilder the African brought up to different ideals. He is aghast that a clan member should be cut off from the tribal life for a period and be unable, say, to attend such an important event as an initiation ceremony or a marriage in the clan, or a planting festival. By his law a compensation would have met the case and the delinquent's work would not have been lost to the tribe. How efficient would be crime prevention—that ideal of administration—were it possible to accept the old tribal law and custom of communal punishment.

So strong is the communal sense, even in detribalized areas in Tanganyika, that it is seldom that the individual pays a fine himself, it being found almost invariably by his family, friends, dance society or fellow workers. The African still feels an overwhelming fear when held personally responsible for a fine, as must have a Briton in the first century when punished by the conquering powers in defiance of the custom that "the price of a life or a limb is paid not by the wrong-doer to the wronged but by the family or house of the wrong-doer to the family or house of the wronged."

The "organic unity" of the family and the tribe has other responsibilities. A government clerk working with the writer resigned a well-paid post suddenly. He refused to give any adequate reason for what—to a European—would have been a very serious step. Some few months later he accepted re-employment in the same district at one-third of his former salary and on being pressed stated that whilst his relatives to the "N"th degree knew that he was in receipt of a high salary many of them lived on him. To escape this unavoidable imposition he accepted a lower salary in a job which he knew would entail much travelling. Should this reason appear to be puerile it should be remembered that whereas

Europeans will gather together for social reasons for a few hours Africans pass days in a like social manner.

Quite recently a native court fined a man heavily for having refused house room to a belated traveller; he was only allowed to sleep in the outer porch. During the night the stranger was mauled by a lion and the court found the householder responsible for his guest's hurts. The judgment was fundamental in the African conception and there was no appeal lodged.

Yet a third instance of the effect of the virus of individualism has just come to the writer's notice. A Sukuma man recently sold to another an excellent piece of cotton land the use of which the seller had enjoyed for some years; the sale was quashed by the chief as the field disposed of could not by tribal law change hands in this fashion, a fact which both parties must have known. A feather in the wind of individualism.

Individualism is, of course, not complete. A transition period must always be uncomfortable and chaotic as the effect of the old order and the new are both felt at once; whilst the Sukuma is now held solely responsible to the chief for his own actions he is not permitted to sell his house on leaving an area but must hand it over to his headman whose property it is by tribal custom. That he does so without complaint illustrates the malleability and flexibility of the Bantu. It may not be long, however, before he will rebel against the "half-and-half" customs in force and claim the right to sell the work of his own hands. This instance of hardship may not be the fairest example as it is the custom for houses to be built communally so that the tribe has some claim to them although the occupier will have assisted others in a like manner from time to time. Trees planted by the individual revert to tribal ownership when the planter leaves the chiefdom or area in which he lived; he has no rights in them if he goes elsewhere and must leave them intact. He may not even cut them down for building purposes in his new area.

The English law holds a man responsible for the safe passage of his friend in his car after centuries of individualism, and awards the passenger damages if hurt; whereas it would be logical to suppose that the state would punish a man for not taking proper care of his own body by failing to select an efficient driver and not allow him compensation for harm caused by another. Pure individualism is impossible in the nature of things—in Africa or Europe. The African administrator suffers daily owing to the inability of the African chiefs and peoples to assimilate the individualistic doctrine as opposed to the indigenous "organic unity." They, the people, are suffering from political indigestion which can only be cured by the pills of education and the exercise of considerable patience by both parties. The African foundations are sound but must always be hidden; the building in course of construction cannot—hence the necessity for patience and care to ensure that the imposed super-structure is in keeping with the nature of the base; it must be neither unduly rococo nor foreign; *festina lente* must be our motto.

NOTES

German Storks at Kiberege

By G. M. Culwick

IN THE last week of January storks began arriving at Kiberege from, it is alleged, a north-easterly direction. At first there were only a few dozen wheeling over the larger clearings, but in the course of some days they had come in huge numbers, spreading themselves over all the villages from Kiberege to Ifakara at least, a distance of twenty-two miles. How much further their occupation extended we have no information.

Day after day they wheeled endlessly over the cleared land, or alighted to make war on the grasshoppers and other pests by which cultivators were sorely harassed at the time. Their numbers must have run into a good many thousands, for as many as two hundred could be counted circling together over one *shamba* while many hundreds more were on the ground.

One morning shortly after their arrival, an Indian picked up the mutilated corpse of one lying in his *shamba*, killed by some marauding animal during the night, and on its leg he found a ring which he brought to the *Boma*. It has been duly returned to the address it bore: VOGELWARTE, ROSSITTEN, GERMANIA.

More recently he sent up another clawed corpse, this time ringless, and to-day a solitary stork walking about on the *Boma* hill was cautiously approached by a messenger, who got near enough to see that it was ringed.

There seem to be only a few about now and the main body has passed on, in what direction we do not know. I regret to say that my *shamba* (garden) was apparently the only one unhonoured by these welcome visitors and that every *dudu* (insect) in Africa seems to have taken refuge there.

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Indonesian Influences in East Africa

By Arthur E. Robinson

THE BEAD trade between India and East Africa is probably the most ancient foreign trade known in that part of the continent. It existed probably at least a millenium before the Christian era. Recent archaeological discoveries in northern India which have been published lately in *The Illustrated London News* disclose the fact that agate and cornelian beads were manufactured

there and exported to Sumer. This export trade in beads at a time contemporary with the Indus civilization is indicated in the last paragraph of the paper "Cambay and the Bead Trade," published by Mr Arkell (*Antiquity*, September 1936). Mr Arkell has given an historical outline of the trade and illustrated it by eight photographs of specimens. He has described the present methods of manufacture which differs materially from the ancient processes. It may interest readers to know that worn specimens of these beads discovered during the middle of the last century were considered to be of Egyptian origin. Glass beads made in India were discovered by Miss Caton Thompson at Zimbabwé and other sites.

In another paper, "Some Tuareg Ornaments and their Connection with India" (*Journal of the Royal Anthropological Institute*, LXV, December, 1935), Mr Arkell has illustrated certain forms of pendants and other ornaments worn by the Tuareg. There are numerous illustrations, including a similar type of pendant worn from the upper part of the ear by the Garo Garo hill people of Assam.

The views of Mr F. Rennel Rodd and Mr Arkell regarding the origins of the "talhakiu" or "Agades Cross" are dealt with fully in the text.

BOOKS REVIEWED

“A Provisional Soil Map of East Africa,” by G. Milne, East African Agricultural Research Station, 1936. Thirty-four pages, map and bibliography.

This map, which includes Uganda, Kenya and Tanganyika Territory, and is accompanied by concise but useful explanatory notes, forms an important contribution to the regional geography of East Africa. The author brings a modern outlook and training to bear in a branch of science that has expanded and developed much since the beginning of the present century.

Progress and development at the present time demand surveys of many kinds and the results provide a variety of maps without which no sound regional review of the complex relationships of a country's conditions and resources is possible. The suite of maps necessary for this study in East Africa is still very incomplete. This map and the population map by C. Gillman are definitely the two most outstanding contributions in this direction which have appeared recently in this part of Africa. The author breaks practically new ground and his task, with the information available, and the area to be covered, was a formidable one. Great credit is due to his efforts and the manner in which he has presented his results.

Classification in many branches of science has been subject to much variation according to the predominance given to particular features or factors. This is particularly the case with soil classification according to the importance attached to climate, physiography, geology, etc., in relation to soil origin or formation. The basis of the present classification is largely, but not entirely, morphology, which has much to say in its favour, as it is based on present form and position rather than on some other factors the recognition of which may be obscure. At the same time their influence is not overlooked. Thus the major groups include: (1) desert soils, (2) saline soils, (3) plains soils, (4) black and grey clays, (5) mottled clays, (6) red earths, non-laterized, (7) red earths, laterized, (8) plateau soils, (9) podsolized soils, (10) lithological types. These are again subdivided into sub-groups.

The boundaries of soil types like those of most other natural regions such as vegetation, climate, etc., are usually ill-defined and therefore a large amount of time and detailed examination are essential to map accurately areal distribution. This was clearly beyond the scope of the first inquiry, but after distinguishing the major groups and their subdivisions the difficulty of representing these on a map without actual boundaries was overcome in a very ingenious and useful manner by adopting a method defined as the *Catena*. The result has a novel striped appearance aptly described as the “pyjama pattern,” which at first sight gives the impression of alarming complexity, but, however, on closer acquaintance resolves itself into a most useful and flexible method of representation.

Its use is fully described in the text, but briefly, it achieves the depicting of the various soil types which form a soil complex for a given area by a combination, in a definite order, of the stripes which represent the individual types. Thus the Usukuma *Catena* indicates a soil complex composed of red earths on granite hills, plateau soils on extensive footslopes and calcareous black clays in depressions. Thus the essential soil types for a given area are indicated in general whereas it would have been impossible to attempt a map showing boundaries of individual types.

This work stands high as a special geographical study, but the agriculturist will be disappointed if he expects to find guidance with regard to particular soil problems on his small estate. The broad foundations of soil science only are applicable on a map of this scale. The answer to individual problems is to be obtained only by detailed systematic soil survey requiring sufficient field staff and laboratory support, which the author justifiably hopes may be included in some future plan.—E.O.T.

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"The Wilderness of Zin," by Leonard Woolley and T. E. Lawrence, 1936.

This is a reprinted edition of a report by the late Colonel Lawrence of a superficial archaeological survey of Sinai during a period of six weeks prior to 1914. The writers consider that stone-age man did not inhabit the district. The earliest period for flints found is given as the Byzantine. The oval scrapers were used to shear sheep and the Arabs cut their hair and toe-nails by flints which they discarded. The earliest cairns are dated to the middle of the second millenium B.C. It is possible that the statement (p. 36) "that at no time since man first settled in this land has the rainfall been appreciably greater or more regular than now" is open to question. The report on Esbeita which was not abandoned until the twelfth to fourteenth century is of considerable importance. This town was not encircled by a wall. It was similar to many ruined and mud built towns in Africa. The houses were enclosed by walls (hoshes) and the streets were few. Water was conserved by cisterns. Few wells found. During war time the ends of the streets leading out of the town were closed by walls. The city then became what was virtually a walled town. Fig. 16 illustrates a headpost similar in pattern to the minarets and domes of Persian and Indian mosques. These headposts for gates or graves are frequently described as phallic. They are found in Christian and Moslem buildings of a religious character and are not evidence of a contemporary phallism. Those at Abda and Esbeita are dated at about the sixth century A.D. and seem to me to be merely survivals of a previous type of architecture or a local development of the classical ball and pillar headpost. At Abda there are ruins of a great pillared temple dated second to third century B.C. which is surrounded by Nabatean tombs. Inscriptions to Aretaz were found at Khalassa (Elusa of the Romans) which was founded in the second century B.C. There are numerous illustrations of tombs, graves (rectangular and circular) and the ruins visited. It is interesting to note that the modern graves are placed near water for the purpose of the angel's inquisition.—A.E.R.

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"Tanganyika Memories: A Judge in the Red Khanzu," by Gilchrist Alexander, a former Judge of the High Court of Tanganyika. Blackie and Sons, Ltd. 10s. 6d.

Those residents of Tanganyika Territory who recall Judge Alexander's term of office as a High Court Judge will recapture a great deal of his genial personality in this attractively-written volume of reminiscences.

During the course of his official duties, Judge Alexander had travelled widely throughout the territory in the days when it was gradually recovering from the effects of the great war. A keen observer of men and things, he committed to memory his many experiences, of which the present happily conceived book is the outcome.

Tanganyikans past and present—and more particularly those especially associated with Dar es Salaam—will recognize within these pages a number of people, places and incidents, which recall to the mind the early days of the territory's development under the British Administration.

In addition to the descriptive matter and valuable comments which Judge Alexander offers to his readers, the book contains a number of characteristic anecdotes which give to it a pleasantly intimate flavour.

Illustrated with some of the author's own photographic studies and attractively produced, this book should have a wide appeal to those alike who knew the territory as it was and who know it as it is to-day.—B.G.

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"Stone-Age Bushmen of To-day." Life and Adventures among a Tribe of Savages in North-West Australia, by J. R. B. Love, M.C., D.C.M., M.A. Chapter XXII, page 220. Illust. Pl. 17 and map. Blackie and Sons, London, 1936.

This is one of the most interesting books of its class which we have seen. The author went to North-West Australia as a pioneer missionary and returned after an absence of ten years. During that period he served with distinction in the ranks and as a commissioned officer during the great war. The style is easy and popular. The author possesses considerable personal courage. The whole life of the Worora is described, and illustrated by excellent plates. These people used only stone, bone and wood for weapons or utensils. The hair of the kangaroo or human beings was made into string. Unlike other Australian blacks no grass seeds were eaten. All food was roasted inside the skin of the fish, bird or animal eaten. Nothing was skinned before cooking. Fire was produced in twenty-five to thirty-five seconds by means of a wooden drill twisted by hand but boiled water was unknown as they had no earthenware. Nets were unknown but in former times tidal weirs were used for fishing. The most interesting features in the book are the descriptions of manufactures and customs and their recent transition by the influences of exotic influences (Malay and European). The rock picture of an eponymous ancestor (without a mouth) but haloed and the periodical renewal of these cave funeral decorations provide food for thought. The author does not suggest any connection with Christian origins although he draws parallels with some of the tribal ceremonies. The fact that the serrated "rose-leaf" spearheads rarely survived one throw is sometimes overlooked by other less observant writers. Specimens of these spearheads (with a scale) and the tools used to make them are illustrated in plates. The text of pp. 74 *et seq.* contains a description of the methods of manufacture. The length of the hand-thrown fishing spear is given as ten feet. The length of the spear thrown by means of the auxiliary "thrower" is not given. This weapon seems to have had a low trajectory. From the context the stone-heads on the spears were secured by the sinews of the kangaroo.—A.E.R.

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"The Earth Goddess," by G. Howard Jones (Longmans, 12/6). Royal Empire Society Imperial Studies, No. 12.

As the sub-title states, this book is a study of native farming on the West African coast; it is in many ways, however, equally applicable to East Africa. The writer, who has had long practical experience of what he describes, has approached West African agricultural problems with a broad sympathy, and has given us an extremely readable book which should be of interest to everyone who deals with the African, in whatever capacity.

The outstanding characteristic of the West Coast native has been his religion—the recognition of a Supreme Being and belief in the Earth Mother; his agricultural ideals can hardly be compared with our own economic view.

The history of West Coast agriculture is followed from its simple beginning as an ancient type of subsistence farming until the present day, when it is changing rapidly into an agriculture of small-growers. The present and future prosperity of the country must depend on her ability as an agricultural producer, and this is impaired by the danger of social disintegration. Suggestions for improving the present state of farming embrace the following: firstly, a form of co-operation to weld the scattered producers and to treat and market crops; secondly, an approach to agriculture by the wise teaching of biology in schools—teaching directly from natural objects; thirdly, the use of experimental farms and other forms of demonstration by experts.

Indirect rule is shown to have an important bearing upon the subject in that it affords a gradual training in those qualities of discipline, responsibility, and self-reliance, that are essential in the development of an organized, self-supporting people.

The value of the book is increased by the inclusion of a section containing notes on the bibliography quoted.—M.A.C.J.

PUBLICATIONS.

The Editor acknowledges the receipt of the following publications:—

“Some Geographical Controls in East Africa,” by C. Gillman. (*The South African Geographical Journal*, Vol. XV.)

“The Mbosi Meteoric Iron, Tanganyika Territory,” by D. R. Grantham and Frank Oates. (*The Mineralogical Magazine*, Vol. XXII, No. 133.)

“Some Recent Oriental Coin Acquisitions of the British Museum,” by John Walker. (*The Numismatic Chronicle*, Fifth Series, Vol. XV.)

“The Coinage of the Second Saffarid Dynasty in Sistan,” by John Walker. (*Numismatic Notes and Monographs*, No. 72. The American Numismatic Society.)

“Bantu Studies.”

The Uganda Journal (Journal of the Uganda Society).

Journal of the East Africa and Uganda Natural History Society.

The African Observer.

United Empire (Journal of the Royal Empire Society).

Journal of the Royal African Society.

Bulletin of the World Economic Archives of Hamburg.

Journal of the Royal African Society.

Deutsche Kolonial-Zeitung (Journal of the Deutsche Kolonial Bibliothek, Berlin).

Wissenschaftliche Veröffentlichungen des Deutschen Museums für Länderkunde zu Leipzig (Journal of the Deutsche Museum für Länderkunde, Leipzig).

Journal de la Société des Africanistes (Journal of the Société des Africanistes, Paris).

Koloniale Rundschau (Journal of the Geographisches Institut der Universität, Berlin).

CORRESPONDENCE

Editor, Tanganyika Notes and Records.

Dear Sir,—I wonder if any of your readers could give me some information regarding the origin and antiquity of the Arab doors which are to be found on many parts of the East African coast and, occasionally, up-country. I may say that so far as I am aware no mention is made of them in Burton's *Zanzibar*.—Yours etc., R.S.

The Editor, Tanganyika Notes and Records.

Dear Sir,—I am at present working on a series of notes on African weapons. Some of these might be of interest to your readers. It would be better, however, if you could manage to persuade some one in Tanganyika to take up the matter. Detailed measurements are essential and sketches to scale of great importance. Weights of each weapon and, in the case of spears or arrows, the numbers carried must be stated. Further, the technique of the manufacture, mounting or hafting, forging or cutting from blanks is most necessary.

You can use this letter as an appeal or inducement to your shy contributors if you desire.—Yours faithfully, ARTHUR E. ROBINSON.

