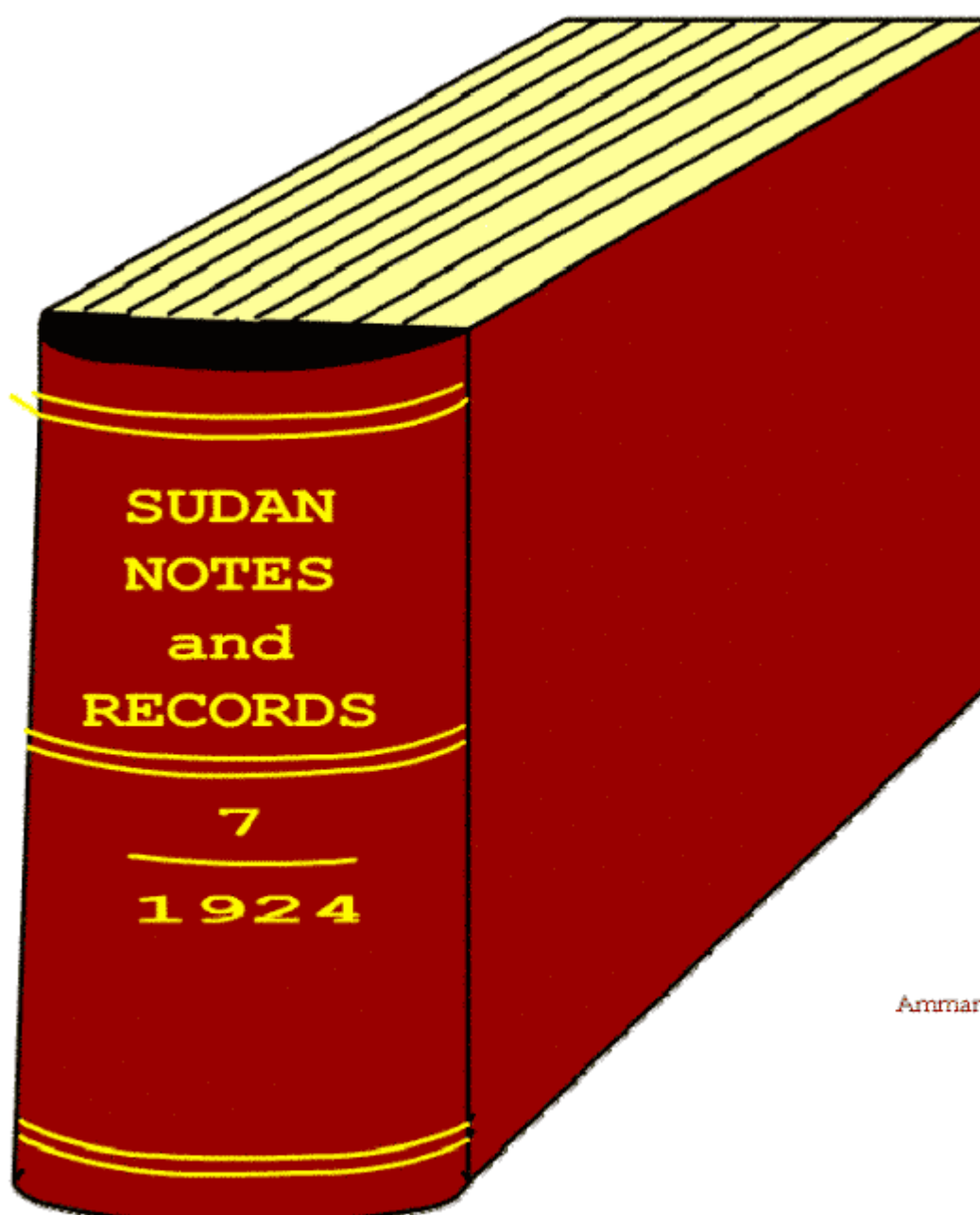




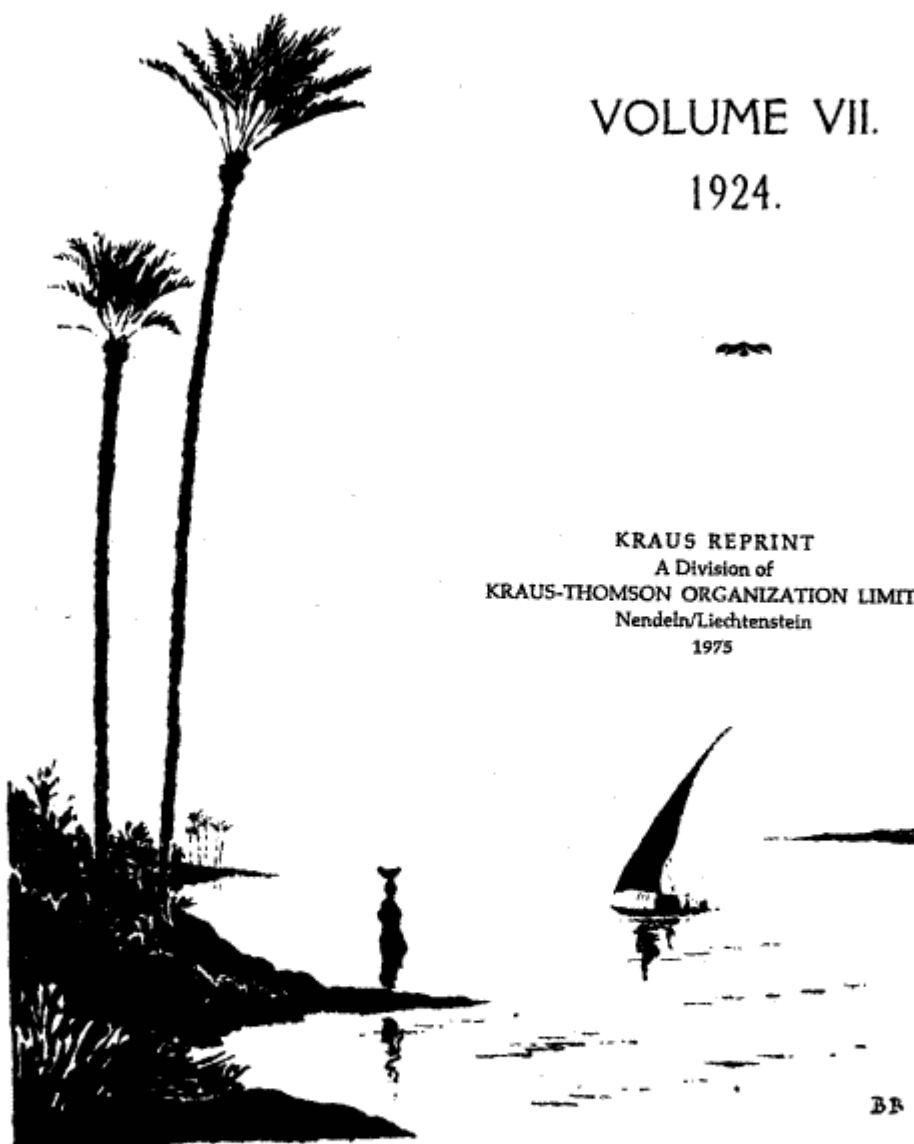
Ammar Yasir

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Transliteration of the Arabic alphabet

adopted by the Editors of «Sudan Notes and Records».

ا	{ at beginning of word omit, hamza elsewhere }	ذ	dh (coll. d)	غ	gh
		ر	r	ف	f
		ز	z	ق	q (coll. g)
ب	b	س	s	ك	k
ت	t	ش	sh	ل	l
ث	th (coll. t or s)	ص	ṣ	م	m
ج	j	ض	ḍ	ن	n
ح	ḥ	ط	ṭ	ه	h
خ	kh	ظ	ẓ	و	w
د	d	ع	ʿ	ي	y

Vowels.				Diphthongs.	
fatha	a,	lengthened	ā	اَـ	ai (as in aisle) coll. ē
kasra	i,	—	ī	اِـ	au (as in mauser) coll. ū
damma	u,	—	ū	The ا of the article always remains <i>l</i> .	
				Silent <i>t</i> (ة) to be omitted.	

Notes.

1. The system will not be applied to well known names. Write Khartoum, Omdurman, instead of Khartūm, Umm Darmān.
2. In transliterating colloquial Arabic follow the pronunciation and not the spelling, giving the vowels their value as in Italian.

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SUDAN NOTES AND RECORDS

Volume VII.

No. 1.

NOTES

ON THE KUKU AND OTHER MINOR TRIBES

INHABITING THE KAJO KAJI DISTRICT, MONGALLA PROVINCE.

by **El Yuzbashi Regib Yunis, M.B.E., M.D.**

THE KUKU TRIBE.

The District of Kajo Kaji lies approximately at 3° 57' North of the Equator in Latitude, and 30° 45' in Longitude. It is bounded on the North by Rejaf District, which is demarcated by khor (stream) Kaia, on the South by the Uganda Protectorate, on the East by Opari District, and on the West by Yei District. The Bahr el Jebel, the main course of the White Nile, runs along its North-East boundary, while khor Kaio partially separates it from Uganda.

The inhabitants of this District comprise four tribes, namely, Kuku, Nyepo, Kakwa, and Bari, but the Kuku are by far the preponderating, and it is on the latter that I wish to dwell in this article, whereas the others will be given due attention, before concluding it.

Traditions and Customs of the Kuku Tribe.

This tribe, since its existence and prior to any foreign occupation, was ruled by several independent chieftains, who controlled the affairs of their adherents, settled their disputes, and passed their decisions in matters worth their consideration, aided by a number of sub-chiefs. As far as traceable, there never occurred a universal tribal union, the various chieftains independently fought the invading tribes bordering their particular country, and while this was being carried out the other rulers stood utterly impassive, only to take arms, in turn, when the hostile tribes adjacent to them stepped into their territory.

For instance, when the Eastern chiefs, Buhatary, Jokwat, or Wani Nyoga, were fighting in defence against the intruding Madi tribe of Uganda, the Central or Western chiefs were performing their daily routine labour; on the other hand, when chief Kajo Kaji, Yangi, or Ramedia were engaged by the invading Bari tribe, the Eastern and Southern chiefs were perfectly indifferent.

The country, occupied at present by the Kuku, appears to have been their home of old, and as far as inquiries could go, it is their original country, notwithstanding the fact that there is now in Uganda a section of them which in times gone by, when famine enveloped the population with distress, emigrated to the latter country in search of food, and finally settled down.

As to the physical character of the country, it is a mountainous hilly region, with alternating plateaus, of a very undulating contour, and intervening are a series of khors running tortuously, and ultimately pouring into the Bahr el Jebel or its tributaries.

The larger mountains are separated from each other by deep majestic valleys, and various species of trees and plants grow both in the elevated and lower areas. The readings of the temperature fluctuate between a maximum of about 90° F. and a minimum of about 60° F. Rainfall is abundant, and the wet season lasts from March to October of each year.

Embodied in the following lines are the conceptions and notions adopted as traditional or historical events, on the five topics undermentioned:—

1. God, called by the natives 'Ngulaitait'.
2. The sun and its rotation.
3. The moon and its rotation.
4. Rain making powers of native rulers (sultans)
5. The Dog, as the great benefactor of the tribe.

(1) In the Kuku tongue '*Ngulaitait*', is the term assigned to designate the meaning comprised in our term 'God', or Allah. They have a belief in a presiding deity endowed with an invisible power and invested with a supreme sovereignty that influences and directs the destinies of men. Ngulaitait, in their belief is accessible through the intercession of *Kujur*, (Wizards or witchcraft-men) through whom he may be consulted. They endow him with Omnipotence and Omnipresence and ascribe to him the power of inflicting death through diseases upon humans at his will, and furthermore believe that in the discharge of this latter mission he roams about at daytime or at night in the shape of a

spirit that is entirely invisible. They hold that all luck, whether good or bad, is allotted to various people according to his will, wherefore, when setting out on an enterprise a person pleads with him for it. Besides they attribute to him the power of Creation, by which he has brought life and matter to exist, and that he is Immortal, and in preference to other localities he resides in 'Khors' subterraneously, where he possesses countless numbers of wives, children, and cattle, and it is at such Khors that he is consulted through the kujurs.

(2) The Sun and its Rotation.

The rising sun moves through the sky Westwards, and having set and the darkness having had sufficient time to prevail, he now sets out to make his return journey to the East under cover of darkness. This he is supposed to accomplish in a manner inconceivable to man, and in carrying out his night return-journey he practically retraces his day path. To observe him returning to the East is a privilege which is not permitted to man, and in case it should so chance that somebody has succeeded to witness that forbidden sight he is doomed to die.

(3) The Moon and its Rotation.

According to their belief, the rotation of the moon is performed along similar lines as that of the sun, and differs only in one particular, namely that no death-punishment is inflicted upon a person who chances to witness her as she is making her return-journey at night. The following narrative in this connection, which is wholly believed to be true by the natives, has been related to me, but before outlining it it must be pointed out that they believe that the moon is a living being, consumes food and excretes it, and in order to secure her food, she departs from the heavens and descends to the surface of the earth, selecting a spot which is rich in good green grass, where she takes to grazing, and returns to the heavens after she has had a sufficiency.

Once upon a time when the moon was one night enjoying a hearty grazing, a man came on the scene accidentally, and as he appeared, the moon sighting him, called him up, and he in obedience of the order humbly walked up to the moon.

On this the moon requested him to stretch out his hands, well open, which he did, and into them the moon passed out a urination and ordered the man to drink it and the man obeyed. Before dismissing him the moon instructed him to keep this as a secret, threatening that should he divulge it, instant death would be the penalty and to his surprise as he reappeared before his children, his head-hair was found to have become entirely white.

After this event, this man conducted his life in the usual manner, for he married, had several children, and plenty of cattle, but to his surprise the head-hair of every one of his children, when born, was perfectly white and continued to be so.

One day he requested his children to make a big dance because he knew that his death was imminent, and as the dance was in full swing, he called the attention of all present to an important tale which he proposed to tell, right then and there. The dancing party made a halt, and the man divulged the secret of the moon, and described to his eager hearers the details of his meeting with the moon, and hardly had he uttered the last word of his story when sudden death fell upon him.

(4) Rain-making powers of native rulers (Sultans).

As already described several inter-related villages come under a chieftain, whom they call 'Sultan', who has a few sub-chiefs as subordinates. Besides exercising administrative and political powers their Sultan according to them is invested with some mysterious divine ones, first amongst which ranks the rain-making power. When there is lack of rain in a district the inhabitants appeal to their Sultan and request him to cause the rain to fall, but should other neighbouring districts be included in the drought, then they appeal to the paramount rain-making Sultan, or in other words, the leading rain-Kujur, who joins in the efforts to bring about rain.

Sultan *Jibilikajo*, the father of the present Sultan Yangi, was regarded in his day as the paramount rain-making Sultan, and upon this ground it was that he received special burial, an account of which is incorporated in the following pages.

As a reward for his efforts to bring about a rainfall the Sultan receives various presents from those who appeal to him.

(5) The Dog as the Great Benefactor of the tribe.

The inhabitants of this District look upon the dog as their great benefactor and hold him in high esteem and veneration, the following narratives, which fabulous as they are are accorded full credence by the populace, account for this exceptional attitude of theirs:—

1. In times immemorial, it used to be the heinous habit of a Kuku husband to deliver his pregnant wife by cutting open with a knife the protruding belly and drawing out the foetus, whereby the poor mother would invariably die.

One day a pregnant bitch called at the house of a recently delivered woman, and asked the husband to lend her his knife; he answered that his knife was laid aside for the present as he had just cut up a wife of his and delivered her foetus.

Greatly shocked at the atrocious and fatal act, the bitch remonstrated with him, and remarked that it was within her capacity to point out to him a harmless, reasonable and efficient method of delivery, by which both mother and child are rescued and in challenge requested him to produce another one of his wives, who happened to have completed the term of pregnancy.

Anxious to relinquish his cruel method for the future, and hopeful that the proposition of the bitch would prove true and practicable, he willingly produced one of his wives to be experimented upon by the wise and sagacious bitch.

Upon this, the bitch directed the woman to kneel down, leaving as far a span between the knees as possible, and to allow the pangs to take their natural course undisturbed, and added that the repeated contractions, which produce the pains would ultimately expel the foetus, through the natural channel to the outside world.

The few hours that followed proved the contention of the bitch to be valid, for the child, to their great happiness, came to existence without any further trouble. Now the bitch directed the husband to move the mother and child inside his house and place them on a 'sirdab' (a frame work of a wooden bedstead), for it had other important things to reveal to him. He obeyed. Having paid a short visit to the forest, the bitch returned with a bundle of dry grass, and standing at the door of his house called the man out.

2. On appearing, the bitch turning its back to him, and holding the bundle opposite its *perineal* region, directed him to blow forcibly at the latter spot, and to his surprise fire was produced that kindled the bundle. Triumphant turning round, the bitch advised him to carry the fire into his house and place it under the sirdab of his parturient wife, as it would contribute greatly to the speedy recovery of the latter, provided he replenished it as required. As a final advice she further added that should some day the fire become entirely extinguished, all he had to do was to apply friction to two dry pieces of wood, which would never fail to make it.

To complete its mission to the tribe, the bitch called this man and all his wives and inquired of them what was the nature of the food they consumed

and in response they stated that the husk which they pounded off teleban or dura formed their food, whereas the grain itself they always cast away. Pitying their gross ignorance, she invited their attention to the directions she intended to bestow upon them, in virtue of which a higher and more nourishing class of food would become available for them.

3. She explained to them that the crust upon which they had so far lived should be always cast away, and that the grain itself should become their food, and now that fire was introduced by her to the tribe, this food should first be cooked and then consumed. And to initiate them into the new practice, she picked a quantity of teleban grain and ground it, an operation so far unknown to them, then mixed it with water and cooked it.

Furthermore she pointed out to them that other articles of food were to serve as condiment, '*Muldh*', and having prepared a well cooked meal served it to them, and thus introduced the art of cooking to their tribe.

Having delivered its mission, which revolutionized the manner of living of the tribe, the dog, in conclusion, uttered the following commandments:—

1. In future they should do her no harm, but treat her kindly.
2. They should supply her with their own food, especially milk, which, when served to her should not be adulterated.
3. She would help them in capturing game from the forest, but they should invariably assign her a share of it.
4. Anybody who inflicts harm upon her would fall in misfortunes and calamities.
5. That now, having performed the task to which she had been called she would lose the power of speech and in future she would never, under any circumstances, speak, though she would listen to and understand all their conversations.

To avoid a breach of article 5, namely, the dog speaking, which would necessarily entail death to all the household in which the unhappy event occurred, the natives practise cutting a certain sub-lingual tendon in the dog's mouth in order to ensure a permanent disability on his part to speak.

And to give these narratives an artistic touch, they end up with the curious event related to have taken place between a dog and a hyena. In time out of mind when on a certain day the dog was burning his food, (the "Kombo"), on a fire, a hyena turned up and requested him to give him some of this food, and in spite of his insisting, the dog refused, so becoming impatient

the hyena moved forward and placed his mouth in the fire in order to pick it up, but his mouth was burned. The dog seeing that laughed, and laughed heartily at length, and to this long laughter, they ascribe the condition of his elongated mouth.

Occupation.

Before touching on this subject, a word as to their physique may not be out of place. A Kuku is fair in physique, universally slender, save for very few exceptions, their muscles being well developed, both men and women. In height they vary greatly, [men of about six feet, while others of five, four and a half, and even four and quarter feet, are seen about].

By occupation he is mainly a cultivator, though on a minor scale a pastoralist. He raises large crops by cultivating more than one area, in order to make accommodation for the various native crops, namely, telebuns, durha red and white, simsim, ground-nuts, beans, sweet-potatoes, cassawa (bofno), and *kino* (a condiment), mention should also be made of tobacco. Being a veteran farmer, he knows well which months of the year are best adapted to sow the seed of each crop.

Both men and women cooperate in the cultivation, the former carrying out the more difficult task of tilling the soil, while the latter clear and harrow it to prepare it for receiving the seeds.

It is a very common occurrence to witness a wife working on the fields with her child well tucked up in a sheep's skin to her back, only released from his packed up condition to be nursed, very often the same sight is observed while the woman is grinding grain. As an alternative, she might, although rarely, have him laid up in his sheep's skin, and suspend him to a tree or a pole stuck into the wall of her house.

The cultivation, as it is progressing in its growth, is, from time to time, cleared from weed by the women and children.

As to cattle they possess a fair number of cows, sheep, and goats, the main purpose of which is that they serve as dowry for marriage purposes, and as objects of sacrifice to be slaughtered on occasions of illness, death, marriage etc.

Their very limited activity in industry might as well be outlined, by enumerating some of the articles manufactured by them.

Malôds (iron hoes) are locally made as implements for tilling the soil, and meantime are valuable articles in completing a dowry.

Spears and arrows on similar lines, besides serving as fighting weapons, also contribute towards the dowry.

Daggers, small kitchen-knives, anklets, armlets, rings, earrings, necklaces, are also manufactured out of iron and copper.

Mats, stools, calabashes, pipes, baskets, trays, hats, small iron or copper chains to be worn, and axes are locally made. And as there are found in the forest, growing wild, a few cotton trees, the men spin the cotton collected into long threads, out of which a small fringe-like screen, composed of several threads, is made for women wear, with a tuft like appendage made in the same way for a similar purpose.

As for dwellings, they build houses of grass, of a circular shape mostly which do not differ from those built in other provinces. But to each house are attached a number of granaries, called '*Gugu*', in which they store up their crops.

Before concluding the topic of cultivation, it should be related that a Sultan, or a Sub-chief enjoy the privilege, of having their crops cultivated by their followers, and a generous meal, of meat, grain, and marrissa is always served to the volunteering party as a symbol of appreciation.

[As for trees that yield edible fruits or fat, the following are the leading ones :-Lulu, Ardaib (tamarinds), Qui (Jumaiz), Jugaan, Kurling, Nabak (Laingi), Kunyuki (Ngulu Ngulu), Kolugi, Waiterayru, Kaylibungat (wild grapes), Kaylay, Kashayrami, Lugbat, Wawok (Dilay), Byio, Boondi, Kalindi, Lukwaiy, Gbangalairy, Bullay Taiky, Lootay, Lamodi, Tiria, Bitto, Kombu, Manga, Ludumay, Kendu, Tulugba, Makay, Lubudiky, etc. Of this long list, only two are edible for production of fat, while all the others are edible as grown.]

- (1) **Native Manner of Dress, and Ornaments.**
- (2) **Extraction of teeth.**
- (3) **Pallalla Anointing.**
- (4) **Smoking and Drinking Customs.**

1. *Manner of Dress and description of Ornaments.*

- (A) Men.
- (B) Women.

(A) It is no exaggeration to say that men of this District go about in their daily life entirely naked. Should it please any one of them to put something on, it could only be one of two things, either the hide of a sheep,

gazelle, etc. which is wrapped around his waist only, or a primitive form of shirt which he cuts out of the bark of a certain tree, pounds lightly, and sews it up, destitute of sleeves, and when worn covers the body as far down as the knees.

In recent years, having come in contact with some people from Northern provinces they have copied articles of their dress, which at its best amounts to a shirt or jacket and trousers. A great majority of them wear a very small apron, with an average dimension of six by six inches in front, tied with a string around the waist.

As a warrior, when in possession of a spear or two, and bow and arrows, he considers himself fully equipped. Besides this, the ordinary furniture of his house merely comprises a sirdab (a bedstead) made of bamboo, about 20 filed to getherside by side, on which he sleeps away happily, but if well off he supplies himself with the hide of a cow, or some game which he hunts, which he spreads over those hard canes and is used as his luxurious bed.

A few calabashes for water and cooking, a grinding stone, some baskets, a stool, etc. complete the list.

The head of small children is shaved, that of the adult man is partially so, leaving a bunch of hair at the top by means of a razor, by v-like projections all round, though other designs are in fashion. Locally made hats are worn sparingly but a certain class of male kujurs wear, permanently, a hat mounted with horns and decorated with a variety of local ornaments.

The ornaments worn by men are, ivory armlets, iron or brass rods around the neck, ear-rings, bracelets, and only one anklet, rings, etc.

(B.) The women, save for a small fringe-like apron in front and a tail-like tuft behind, are entirely naked. The front apron, which is from two to three inches broad and three to five in length, is fixed to a very thin strap, cut out of cow's hide and tied around the waist from which it hangs down suspended. It is made of plaited iron chains, ordinary key-chains bought from merchants, or more commonly from finely twisted cotton threads, or the *lilu* plant, this latter being of marked firmness and durability. A woman may have 3 or 5 fringes (which they call *Bonday*) in stock.

The tail-like tuft is a bunch, circular and more commonly tapering to a point, though it may end abruptly with a broad base, in length varying from 6, 8, 16 or at times though rare to 18 20 inches, but in circumference not exceeding 6 or 8.

At its summit it is tied with a 2 or 3 inch rope, to the extremity of which a piece of wood of the length of a match and one fifth of an inch in diameter is

firmly tied. When worn, this later wooden piece is perpendicularly placed inside the waist string, and the tuft loops downwards suspended in this manner. The tuft is made from cotton or *lilu* threads but more commonly from a plant called *Bio* the latter producing an ordinary rope, and does not require fine twisting, though less firm and durable than the *lilu*. An uncommon tuft might be seen worn by younger persons that is made of a few thin straps of leather cut out from cow's hide, and being of extreme length, probably touching the ground as the wearer is walking.

The chief ornament worn by women are "waistlets" of beads, consisting of several rounds, neatly and artistically arranged and fixed to the extent of screening all round the hips. The beads which are imported, display a variety of colours, and are strung into long ropes, and these in turn are wound around, forming as it were a broad belt, the various rounds of which are carefully knitted together, in order to give it an attractive appearance. To a woman this is her chief valuable possession, which is handed over from one generation to another. And to show more taste in her fashionable attire, she wears alternately dark, red, blue, white, and other colours of belts.

The original local waistlets are made of bead like iron or copper ringlets, infinitely small, snail-shells, ostrich-eggs, or ordinary twisted straw-ropes. The snail-shell chain is made by an expert, by cutting circular discs, half to one a half centimeter in diameter and about one fifth in thickness, which discs are strung together into a long rope. This chain is a traditional gift to a daughter by her father, who purchases it from the expert, but on marriage it is returned to the mother, and should on no account accompany the daughter to her husband's house, lest harm should befall her. The ostrich-egg chain is generally presented by the future husband, with other waistlets.

These waistlets besides serving as articles of decoration, largely contribute to giving a very firm hold of the tuft.

Women, as a rule, have their heads shaved being an item of admiration and attraction on the part of man.

Other ornaments worn are ear rings, necklaces, bracelets, rings, and several anklets, and last but by no means least, a nail like stud of copper that is worn by being passed through a hole in the lower lip, especially cut for the purpose, the base of the appendage supported by the lip, while the rest of it, varying in length from two to four inches, hangs down free in space. This is a very important item on the toilet-programme of native women and forms an object of great attraction to the other sex. When a copper or an iron stud is

not available, a clean straw will answer the purpose. Besides, out of the elephant's or giraffe's tails, necklaces and bracelets are made and worn, not only by women but also by men.

Both women and men, the latter on a very small scale, subject their bodies to the painful operation of having "Cicatrisations" made by an expert. It is the rule to see a young girl with her chest and abdomen, and at times the shoulders and back, bearing prominent markings of this highly esteemed custom. It is an object of pride on her part to bear as prominent cicatrisations on her body as possible. The men bear such markings, few in number, on the chest, shoulder, back, or calves of the leg.

In performing his operation the expert furnishes himself with a razor and a sharp hook. With the girl seated on a stool he hooks up the skin, and inflicts a sharp cut but a superficial one, including the dermis only, and proceeds to repeat the same detail until the whole area has been treated. The victim, notwithstanding the pain she is suffering, strains herself to perfect silence, until her aim is attained, whereupon a fee is paid the professional.

2. *Extraction of teeth.*

Extraction, by an expert, of the six front teeth in the lower jaw is a custom rigidly observed by both sexes, and in their consideration serves the purpose of mutual sex attraction.

The age at which it is practiced is about 10 or 12 years, and a candidate bears up with the resultant pain coupled with a fortnight's invaliding in good and patient spirits, for he is thus acquiring the highest possible of beauty.

It is earnestly believed by the native that happy family relations, prosperity in future life, good luck to his offspring, depend on the observance of this traditional rite. Should a fellow be so unlucky as to die prior to his subjection to the custom, his friends would invariably resort to it before burying him, lest evil befall his folks. A person who chooses to omit it would stand very few chances of marrying, and would be so doing at the risk of jeopardising the welfare of his progeny.

A big gap is immediately created in the jaw after extraction which is apt to become a little narrower by a process of mechanical readjustment of the remaining teeth.

Some men, in addition to this mutilation, submit themselves to having the four front teeth in the upper jaw filed to a point.

In this connection, the comparative value for the compensation of a lost tooth and eye should be mentioned. A permanently obliterated eye,

damage to which had been criminally caused, receives the compensation of one bull, while the criminal loss of a tooth is compensated with one cow. The explanation for this strange verdict, is as follows :- To a native the tooth, which on smiling glistens so attractively, in company of the other sex, is looked upon as a more precious item on the programme of physical beauty, and on such grounds, all-important as they are, is accorded a greater compensation. While the eye, which is liable to commit offences by falling upon the forbidden and more or less exposed privacies of certain members of a household, has placed itself on an inferior level, and is thus accorded a lesser compensation. In corroboration of this latter conception, it might be pointed out that among the Nyepo tribe of this District, where the *Bonday* (fringe) worn by women is in breadth double or triple that worn by the Kuku women, the compensation for both a lost eye or tooth is the same, namely one bull.

As a dentifrice, a native uses the sand lying at the bed of streams, or applies brushing to his teeth by a certain twig of a tree which he improvises into a primitive brush.

3. *Pallalla* anointing.

This is a brownish red sand-like powder, which is dissolved or rather suspended in sesame or *lulu* oil, for the purpose of smearing their bodies with, in the belief that it contributes to keeping them physically fit, and in the case of the young, especially youthful girls, besides this primary property, it renders them smarter looking and more attractive.

It is collected from a rock in certain mountains in small broken pieces, which undergo a repeated process of cleaning and washing, then made into lumps which are exposed to the sunheat for drying. These dry lumps are placed inside a *burma*, which is buried in wood, and fire set burning for 24 hours in order to bake it. The final produce is the powder above described.

Natives put great confidence in the health-giving properties of his powder, for as soon as a child is born his entire body is smeared with it, and the operation is frequently repeated as the child grows. To the children and old it is applied as often as is practicable to ensure them good health. But the youths of the tribe, especially the fairer sex, look upon it as a necessary and admirable toilet before proceeding to any wedding or festivity.

The properties ascribed to it go further still and touch upon chemical nature for it is applied to all wounds ulcers or sores, and the belief is universally accepted that it greatly enhances the chances of cure.

4. *Smoking and Drinking*

Both sexes, down to ages of 14 & 15 are more or less addicted to the habit of smoking. The grown up often take to using long pipes, locally made, apparently those who have become used to it cannot do without it, the wife or a child generally prepares and serves it. One cannot fail to observe the thick immense whirls of smoke encircling some members of a party collected together for killing away the time with gossip. The length of some of their pipes attains 20 or more inches, while others are 10 or 15.

The younger folks practice chewing tobacco, and in order to extenuate the pungent taste, adulterate it richly with wood and ashes, and indulge in it profusely. When tired of it, it is laid up temporarily between the pinna of the ear and temples until again desired.

Marisa is brewed in large quantities and furnishes the chief local alcoholic drink. The little children are trained to using it, and it becomes a routine nourishment. Needless to say that drunkenness is not without its victims among them.

Marriage Customs.

1. Affinity.
2. Engagement and Partial Dowry-payment.
3. Polygamy.
4. Divorce.
5. Moral standard.

1. *Affinity.* Consanguineous matrimonial relations are rigidly forbidden, and no marriage, under any circumstance, should include a relative as a party, nor permit of a shadow of a relative, for in their belief a breach of this prohibition would entail an ill omened out-look to the couple or their progeny.

2. *Engagement and Partial Dowry Payment.* It is their universal custom to allow an engagement to take place between a proposing couple, which might be carried on for months or for years before the actual marriage is consummated. An eligible young man, having selected 'his bride' commences to pay frequent visits to her father's house. When familiarity and sympathy have been established, he proposes to her, before mentioning any word to her parents, by uttering the symbolical expression, 'Young girl, please give me tobacco', taking the hint to heart, she answers by requesting him to come round on the morrow, but in case she disagrees she would return her symbolical expression, 'There is no tobacco', which latter is considered a final verdict in the matter, upon which he goes away for good. Returning on the

morrow, he again requests tobacco from her, and receives the same answer in return on the morrow, and for four consecutive days the same manoeuvre is exercised, but on the fifth day (when she had done enough search of his tobacco), she gives him the good news that he can have his tobacco. At this, he returns to his father and discloses the secret to him, and in addition implores of him to proceed to her father and ask for her hand, which he willingly does. Her father upon hearing the proposal, holds a conference with his relatives in the presence of his daughter and lays the matter before them, summing up by addressing his daughter that hers will be the final word, one way or the other.

In the greater number of cases she expresses a positive wish, which utterance clinches the engagement. From now on follows the payment of the dowry, which is composed of the following articles :—

- a. Two cows and a bull.
- b. Four she-goats and a he-goat.
- c. Four ewes and a ram.
- d. Two spears.
- e. Arrows from 40 to a 100.
- f. Malods (spades) 2 to 5.
- g. A spear or a few arrows or a malod to the girl's brother.

Needless to say payment of the above list does not necessarily wholly take place before the marriage is consummated, though it is greatly desired, for when the greater part has been paid marriage might take place, and the remaining articles will later be paid up by the husband. In other instances partial payment commences when the girl is 8 or 10 years of age, and might be spread over a period of 4 or 8 years before it is completed, just in time to coincide with the girl attaining puberty.

The father, being satisfied as far as the payment is concerned, now prepares for the marriage festivity of his daughter by inviting all his friends, and those of the bridegroom, to his house, where a bull is killed, many dishes of food and enormous quantities of marisa are prepared and served to the wedding party, meanwhile a big dance is in full sway.

The next step is to lead the bride to the house of the bride-groom, and for this five young men and five young girls are selected by the mother for the purpose. About two hours after sundown the party of ten, having been richly smeared over their entire body with 'Pallalla' by the mother, set out with the bride at their head, marching to the bridegroom's house, where they

hand her over. The young men return to their quarters, while the bridesmaids stop with her for 6 or 10 days, during which no celebrations are observed, and at the expiration of which, the five having each received a present of a few arrows from the bridegroom return to the bride's father, who in turn is supposed to kill a sheep for their consumption, this being the final step in the whole ceremony.

A deviation from the above occurs when a girl refuses the proposal made her by her father, and in spite of all his insistence maintains her refusal, because she has someone else in view for a lover, and is determined to have him, at any cost. She elopes to her lover's house and lives with him, and the father, hearing of it, traces her and takes her back to his house, only to find after a couple of days that she again eloped, and the same story is repeated, after which the father becoming convinced that it is no use to further oppose his daughter's wish, is reconciled to the marriage, and claims the dowry, but no festivity is celebrated, and no bridesmaids turn up on the scene. It is a very common thing to hear the news that a certain girl has eloped. In other words no marriage is ever enforced.

Two months after the event the bride is expected to pay a visit to her parents, so having ground some flour, and obtained some sesame, she proceeds to her destination carrying with her these two articles as a present. Having passed ten days as a guest, she returns homewards chaperoned by three of her brothers or cousins, who are pretty heavily loaded with calabashes of marisa, and baskets of flour, and sesame, as a present to the bridegroom.

3. *Polygamy.* There is no limit to the number of wives that a man may marry, all depending on his riches and the means available for articles of exchange. Two or three wives is common to an average native, and Chiefs as a rule can afford to possess seven or ten, and for all outward purposes, they seem to live in harmony and content. Each has a separate house built for her, and is allotted a separate area for cultivation. Should a father, who happens to be in possession of several wives, die, then according to custom, his wives are appropriated by his son, and for all intents and purposes become his legitimate wives. Being himself young, he on his own accord is liable to enlarge the number by marrying young girls. In case he has no offspring, the wife or wives of a deceased man will all be turned on to his brother who considers them as legitimate wives of his.

4. *Divorce.* If the married life of a couple is blessed with offspring, as a rule divorce is not considered, as lack of progeny is the predominating cause for separation.

Having passed two or three years in her married life without a child being born, a wife begins to complain of her husband, and losing affection to him, starts to create trouble that would serve her as an immediate cause to apply for divorce. Before deserting her husband she would choose another, to whose house she openly deserts, and all efforts on the part of his relatives or hers to effect a reconciliation would eventually prove futile. She is determined to divorce him and she will. The divorced husband, giving up all hope of getting her back, claims the '*Mal*' (dowry) back from her father, who, always aware of the possibility of such an untoward event occurring, takes good care to keep the articles, paid as dowry, on hand, to be returned when justly claimed.

As a recompense for the two or three years married life that he had passed with his divorced wife, the husband permits her father to retain one bull and recovers all the rest.

Should the father have disposed of any of the articles, he would depend on the new *Mal* he is receiving for his daughter to square it up.

In case a wife has produced offspring, and perpetual disputes or ill-treatment on the part of the husband drive her to claim divorce, then her divorced husband would not consider the question of claiming any of his *mal*, for the children would make up for it: should he, contrary to the common habit, claim back his *mal*, it will be restored to him on condition that the children are taken away from him.

In case a childless wife dies, the widowed husband is entitled to claim back half his *mal*, but on the other hand should she have children, no *ma* is claimed.

Prior to the days of the present Government, when a wife deserted her husband and eloped with another man, the husband, becoming enraged and wild at the news, might rush to the house of his rival under cover of darkness and stab him to death, at this, the eloped wife might return, on her own initiative, to her husband's house, for dear life's sake, lest the friends of the murdered man in revenge murder her, instigated by the impulse that she has been the cause of it all.

5. *Moral Standard.* Compared with other parts of the Sudan, the moral standard of a Kuku is decidedly on a higher level, not so much for the sake of

virtue and chastity, but for certain traditional safeguards, that cause promiscuous intercourse, and bring inevitable calamities to be inflicted by God on the perpetrators themselves or their progeny, in the way of disease and death. Though, undoubtedly, there are instances where the traditional control utterly fails, and a fine of one bull or more is the verdict of the native Chief.

Burial Customs and Mourning-dress.

- A. General manner of burial.
- B. Special manner of burying the leading Rain-making Kujur.
- C. Miniature houses for the spirit of the Dead.
- D. Manner of dress while in mourning.

A. *General manner of burial.* The news of the death of a native is announced first by the loud shrieking of his women relatives and friends, and second by the beating of a sad known tune on a drum called Naggara. At this multitudes of men and women appear on the scene to celebrate the funeral ceremonies which commence by a mourning-dance. The men who join this dance are furnished with their war weapons, namely spears and bows and arrows, and from the outset a war-like demonstration is made in great excitement with enthusiastic songs.

The impulse stirring up this traditional fighting display lies in a sham motive of avenging the death of their friend, they take it for granted that someone has caused it, whom they challenge to appear in their midst in person, but, well aware that it is Ngulaitait (God) who has brought it about, they make a vain attempt to spot his whereabouts and challenge him to confront them when they would wreak their vengeance on him. Parties of two, in relays, with spears drawn out are seen leaping slowly towards the beating drum, and away from it, with a fixed point in view as though their enemy was occupying it. The women join in the dancing and sing words that tend to excite the men to retaliate against an unseen foe. The dance is kept up for a whole day and night, and might last longer.

A sacrifice of a bull is slaughtered and allowed to remain untouched until the dead is first buried. Twenty-four hours must elapse before burial is carried out, during which interval the grave should have been dug in a spot not further than three or four paces from the house of the deceased. A hour before entombing the corpse, the widowed wife or the widowed husband, as the case may be, is led out of the house to an adjacent stream, where he is kept until burial is over, when he is returned to the house to find the wife entombed, and in deep sorrow throws himself over the tomb to lament his loss, only to be picked up by his friends and carried inside his house.

A sloping circular hole is dug for a tomb, wider at the base, and into it the corpse after being stripped of all articles of dress and ornaments and smeared with Pallalla, is shifted and allowed to rest in the following posture:—

1. Head always Eastwards.
2. Feet always Westwards.
3. If a man, he is placed to lie on his right side facing Northwards.
4. If a woman, she is placed to lie on her left side facing Southwards.
5. Legs and thighs flexed and adducted, arms and forearms flexed and adducted.

The posture assigned for burial of the dead is based on the posture corresponding to that of a conjugal intercourse.

As the earth is being piled over the corpse, it is pounded down at the height of every foot (the ditch measuring a depth of about 5 or 6 feet) by wood, and when filled in, a mound surmounts it in order to prevent rain-water from draining in. This being done, one of the men collects a bunch of green leaves from the nearest shrub or herbage and scatters it over the tomb, while all the others immediately bend forward each picking up a share, and they return to the house of the deceased. The explanation of this latter item is this:—The scattering of the leaves indicates an address to the spirit of the dead, requesting it to rest quietly in its eternal abode, and as they have accorded the corpse all the tribal rites and requirements the spirit has no reason to complain nor to roam about for doing them mischief; the subsequent picking up of the leaves means an utterance of a wish on the part of each that no harm may befall him.

Having arrived at the house of the deceased, a meal, made by cooking the head of the slaughtered bull, is first served to the party that dug the tomb, while the rest of the meat is distributed among those who have come from far away to eat as they are returning to their homes, and if the deceased was well off a bull is given to each Chief who had attended the funeral to eat up with his followers. Finally another bull is killed and cooked to be served to the close relatives of the deceased. The number of bulls killed varies directly with the cattle-wealth of the deceased, for if poor it means only one bull for all. With all these funeral meals there is no marisa offered.

There is one condition which has to be fulfilled before burial can take place, namely the brothers of the deceased should deliver one bull or a few sheep to his uncle first, because the latter, according to custom, has a right to

oppose and delay burial, stubbornly claiming his bull, and the actual burying cannot possibly occur before his request is satisfactorily complied with. This he does because the wife of the deceased will be owned by his brothers.

B. Special manner of burying the leading rain-making Kujur. Kuku Chief, Jibilokajo

At the announcement of his death, which occurred at Shokaly, on the river, where Jibilokajo, the great Rain-making Kuku Chief, was paying an inspection visit to his numerous cattle, his son the present Chief Yanghi, with hundreds of natives flocked to the spot in attendance. The first ceremonial step was conducted by three other chiefs, by slaughtering a sacrifice of three sheep and placing them one to the right flank, the second to the left and the third near the head of the deceased Chief. It being decided that burial should take place at the village of the deceased, it was proposed that the corpse be transported on the arms of the mourning crowds, and not on a bamboo-stretcher which is the common vehicle for the dead. This proposition was promptly carried out, and the competing corpse-bearers dashed forward in excitement to participate in this task of devotion a final tribute to the passed-away ruler.

The distance which they had to traverse before arriving at their destination covered about four hours, ascending and descending over a rough, rocky, rugged road. As the procession was on the march a party was busily engaged in digging the tomb, meanwhile, three other items on the traditional programme were being prepared, namely, 1. Selecting a close and intimate follower of the deceased, in order to serve as a permanent guard of the grave. 2. Picking a marriageable girl, destined by custom to become the wife of this guard. 3. Selecting one of the loyal wives of the dead chief to join this guard only for the first four days after burial. A spacious and elongated grave is dug and to one side a series of eight sirdabs (shelves) are built of a wooden frame and a bamboo floor, while on the base of the wall of the other side, nearer to the corner, a horizontal nick is dug out, meant to be the final resting place of the deceased.

In the meanwhile, the son of the dead chief and chief Kajo Kaji, another important ruler, each slaughtered one bull and one sheep, in two different spots on the fringe of the mountain skirting the village of the dead chief. This double sacrifice is not eaten by the natives, and should fall as the lot of the wild beasts, principally the leopard, which abounds among these hills. Out of the cattle pertaining to the dead chief eight cows and two bulls are picked and assigned to live in future in the close vicinity of the entombed chief, distributed

in two lots, four cows and a bull to one side of the grave, and the other four with a bull to the other side. To complete the reception ceremony two sheep are slaughtered by the son of the deceased, whose hides are spread on the floor of the lowest shelf of the series in the grave.

At the arrival of the procession, the corpse is reverently laid on the hide covered lowest shelf in the grave, this done, the sorrow stricken multitudes all disperse, having, up till now, kept perfectly silent, giving no vent of wailings, for tradition dictates that their ruler is as yet only fast asleep, not actually dead, and on this ground they scatter and let him alone until further evidence of his death is forthcoming, when they will celebrate the funeral ceremonies. And in virtue of this tribal belief a small hut is immediately built near the grave in which the guard, his wife, and the wife of the dead, live for the next four days, keeping careful watch and observing developments.

Generally speaking, on the fifth day the guard, observing that the abdomen of the corpse has burst open, communicates this pathognomonic evidence of the actual death of the chief to the whole tribe, who hearing of the occurrence of this expected event, give up all hope, and their thoughts realise the sad fact that their chief is really dead.

The funeral now commences, large congregations come in, and the loud voices of lamentation and wailings are heard all over the place.

The corpse is shifted from its temporary resting place to the permanent one in the cave dug out in the wall of the tomb, but the hides are not moved with it. The entrance of the cave is now closed in by a wooden framework, and an overlying layer of mud and straw and earth is piled in, until the whole grave is obliterated, on the top a layer of mud is laid. The son of the buried chief now brings forth a black bull which is flung over the tomb and affixed to the ground by having many individuals sitting on the top of him, with the said son seated on its temples. A spear is held out, the lower part of the shaft of which is seized by the sons of the deceased, while others dash to seize its remaining portion, and by a simultaneous waving action of combined hands the sacrifice is slaughtered. In addition more sheep are killed as sacrifice.

At this stage of the celebrations comes the feast. Several burmas (an earthenware cooking vessel) are placed on the fire, each containing a native dish, namely, meat, beans, groundnuts, flour (asida), milk and marisa. When sufficiently cooked a blacksmith appears on the scene and serves the crowds one dish at a time, with the understanding that each person is entitled to four mouthfuls only, while the marisa is served in a widely open vessel containing a long tube, and each person is supposed to take a deep long sip, then make

room for another, whereas interrupted sips forfeit one's right to marisa. The remainder of the various dishes is invariably appropriated by the attending blacksmith.

The mourning dance is now ushered in by the beating of drums, the sounding of native bugles, the excited dancing and singing of men and women, the former holding out their spears, bows and arrows, as though ready to avenge their master's death. Hundreds join the dance showering tributes of homage and respect to their departed ruler. Their warlike traits and fighting faculties are now strung to the highest tension and a vindictive state of mind instigated by an impulse of avenge is set free in a raging manner, attaining the climax of their chivalry.

During the four days expectancy of the occurrence of the abdominal rupture of the dead chief, should it happen that any member of the tribe should die, he is deprived of all ceremony of funeral or burial, and in view of the tribal calamity now prevailing owing to the death of the rain-making lord, his friends take it upon themselves by traditional restrictions to entomb their dead very simply and quietly.

The guard and wife and all the wives of the deceased chief are by custom required to observe the mourning rites for eight consecutive years, the former, who is now in charge of the ten heads of awaiting cattle, lives near the tomb for the same period. Once a year, at the anniversary of their chief's death, this party of guard and wives are permitted to have the hair of their heads shaved, and join in a common weeping over their departed chief, whereas the general custom is that women and men if smartly dressed, always have the hair of the head shaved.

At the close of eight years the termination of the mourning period is announced, the necessary restrictions are relaxed and a sheep is driven into the wilderness as a token of the announcement, the guard and wife drive the awaiting cattle, which now have become their own, and return to their original home. The guard of course should eventually have paid up the dowry of his captured wife to her father. And, curiously enough, when first this girl is chosen, neither she nor her father are given any option in the matter, for, in virtue of the customs and traditions of the tribe, the unproposed marriage is nevertheless bound to take place.

C. *Miniature Houses for the Spirit of the Dead.*

The Kuku believe that man is composed of a body that is mortal and of a soul that is immortal. When the body is dead and buried it becomes disintegrated and washed out of existence, but the soul which is thus liberated continues to

exist in a world of its own, able to communicate and associate with Ngukaitait (God) directly, whereas it only communicates with the members of the household from which it has departed by causing them to fall sick when they default in offering the necessary sacrifices.

Therefore, at the death of a man, his sons build a miniature house in between the houses they occupy and where the departed one used to reside, which is dedicated as a dwelling for his soul. The dimensions of this miniature house are approximately three foot in diameter, 10 feet in circumference as it is circular, and three feet in height, it is built of stone and mud with a thatched ceiling, though at times its dimensions might be one foot in length, one in breadth, and one in height, being square in shape. The soul is supposed to reside in this house permanently and, though able to roam about it, never fails to return to it.

The household are expected once in a while to kill a sheep, prepare a rich meal, brew marisa, and at night place the whole lot inside this miniature house, and the belief goes that the soul visits the various dishes and pours upon them good wishes and blessings, and early next morning the household consume them greedily with the conviction that they ensure their prosperity and welfare. Such meals are especially prepared at periods when the new crops have been harvested, and no new crop is edible unless a sacrifice-meal has been served to the soul in order to obtain its blessing on the food.

One miniature house will serve for the soul of a dead husband and wife, and both live in it together and share the pleasure of sacrifice-offerings, whereas for the soul of children a separate miniature house, generally smaller in dimensions, is built and assigned.

A son or daughter taken ill, no matter what the nature of the illness is, would invariably call in a kujur who is requested to inform the patient of the cause of his illness through his mysterious communication with the spirits of the dead, and very often he returns the verdict that the spirit of the patient's dead mother or father is offended at his failing to offer sacrifice, and conveys a wish that either a sheep or a bull is required. At this the patient, without hesitation kills the sacrifice, invites his friends, and has a rich meal prepared, one portion of which is solemnly placed in the miniature house, and the rest to the party who, having consumed their share, all join in cordially wishing the patient a speedy recovery.

Souls occupying neighbouring houses are, according to native tradition, able to call on each other and exchange invitations at the sacrifice meals served them. But in case a childless man dies, who has no close relatives to build

his soul a house or offer sacrifice, he may proceed to an adjacent stream where Ngulaitait lives and obtaining his consent would be permitted to join him in all his sacrifices and offerings.

D. *Mourning Dress*

A woman who has just lost her husband, as already described, is led out of her house, preferably by the wife of a blacksmith, to the adjacent khor, where she has her head shaved and is subjected to a bath, to return only after the burial has actually taken place, lest the flies that frequent the corpse transmit death to her. She is then secluded for four consecutive days in her house, not permitted to associate with anybody, and the blacksmith's wife will, meanwhile, attend upon her in serving food which is admitted by partial opening of the door. But should the mourning wife happen to be with child, then seclusion is postponed until delivery has occurred. Among some tribal sections, no matter what day of the month death occurs, seclusion can only be carried out during the terminal three days of the lunar month, in other words, the three days preceding a new moon.

At the expiration of the seclusion days, (the number of which varies, if the secluded is a husband, three days, but if a wife, four days) the woman, having the head shaved by her attendant and head and trunk smeared with pallalla, is allowed to rejoin her people, but she should be dressed in mourning in the following manner :—

1. She should be stripped of all ornaments.
2. She wears necklaces and waistlets made of the most ordinary straw-rope, several rounds of each.
3. The head-hair should not be shaved but be allowed to grow long.
4. No pallalla smearing is allowed.

Corresponding rules apply to a mourning husband.

The mourning period stretches generally over three or four months if the surviving widow or widower are young, after which a sacrifice is made and marriage is permissible. In case the couple are old it would stretch over one year, while if the dead is a child of 10 or 15, over two months only. A mother may, if mourning the death of a young daughter, wear, in addition, some of the bead-ropes which were worn by her daughter.

The blacksmith's wife who attends during the seclusion period, before being dismissed, is accorded a reward of some arrows, or sheep, etc.

Dancing Custom.

"Gbaja", the Kuku term signifying a dance, comprises two varieties, Murry' and 'Korreh', the former being stirred and maintained by the beating

of two or three drums simultaneously, while the dancing party, who have already arranged themselves in a circle with the drums as centre, revolve round and round, each sex stepping separately; the latter requires no musical instrument, but instead each man has two ebony sticks, one being long, the other a stump, which he strikes together attempting to generate a tune.

The 'Murry' dance permits larger numbers to participate, without regard to age, for the old men and women, and the young children down to five are seen joining it enthusiastically; each dancer is supposed to furnish himself (or herself) with a long stick which he holds out above all heads, and shakes to and fro at moments of excitement. The drummer beats out a tune which regulates the dancing and all concerned must fall in with it, and all the party join in singing songs, tuned in harmony with the beating drum. The circle of men is formed immediately around the drums while that of the women comes next, and third comes that of the children. The actual dance involves slow alternating steps which are supplemented by shoulder and hip jerkings, allowing few moments interval for rest. This dance is the more popular of the two, and may last from three to ten hours at one stretch. The hour best adapted for its celebration is after sundown, though, rarely, it is conducted in daytime.

The 'Korreh' is generally an offspring of the Murry, for it is often observed that when the latter is in full swing a small party emerges out and commence at the former. A circle is composed of not more than twenty or thirty men, leaving a gap open to allow the entrance into its centre of dancing women, where the latter collect, each waiting her turn. Each man, in his circle, without exception, is furnished with two ebony sticks one about two and a half feet long while the other is not more than six inches, this latter as struck at the long one in such a manner as to produce a tune which should be harmonious. An additional musical instrument may be produced at this dance, namely a trumpet, locally made, being about four feet long, with a base of about five inches diameter. It is made of wood and wrapped with strips of lizard's skin and termed 'Torreh'.

To give an idea of the intensity of the sound emanating from it, it might be as well to mention that besides dancing, it is made use of to frighten elephants that encroach at night upon their cultivation. As the music is dying away a girl or two appear, entering through the gap in the circle, and throws herself into a special dance, by stepping gently forwards and simultaneously moving her flexed forearms upwards and downwards, thus covering the area immediately in front of the men, and to terminate, she abruptly bows before one of the men and withdraws quickly. The bow might signify something to the concerned man and might not. It is only young

people that join this dance, and to them it proves to be a great attraction. On rare occasions the "Korreh" is celebrated entirely independent of the Murry.

A dance is a great attraction to a native, it arouses all his enthusiasm, energy, and pleasure when actually celebrating it; there is no half heartedness about it. One and all, young or old, are extremely keen, and when a drum announces it, those concerned become feverishly excited and eagerly dash to the spot.

Kujur Practice.

A Kujur, whether man or a woman, attempts to render to this race the lines of services carried out by a religious or a medical man in the civilised world. The confidence and reputation which a native Kujur enjoys among his fellow-tribesmen is remarkable, for his word is taken as law by them. It is desirable to consider this topic under the following three headings:—

1. Kujur advice to a sterile woman.
2. Kujur Powers of Tombi Gborron and his swearing rod.
3. Kujur's advice in attending a sick person.

1. As a child-bearing wife is much coveted by a native he makes no hesitation to report to a Kujur her temporary failure to produce offspring, and earnestly seeks for his advice on the matter. The latter, ever ready to comply with requests of this nature that invariably tend to increase his wealth by the rewards offered him, proposes to hold a consultation with Ngulaitait on behalf of the wife in question. Thereupon a party is formed of the Kujur, husband, wife, and their relatives and friends, and they proceed to an adjacent stream, supplied with a chicken and some marisa in order to achieve their aim.

At some 40 yards from the stream the crowd makes a halt, at some 20 yards the husband and wife halt, and at some 10 yards, the Kujur halts. Both the chicken and the marisa are carried by the Kujur and placed in the stream as a sacrifice to Ngulaitait.

The mysterious communication now begins; the Kujur appeals to Ngulaitait imploring him to appear on the scene and listen to what he intends to relate; Ngulaitait makes a spiritual or rather an invisible revelation of himself and declares his presence. At this the Kujur states that this woman has so far proved sterile, and in his opinion a certain man whom she had formerly refused to marry had by some witchcraft prevented her from becoming pregnant by stealing and hiding her 'Bonday'.

Ngulaitait, having accepted the sacrifice, kills the chicken and drinks the marisa, and in response declares that true enough somebody did conceal this woman's 'bonday' which he has found somewhere and carried to the stream,

his home, and he further adds, that being pleased with the sacrifice offered him, he is willing to return her 'Bonday' to her, after which event she should become capable of child-bearing, and he actually places this bonday in the empty marisa vessel.

The Kujur picks up the killed chicken and the vessel and all the party return to the husband's house and make a high meal of the chicken, part of which dish is carried by the kujur to the stream and placed exactly in the spot where the chicken had been killed, and Ngulaitait, helping himself to the soup part of it only, the kujur brings back the remainder which is consumed by the party. During the stream consultation, when the kujur is communicating with Ngulaitait, the latter is heard talking by all members of the party (according to them) in the Kuku dialect, not this only, but every now and then, he would call out by name to one of the party and inquire as to his welfare.

Now the kujur is paid a fee of a sheep or a malod (spade) etc., and the woman, having washed the returned 'bonday', wears it in the strong belief that the following month she would become pregnant; in case of disappointment no blame is attached to the kujur whatever, but the matter is explained by saying that 'Ngulaitait does not permit her to fall pregnant.

The above details of the consultation are mainly applicable to a divorced woman or to a woman married for the second time on account of her former husband dying, but in the case of a young and recently married wife complaining of non-pregnancy, the verdict returned by the kujur after carrying out his duties, would be that the husband had not yet paid up all the dowry, and the advice is that he should do so without delay, and kill a sheep as a sacrifice.

2. *Kujur Powers of Tombi Gborron and the swearing rod.*

Tombi Gborron is a sub-chieftain in Opari District, which borders Kajo-Kaji District, but notwithstanding this fact, he holds unparalleled kujur powers, which, though not so highly respected now, on account of Government influence and prestige, did, in times gone by, wield a paramount control over the native mind and thought.

A superhuman power of transformation from the human state to that of a leopard is credulously ascribed to him, and this mysterious power is the secret of his influence.

It is believed on a large scale, that, should anybody else, whether a Chief, sub-chief, or an ordinary native, have the courage to cause a dispute or bring about a dissension with this monarch of spirits, he in revenge, by transforming himself into a leopard, would, on a night visit, devour the

aggressor, or any of his household. Not that only, for they attribute to him a capability of communicating with the forest leopards; he has only to blow a whistle in the forest at night, and instantly the neighbouring felines would hasten to take orders from him. Besides transforming himself, it is held that he can transform any of his children or relatives whom he may use as weapons of his vindictiveness.

In attempting to win his favour and insure their safety and well-being, Chiefs and members of the tribes around make him valuable presents of cattle or girls.

Crimes of a serious nature such as murder, in days prior to the advent of the present Government, used to be brought to him by certain tribal sections for settlement of the fine, for he could threaten a defaulter with destruction, and compel him to pay up the fine.

The criminal has no alternative, however important he may rank socially, and as soon as the compensation is delivered, the recipients are expected to reward the kujur generously, by either cattle or presenting him with a girl whom he is entitled to keep until she has produced him a child, when she is permitted to return to her people.

The Administrative Office of this District has made use of this kujur's reputation by having secured a spear-like iron-rod belonging to him and placing it in the Office for the purpose of swearing people with it when evidence is required. The native is fully convinced that should he swear falsely by this rod he is doomed to die.

Needless to say that since this District has become under the present Administration this veteran kujur's reputation and influence has suffered greatly.

3. *Kujur's Advice to the sick.*

A person taken ill and detained in bed for some time requests his people to call in the kujur for advice. The latter appears on the scene and having thought about the cause palpates the painful spot on the patient's body, then announces his opinion which is always one of two, either the 'Evil Eye' or failure on the part of the sick man or his parents to complete payment of the dowry agreed upon when the man married. In order to give a clear idea of what they mean by the evil eye, it might be interesting to relate the following incident which I personally witnessed:—

A young wife fell ill with severe abdominal colic and a kujur woman was called in. She required warm sesame oil and started massaging the patient's

abdomen, and kept up this massage for about half an hour, after which she declared that the wife had been struck by the evil eye, and as treatment proposed to extract the weapons of the evil eye from inside the abdomen, and set out to work. With the hand used for massage she alternated both her hands, and as she pulled away one quickly brought it in close contact with the under surface of her partially flexed thigh, and immediately returned it for massage, but a second later produced, as though it were from the subcutaneum, small pieces of black wood, say one centimeter and a half long and the thickness of a match. In this way she carried on for over an hour, and pretended to have produced several similar pieces, which by the patient and her friends were heartily accepted as the true cause of the ailment. And the girl incidentally was cured.

Ordinarily speaking, when the cause is other than the evil eye, the kujur suggests a sacrifice, upon which a sheep is killed and a meal prepared, to which the close relatives of the sick are invited to share. Then each picks up a green leaf of the herbage about, and having spat on it several times, approaches the patient with it, pats his chest and back, and while so doing utters words of good wishes and speedy recovery.

Before dismissing this topic it may be mentioned that the art of dry cupping is known to the natives, for I have witnessed it applied to the abdomen to relieve pain. And it was with great interest that I once witnessed a woman applying a small horn with her mouth as the sucking bulb to the breast of a nursing mother who had lost her baby, in order to empty it from excess of milk, and it was certainly efficient in meeting the purpose.

Though not directly connected with the above topic, the following headings are annexed here, as they bear more or less on its contents, namely

1. Restrictions on a parturient woman.
2. Nomenclature of persons.
3. Circumcision.

1. *Restrictions on a parturient woman.* A pregnant woman during the late months of her pregnancy is supposed to keep quiet and lead a very peaceful life. Having become confined, an event which might occur not only inside a house but on the road or in the bush with the parturient woman herself or any neighbour attending the delivery, she and her baby are sequestered inside her home for four days if the baby is a boy, and three if a girl, during which time she is not permitted to talk to anybody, save one closely-related woman whose duty is to serve her. Even if spoken to by

outsiders no answer should be uttered, and none of her relatives nor any member of her husband's folks are permitted to enter into her room nor carry on with her the slightest of conversations. Her food in the meanwhile, which should comprise the simplest native dish of 'Madida', should be served saltless, and no admixture with any condiment is allowable. In order to announce the event of delivery to outsiders, the husband erects a fence of bamboo around the house, being a sufficient notice to ward off the proposed visits of any one.

On the morning of the fifth day the sisters-in-law of the husband turn up to visit her, and granting her the tribal liberty of breaking off the seclusion enable her to come out and join the household. For another four days she is more or less under tribal restrictions, and it is only on the morning of the tenth day that she is allowed to have her and her baby's head shaved, to anoint their entire bodies with 'Pallalla', and thus resume ordinary life, and it is not until the morning of this tenth day that a name is given to the new-born.

2. *Nomenclature of persons.* The system adhered to by the Kuku in assigning names to their children is rather a peculiar one, and at the same time not without interesting features. When ten days of age, a son is accorded by his father the name of his great-grandfather, but if a daughter the name of her father's grandmother. A second son is given the name of his mother's grandfather, and a second daughter the name of her mother's grandmother. A third son is accorded the name of his uncle's grandfather, a third daughter, the name of her uncle's grandmother, while a fourth son is given the name of his aunt's grandfather, and a fourth daughter the name of her aunt's grandmother. In case of polygamy the same rotation is applied relative to each wife.

Besides the abovementioned permanent name a child may be accorded two or three other temporary pet-names, assigned by his father, mother, uncle or aunt, which become practically obsolete as soon as he gets married.

After marriage a young man is accorded, in addition to the first permanent name, another permanent name by the relatives of his wife, or in the case of a young woman, the second permanent name is accorded her by the relatives of her husband. The new permanent name of a recently married young man should bear a certain reference to cattle, for instance the name 'Ferna-culi' means to spend the whole day drinking milk, (Ferna meaning to pass the day, and Culi means at milk), in other words the name is intended to convey a wish that he may become enriched with cattle; another instance, Kajo Kaji, which means a zariba full of young cattle (Kajok meaning young cattle, and Kaji a cattle zariba). The name accorded to a recently married young woman should bear reference to fat, milk, or cattle, meantime it should have semblance to the name of her mother-in-law.

The two permanent names are in currency, but very often it is noticed that the second one given after marriage becomes the prevailing and more popular of the two, though the man's original relatives have a great tendency of invariably calling him by the name of his forefathers.

3. Circumcision is not practiced by either sex.

**The Notorious Practice of Human Poisoning with 'Nyania'
(Kushum), by Native Women.**

From ancient days up to the present there existed a limited number of women, who were, and are still addicted to the infamous custom of practising human poisoning, by secretly administering a substance prepared specially for this purpose, which possesses most virulent poisonous elements of a very fatal character.

Curiously enough, it is only women that are concerned with it, whereas men are adverse to it, and would never dream of reconciling themselves to this horrible crime. A limited number of families are traditionally associated with this practice. It is handed down from mother to daughter along the female line, for it is believed that a daughter will not divulge the secret, whereas a son might, and by so doing would destroy their traditional heritage.

Moreover, a daughter cannot possibly abstain from becoming an apprentice, lest she be doomed to irremediable sterility after marriage, her progeny, according to the *sibr* of the family concerned, would never be materialised. Fear of sterility thus induces her to acquire and practise the art.

The poisonous substance in use is commonly known by the name of "Nyania", while in the native tongue, the Kuku, it is called "Kishum". A description of the manner of its preparation and subsequent application may be of some interest.

A "Nyaniast", when determined to prepare her nyania, proceeds to the forest in search of a virulent snake, where she is liable to come across it in one of the many holes of an anthill. To achieve her purpose she provides herself with hunting implements, namely, sediments of marisa that are precipitated after long standing, a thin noosed rope, a stick, and a knife.

Having arrived at a likely hole she encircles it with the noose of the rope, the other extremity of which is held in her hand and the marisa sediments are poured around and in the hole, with the intention of allowing its odour to exhale and spread into the deepest recesses of the ant hill, and in consequence the snake dashes out in order to effect an escape from this disturbing atmosphere. As soon as its head peeps out the Nyaniast immediately pulls tight the noose

with remarkable celerity, thus constricting it around the neck of its prey. So aided by this manoeuvre, she presses down its head to the ground with a stick and right away mutilates the head with a knife.

The prize in possession, the Nyaniast retraces her steps homeward and starts the secret preparation, with a view of extracting the poison. A burma (an earthenware vessel) is placed on a fire, into which the mutilated head and a small quantity of water are dropped, and allowed to boil until the fat and poison glands have entirely melted away and formed a darkish solution. Now, this solution is carefully poured out into a bit of a broken burma, permitting it to cool down, whereas the remaining bones and flesh are discarded. This liquid solution, of about the consistency of water, is poured out into a *bukhsa* (a small gourd), where it is stored ready for use. This is the solution known by the two terms previously mentioned, "Nyania" and "Kishum". It is a concentrated poison the virulence of which varies directly with the virulence of the poison of the snake captured; all that could be described about it is its darkish colour, and its being practically tasteless. In case the captured snake is the "puffadder" one can understand the rapid fatal action, as this snake, which exists in fair numbers in this District, is possessed of a most deadly poison, and is well known for its severely fatal character. I personally know of two cases that died within half to one hour after being bitten by the deadly puffadder.

In the former era, prior to the occupation of this District by any form of civilised government, the native rulers disposed always of a Nyaniast in the following manner. At the occurrence of death by Nyania, the relatives concerned would report the matter to their chief, and request action to be taken accordingly. The ruler thereupon summons the suspected woman, and announces his decision to submit her to trial. A large crowd of people form an excited and indignant audience, including the relatives of the dead in question. A reliable and widely-known kujur is requested to officiate and undertake the detection of the culprit; and in response, amidst a huge number of spectators, the expert resorts to his mysterious demonstrations, which he executes as though divinely invested for his calling. With his sandals as withcraft tools, he commences by throwing the two, alternately, to the ground, and as he flings one, he utters the phrase "From among those present I will produce the criminal". The same measure is repeated several times, as though stirring his latent powers to their highest pitch, and at a desired moment, flinging his sandal into the face of a certain woman which should hit her in the intended spot, he proclaims her as the perpetrator of the crime. And as she happens to be the very same woman that was accused, it is admitted and accepted by all that she should be held responsible for the crime, and in

consequence she is handed over to the relatives of the deceased with the object of putting her to execution.

Without any delay a few men supplied with spears turn up on the scene, and the condemned woman is permitted to utter a word of confession, which she, having given up all hopes escape and thoroughly realising that an awful death is imminent, makes unhesitatingly. She begins by enumerating the names of her former victims, and concludes by saying that having succeeded during her life in killing so many, she might now as well die and follow them; hardly has she uttered the last word than the men stab her to death. Should she happen to have a husband, he is stripped of all his cattle which are appropriated by the prosecutors, and he is compelled to move out of their village.

In this connection, it may be said that a woman accused of this practice, has no further chance of marrying, and the same applies to her sons and daughters, as the apprehension created by the notoriety of the mother would scare people away from marrying them, lest they be poisoned to death.

The mediums employed by a Nyaniast in perpetration of her secret crime may be one of the following, *asida* (cooked flour), *marissa*, groundnuts, beans, *simsim*, *madida*, etc. She is very stealthy and cunning when attempting it, so much so, that the intended victim receives the offered article of food gratefully, presuming it to be a kind and hospitable gift.

On other occasions, in order to escape suspicion, she would await the chance of her intended victim falling ill, and paying him a complimentary visit, which cannot possibly arouse the slightest suspicion, manges to adulterate an article of food intended to be consumed by the patient.

But on more than one occasion, when an intended victim has consumed the adulterated meal, and begun to complain of the sudden onset of symptoms, he realises what has been done, and calls the attention of his household to the fact that so and so has poisoned him.

When urged to produce her *nyania*, a detected nyaniast stubbornly refuses, notwithstanding the certainty of imminent death, and the possible exposure of her body by her compatriot to torture or even mutilation, no matter how frightful or appalling, she would, in the presence of her native rulers and indignant country-men, resolutely refuse to show it up. It appears to be part of the *sibr* not to do so; she believes and nothing can shake her belief that, should she give in and produce her *nyania*, then chastisement and retaliation, would be forcibly applied to her; so far better, in her consideration, she receives her death in the manner proposed by others.

As a sacrifice for thanksgiving, a nyaniast, at the conclusion of a successful attempt at poisoning has her head shaved, brews marisa, prepares a generous meal destitute of salt, and consumes it; items which, if discovered, would lead others to suspect her and take steps against her.

During the collection of material for this article, it happened that two cases of this character were reported to the Civil authorities of this district and earnest investigations were made in the matter. As sufficient data were procured to justify a trial, the two prosecuted women were put before a court, and one of them, against whom the charge was proved received a verdict of 'Penal servitude'. In her confession she owned up, and the details she gave all tend to confirm the information above given.

It must be pointed out that it is to the credit of the district cashier Ahmed Effendi Abdel Allim, who at the time was filling the office of Acting Mamur that these manners were brought to light.

Tradition has created curious connection between the dreaded nyania on one side and a thunderbolt on the other. It is universally believed among them, that a Nyaniast, besides causing death by poisoning human beings, can, by some mysterious power, suggest other manners of death, using her nyania as medium. For instance:-

a. She under cover of darkness secretly conceals a portion of her nyania in some corner, inside the house of an intended victim, whereby, in the midst of a heavy rainfall, a thunderbolt is mysteriously attracted to this concealed nyania and in consequence strikes the house in question, setting it on fire, killing the owner, unless Ngulaitait should protect him, and picking the nyania up, returns to the skies where it burns it. They further attest that no thunderbolt will ever fall down unless attracted by a nyania.

b. It is within the nyaniast sphere of power when applying her poison to somebody, either by the mouth or by allowing, secretly, a drop to trickle down the external surface of his body, to suggest by mysterious communications, that he, or she, while in the forest be struck by the thunderbolt. It happened that while on a medical inspection tour, I heard of the death of a young girl by thunderbolt, and with the information a strong rumour spread that some unknown nyaniast had caused her to meet this death.

c. In September 1923, a young girl, while in the forest collecting wood, was surprised by a leopard which put an end to her life. With the announcement of her death, it was credibly circulated that a nyaniast had caused her to suffer this cruel death, in the same manner as described in article (b) above.

In self-protection, therefore, a nyaniast, having recently prepared the poison, would deposit it under ground in a chosen spot in the forest, to lie there until its use is proposed. It is only an old veteran expert in this malpractice that dares to conceal it in her own house, as, according to the *sibr*, she cannot suffer injury by athunderbolt.

Before closing this subject mention should be made of the treatment accorded by natives to a helpless sufferer with nyania-poisoning. The one line of remedy adopted is to supply the patient with the dried meat of a crow, this bird being looked upon as possessing immense healing qualities. A great confidence is put in the therapeutic value of this bird, of which two varieties are known to exist in this District, namely, one entirely black, while the other has a white patch of feathers on the chest, the remainder being all black. The former variety being the more coveted one. Further its dried meat is also prescribed in attempting to treat wounds, ulcers, guinea-worm, and general debility. A shot bird offered to a native is most eagerly accepted, as a very highly appreciated present, which to him is equivalent to the cost of a fat sheep, the latter being of a respectable value to him.

This is the treatment of nyania-poisoning when the nyania is administered internally, but it is believed that poisoning with an external application of nyania, by jerking a few drops off a straw-bundle to the back of an intended victim when he is utterly unaware of the assault, can be effected but with less serious results, the resulting condition being amenable to the following treatment:— In the month of October, 1923, while on my return journey to the Sleeping Sickness Camp, Kajo Kaji, after completion of a medical inspection tour of the natives, I came up with a party of some 20 women and two men all collected around a third man at a certain spot of one bank of an ordinary stream.

This third man had the lower half of his body immersed under water, while he sat down on the beach, and two other persons, a man and a woman who each held in the hand a bundle of green wild-mint-foliage, were alternately and incessantly dipping this bundle in water and flapping the back and chest of the half submerged man with it.

In response to an inquiry for an explanation, the party related that the man in question had been externally poisoned by nyania, and as soon as they observed the onset of the symptoms, they subjected him to being flapped with cold water while in the stream, and that this treatment is applied for one hour in the morning and another in the afternoon, for several days until a decided change for the better is effected.

A word about other tribes in this district, namely:—

Nyepo, Kakwa, and Bari.

The Nyepo, as far as one can trace their history, are unquestionably a clan of the Bari. All the present Nyepo Chiefs and living old men attest to this fact, and state that their forefathers, who in times out of mind, were genuine Bari and lived among the Rejaf District Bari, immigrated to the land occupied at present by the Nyepo, where they settled for good. Inter-marriages between the two as well as intercommunications were carried on on a large scale, only to be interrupted by the well known Rejaf-Bari Chief, Kenyi. This chief, who succeeded in securing a certain number of rifles from the Jehadia that formerly occupied Rejaf, and were succeeded by the "Kuturia", (Mahdists), awaited the chance of the clearing away of the latter from Rejaf in the face of the Belgian advent and indulged in looting and murdering of the neighbouring tribes, Nyepo being the first on the list. As his opponents were destitute of rifles, he had the upper hand, and instilled terror into their hearts, in consequence of which the Nyepo temporarily deserted their home-land and sought refuge among the Kuku tribe, where they lived for years, until the Belgian Government occupied Kajo Kaji District, when they reestablished themselves again at their original homes.

The Kakwa seem to have immigrated mainly from Loka, while a small section had come originally from Chief Mena of Opari District, and both settled down in Kajo District selecting a spot upon which they live in close proximity to each other.

The Bari are so few in number that it is hardly worth while mentioning them, for they are part of the Rejaf Bari, and are in direct intercommunications with them.

Language, Traditions and Customs.

One might venture to say that the Kuku, Nyepo, Kakwa, and Bari are all true daughters of one mother language. What slight differences there are, are only those consistent with the variations of local dialects, but the backbone and structure of the language binding them all is one and the same.

The same might also be said regarding traditions and customs, for as far as is traceable, it is proved beyond doubt that practically the same traditions and customs are common to them all. The trivial points in which one of them might differ from another are so insignificant that they on no account tend to alter or modify the preceding general statement.

Sports practised by the above-mentioned Tribes.

- a. Bows and arrows for killing game.
- b. Fishing.
- c. Use of spear in hunting elephants.
- d. Trapping leopards.
- e. A struggle with a python.

a. Bows and arrows for killing game.

The chief weapon for hunting game is the bow and arrow, the former being made of bamboo, and the latter of a thin reed fitted with an arrow head. Parties move in the forest together after game, and arrange themselves in two or three sections so that game scared by one section, would, in attempting an escape, unavoidably tumble within arrow-range of the other. They are very good marksmen, capable of dropping a gazelle or a cob at a range of 50 or 80 yards with the arrow, even the waterbuck and the heartebeest are hunted in this way. It is not an uncommon sight to witness a party of 10 or more, standing amid dry grass watching for mice, and shooting arrows at them, either to eat or drive them from their cultivations.

b. Fishing.

The inhabitants of this District living close to the banks of Bahr el Jebel, avail themselves of the opportunity offered them and take to fishing on a large scale. Their implements comprise four varieties, namely (1) a circular tapering net, (2) a broad elongated rounded basket, (3) a bamboo-rod with line and hook, (4) a spear-like rod; description of each may be of some interest.

(1) The circular tapering net is made of two parts, a wooden circular frame, and the netting; the former being a long rod about an inch and a half in diameter, is bent upon itself in circular manner and its two extremities are firmly tied together, while the latter is interlaced and knotted like ordinary nets, but in a circular and sharply tapering shape, the wider end left open, the tapering one is ultimately closed. The wooden frame is fixed to the open end of the net by means of ropes, thus giving a diameter of about 3 or 4 feet, while the other is closed and left free, so that the whole net from one end to the other has a length of about 5 or 6 feet. When fishing, a party of ten or more (the larger the number the greater the booty) proceed to the river where the water is waist or shoulder depth, each furnished with his net. They file in two, allowing an intervening space of about 40 yards, and holding their nets by the wooden frames which are arranged in a line touching each other, while the apertures face the opposite file, they now advance towards each other, (one

file towards the other) moving the fish with their feet. The fish being repeatedly annoyed attempt to make good their escape, and by so doing plunge into the cavities of the nets, now the holder of a frame as soon as he realises that a fish has been captured in this net immediately twists his net around the frame whereby the fish is safely imprisoned.

(2) The broad elongated roughly-rounded basket is nothing more than a submarine trap, very cunningly and efficiently devised. A basket is built of ordinary strong twigs, its dimensions being, approximately 5 or 6 feet in length, and 3 or 4 feet in diameter bearing practically the same depth throughout. One extremity is closed while the other is partially so, allowing an aperture about six inches in diameter, to the inside of which spikes, all round, made of sharply pointed bits of bamboo, are firmly fixed parallel with the length of the basket but facing its closed end. When it is intended to put it into use, it is carried to a spot in the river where the water is shoulder deep (or a little lower or higher), and where two convenient rocks are found. The trap is fixed firmly to the rocks by means of poles etc., and placed in such a manner as to be parallel with the river-course and having its aperture facing down-stream in order to avoid the current, thus fixed it is let alone for some 12 or 24 hours to operate. Now, the roaming fish, desiring this aperture, make for it in search of food and once inside, they are unable to escape, owing to the bamboo spikes lining the inside of the aperture, and finally hopelessly give up any further attempts and in consequence are precipitated in the trap. Many fish may be so trapped, at times 15 or 20 during one fishing, and to the riverine inhabitants this trap appeals as the most profitable manner of fishing, and when fish appear to be swarming about, this trap is always resorted to.

(3) The bamboo-rod with a line and hook fixed to it, is operated on the same general principles as are known to the white man, but when a native angler proposes to hook a big fish, he fixes this rod to a rock or tree on the bank, and with the bait concealing the hook, the line is left the whole night immersed under water, whereby, the next morning the booty is found. It must be pointed out, that the fishing-rod they now have in use, and as related to me by intelligent men, has been introduced to their country from Northern Sudan.

(4) The spear like rod is the ordinary '*Kokab*', instead of a spear blade which is fixed to a shaft, a pointed round blade of iron, about a foot long is fixed, and a party of fishermen proceed to a shallow spot in the river, where spotting a fish, they stab it and very often succeed in securing it.

c. *Use of spear in hunting elephants.*

A short shaft, two to four feet long, with a big blade; a foot or a foot and a half long mounted on it, forms the weapon for killing elephants. The native, having thoroughly acquainted himself with the forest paths frequented by elephants, selects a spot where a big tree exists; he climbs up the tree and lies there in ambush and as soon as the intended victim is passing under the branches he drops his spear between the elephant's shoulders with a powerful throw, the blade piercing through the pachyderm, who, by stampeding, involuntarily makes the wound larger.

The hunter follows up his wounded elephant, to repeat his assault until it dies. Two or four hunters might join together for collaboration.

d. *Trapping leopards.*

A very cunning, improvised trap very simple in formation, is employed efficiently to capture leopards that very often maraud their cattle, and having personally seen one, I venture to describe it.

Around the grain cultivation, especially telebun, where game come to graze at night, a hedge of thorn and wood is raised to ward the intruders off, but a small gap, appearing as an entrance, one foot high and another broad, is left as an enticement to the leopard to go through while in chase of the grazing game. As a threshold to this entrance a dry branch of the "Dumi" shrub is firmly fixed, and a rope not exceeding half a centimeter in diameter and a yard or so long, is fixed with one of its extremities to this exceedingly strong and hard Dumi twig, whose diameter is hardly two inches, while the other extremity is allowed to hang down to the ground being tied in a noose each side of this noose being tied with a bit of grass to each side of the entrance respectively.

As the leopard comes along at night seeking to devour his prey, naturally he chooses this entrance, which quite suits his purpose, and deciding on action, rushes in with all his power, only to find that he is simultaneously captured by the noose. In attempting to extricate himself from this trap, he is only pulling the rope tighter around his neck, and in his desperate frenzy, endeavouring to escape puts an end to his life, or nearly so, rendering it an easy task to the hunter to finish him, as he comes round to check results.

One is amazed to find the rope, thin as it is, capable of coping with the weight and might of a captured leopard that is tugging away for his life, nevertheless this is a fact. The rope is locally twisted out of a shrub, and suggests to one the consistency and firmness of silk ropes in the civilised world.

As to the Dumi twig, this again is remarkable for its firmness and inflexibility, and the natives on account of its iron-like hardness describe it by saying, that there is a traditional enmity between it and the leopard family, for where it is applied, either in fences or traps, the leopard loses all its feline wits and is entirely beaten.

e. A struggle with a python.

The following incident though possessing most unusual features, need not be suspected of exaggeration by the reader, as it was very carefully verified.

A man whom I personally know, proceeded one day from Kajo Kaji station to the Rejaf town, and as along his way there lies a broad stream, he has to cross it by a ferry placed there by the province authorities. Hardly had he done so, and started on his way which was surrounded by high reed grass, he was surprised by a python that darted in his direction, with the intention of striking his chest to fling him down and by twisting itself around him it would easily constrict him to death. Nimble and agile as most of the natives are, he instantly bent downwards and evaded the collision, and turning round to have a look at his opponent, the latter permitted him no time, but as soon as it had coiled itself, it again flung itself into the air as though propelled by a machine and spread itself out horizontally, aiming at his chest, but again it was disappointed, for he repeated the same trick, and, for the third time, turning round to locate his opponent, but this time with more energy and determination, for he realised that it was a struggle for life or death, he threw his spear at his formidable foe with all the skill and dexterity that he possessed, and luckily enough, it pierced two coils, one being the end of the tail and the other the middle of the reptile, firmly transfixing it to the ground. Saboon (the man's name) won the victory, and put an end to its efforts at his life after a few moments wrestling.

Not satisfied with disabling the python, he decided to put an end to its life, and in carrying out his aim kept throwing stones at it for four consecutive hours, and by twelve it lay perfectly quiet with the head on the ground. Presuming that it was dead he advanced with a stick in his hand, but to his surprise, the python, with the free end of its body, lifted itself up, opened its mouth widely and resisted, and the exhausted Saboon, now for the first time realising how it could have easily swallowed him in its spacious mouth, becoming more determined than ever to finish it, recommenced stoning it heavily until, by 2 p.m., he finally killed it.

Having arrived at Rejaf and completed his mission, he returned to Kajo Kaji, and brought me the skin of this reptile, and by careful measurement, it measured about 19 feet long, and about one foot broad, this being the dorsal skin only, as the abdominal skin had been thrown away.

Miscellaneous.

When a hunter kills an elephant, one tusk is presented to his Chief, and the other is appropriated by him. At the second kill, a bull is presented to the chief, while both tusks are kept by the hunter, and so on; should the prize be an antelope or the like, one leg is offered to the chief.

A woman struck with a bundle of straw, would consider that a bad omen, and to avert its outcome, she would take hold of the bundle and break it.

A party of young men, chancing to meet a young girl whom they all admire, would pick up a single straw for each, and, wherever it might be, on the road, or in a quarter, have the right to challenge her, right then and there, to select one out of their number whom she would accept as a future husband. She in turn, having recognised the lot would step forward and snatch the straw off the hand of the one whom she admires most, and it follows that very often a marriage between the two is arranged, though not necessarily so.

Members of the same family or friends when meeting again after long separation, salute each other by shaking hands only, for the art of kissing is not only not practised, but entirely unknown to the native.

As to food, a person has two meals only, a morning and an evening one.

They bathe openly in streams, or in their houses.

As a good omen, natives when setting out on an enterprise where the result is doubtful, and may entail danger, place across the road traversed a green twisted rope, and bury it under small stones.

Having killed a sheep as a sacrifice, a native wears strips of its skin around his ankles waist or brow, to ensure its blessing

Supposing a foreign particle of dust should get access into the eye of a person, his neighbour would pick it up by protruding his tongue and searching for it, and thus often removes it.

In the event of a mother being delivered of twins, deep sorrow among parents and relatives supervenes, as it is looked upon as an exceedingly bad omen, that inevitably entails, in the near future, the death of one of the parents. Tradition dictates, that as the twins attain the age of 10, they start playing around

their house, and starting from the door, attempt to describe a semicircle, and by doing so they both meet at the back of the house, where one of them foretells which of the parents is to die. Natural death of one of the twins or of both would be most welcome news to the concerned family.

Amongst objects or beings, by which a native is sworn, two rank highest, namely a bird of red plumage, and the thunderbolt. A prosecuted person, when called upon to give evidence, holds a feather in his hand, and breaking it into two utters his statement which should be the truth lest the divinely empowered bird should doom him to misfortune.

Two cows and a bull are accepted as compensation for a murdered person.

Transactions of purchase are never settled, for if a purchased bull or sheep etc., should die during the 5 years subsequent to the purchase, the purchaser has a right to claim back his money or article of exchange, only the skin of the dead animal is returned to the original owner.



A DESERT ODYSSEY OF A THOUSAND MILES.

By D. NEWBOLD.

During the summer of 1923 I obtained permission to carry out a long-desired journey from Northern Kordofan into the Western Dongola deserts and in the following pages I have given an account of my tour from BARA to BIR NATRUN (Long. $26^{\circ} 45'$, Lat. $18^{\circ} 10'$), and back, a round trip of 1,070 miles, a large part of which was over desert previously untraversed by a white man.

The interior of the Libyan desert has always exercised a strong fascination upon me, as it appears to have done upon the old geographers and chroniclers. The Northern half, from the Tropic of Cancer to the Mediterranean littoral, had become tolerably well-known by the time of Ptolemy, the prince of cartographers, whose map of 150 A.D. shows a maze of tribes and watersheds and oases well in the heart of this area. This was due partly to the famous oracle of Ammon at Siwa Oasis, and partly to the Egyptian, Greek and Roman occupation of the other oases, Kharga, Dakhla, Baharia, etc. I made the acquaintance of this Northern half in the operations against the Senussi in 1915-16, and was amazed at the relics of Roman occupation and at the fertility of the coastal strip.

The southern half, however, of the Libyan Desert which reaches from the Tropic of Cancer to where the grass-covered steppes of Northern Kordofan and Darfur begin, and which embraces the whole of the Halfa and Dongola deserts, has remained until this century a *terra ignota*, and is still largely unexplored. This is the country where in default of spot-levels and of contours, the old mapmakers set down unicorns and basilisks, tailed and dog-headed men, and hideous figures with faces set in their bellies. Others, less artistic but more direct, simply wrote across the waste spaces, "Here dwelle very eville men." The great Hereford World Map, for instance, drawn by Richard de Haldingham in 1280 A.D. reproduces in the Dongola desert the goat-footed Aegipanes of Pomponius Mela with as much fidelity as it paints the Red Sea red. In fact, the sum of our knowledge of the North Western Sudan, off the Nile, in the 15th century had not advanced from that of 1,000 years previously when Cosmas, the Egyptian merchant-monk of 500 A.D., drew the oldest Christian map known, showing a flat world with the river Gihon or Nilus flowing from Paradise into the Mediterranean with a trumpeting angel astride of it. With the discovery, however, of Ptolemy's maps about 1450 A.D.,

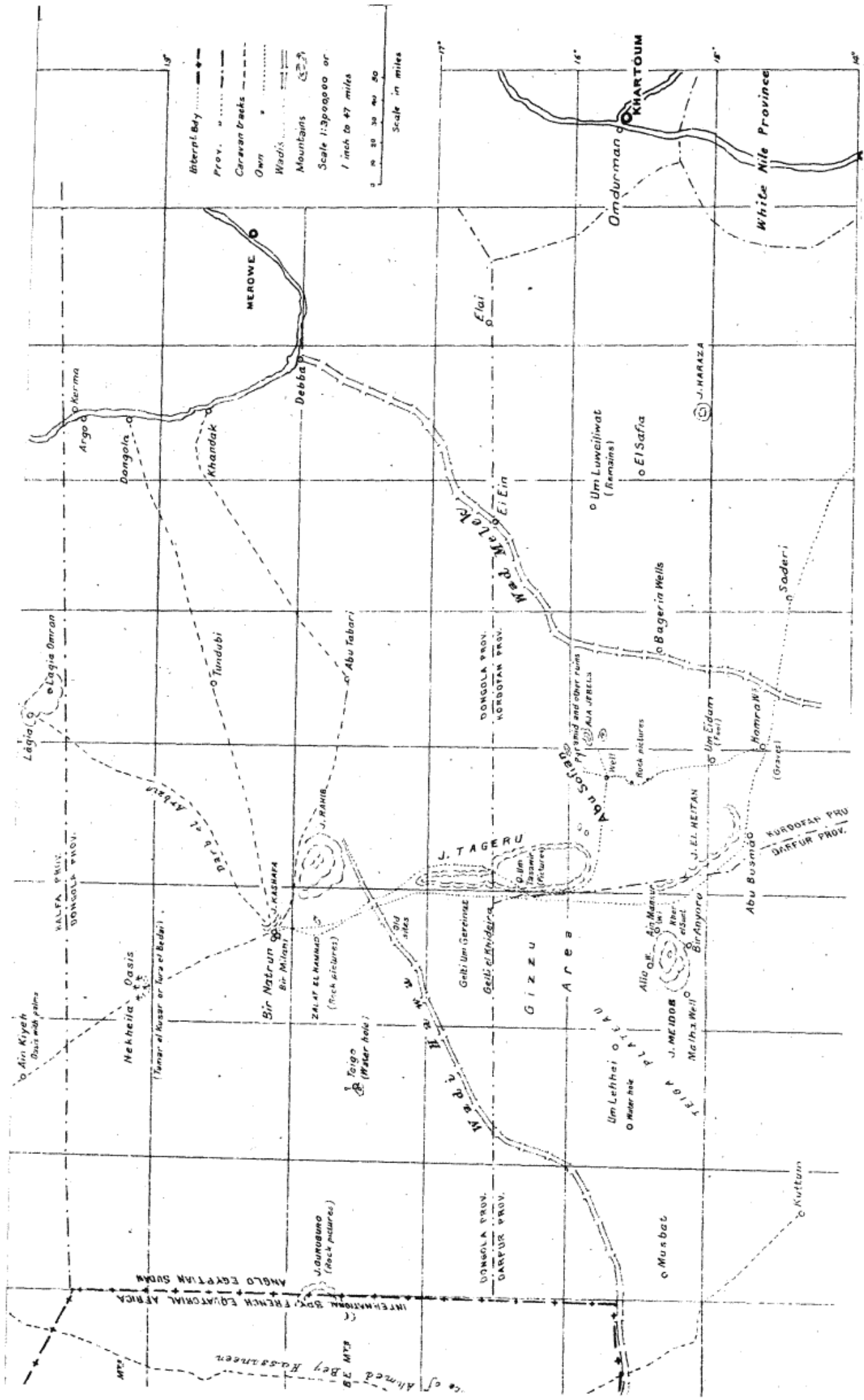
and the translation of the works of the medieval Arabian travellers, such as El Idrisi, a new era dawned in African cartography and d'Anville in 1749 was able to publish a map with considerable detail as regards the Libyan desert. (1)

Since then we have had Browne's voyage from Assiut to El Fasher along the famous 1,000 mile Darb el Arba'in, the 40 days' Road, but his account is too meagre to be of real value. In 1907 Bir Natrun itself was fixed on the map by Capt. Conyngham, R.E., and routes to it from N.E., E., and S.E. roughly surveyed by Camel Corps Officers. It had previously been visited in 1903 by Capt. H. Hodgson. In 1912, Mr. Harding King published in the *Geographical Journal* an account of his fruitless attempts to reach Kufra Oasis from the Nile Valley, during which he amassed a quantity of valuable native information concerning the border country of the North Western Sudan and Ennedi, much of which has since been verified by Lt.-Col. Tilho's exploration of Tibesti, Borku and Ennedi 1912-16, and by Ahmed Bey Hassanein's wonderful journey from Kufra to Darfur in 1923.

The area of country, however, covered by these travellers was naturally confined to the narrow ribbon of their route, and, apart from the wide spaces of rolling desert West and North of Bir Natrun, still almost wholly unknown, (2) there are large tracts South and East of it yet unvisited. The country East of the wells of Natrun is for the most part rocky and waterless, but it has been traversed from different points on the Nile and it is unlikely that anything startling remains to be discovered. The hill and valley features where not known can be surmised and practically all the old maps show little else than a range of hills corresponding to the Abiad plateau. The country South of Bir Natrun is less known as it was until 1916 almost a closed book to travellers. When Darfur, however, fell into our hands and the Arab caravans could go more freely to get their rock salt from Bir Natrun information began to trickle in of various wonders to be seen up in the corner on the map where the boundaries of Dongola, Darfur and Kordofan meet, and in the deserts beyond; a mountain of three days' journey from North to South overrun by wild sheep and with its slopes littered with relics of the aboriginal "Anag"; a brick "temple"

(1) The study of ancient maps is both fascinating and profitable, and I hope at a later time to deal with those early and medieval maps which throw light on the history of the Northern Sudan. Even the most grotesque and archaic charts can usually throw at least one or more sidelights on what would otherwise be dark.

(2) Although we know the geology and rough configuration of the desert West of the Arba'in Road we cannot confirm or refute the traditions of fabulous oases. Certain evidence, literary and material, inclines us to believe in at least two such oases, while of two more, one, Owana or Owinat has been visited by Hassanein Bey and another, Nekheila (see below) is vouched for by incontrovertible native evidence.



International Boundary
Province
Caravan Tracks
Oasis
Wadi
Mountains
Scale 1:300,000 or
1 inch to 47 miles
0 10 20 30 40 50
Scale in miles

ANGLO EGYPTIAN SUDAN
FRENCH EQUATORIAL AFRICA
INTERNATIONAL BOUNDARY
E.A.S. (English Sudan)
A. (Anglo-Egyptian Sudan)
F.A.S. (French Equatorial Africa)

White Nile Province

KURDUFAN PROV.
DARFUR PROV.

DONGOLA PROV.
DARFUR PROV.

DONGOLA PROV.
KORDOFAN PROV.

GIZU
Area

ABU SOUFYAN
Pyramids and other ruins
J. EL NEITAN
Bir Anyara

Wadi Melek
El Ein

Elai

Merowe

Musbat

Um Leihai
Oasis hole

Alia
Oasis
J. MEIDOB
Nakhx Well

Um Leihai
Oasis hole

Um Leihai
Oasis hole

Um Leihai
Oasis hole

Um Leihai
Oasis hole

Um Leihai
Oasis hole

Um Leihai
Oasis hole

Um Leihai
Oasis hole

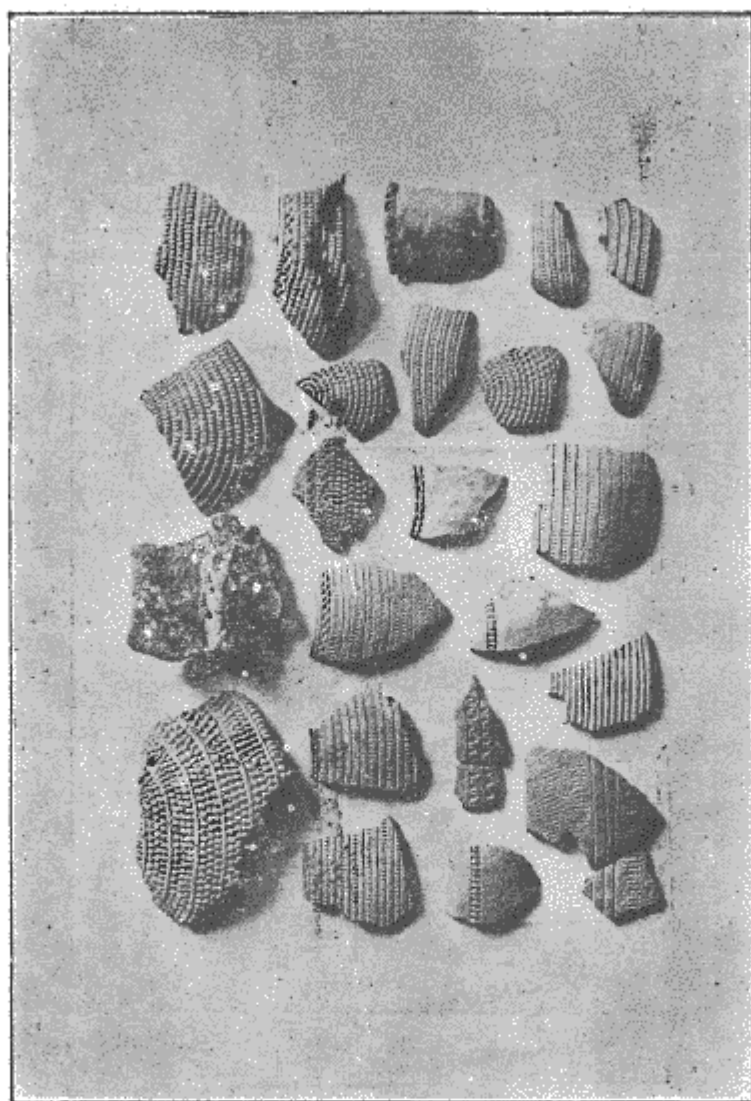


PLATE I. POTTERY OF VARYING PATTERNS FOUND AT JEBEL TAGERU.

like the "temple of Jebel Barkal," situated 15 days West of Omdurman; rock pictures engraved on cliffs and ravines; stone cairns innumerable surrounded by bones and pottery; sand-dunes that give forth reverberations like tribal drums; pinnacles of rock shaped like weird animals and *efrits*; sudden sandstorms that dry up the water in a skinbag in an hour and drive the unwary traveller, bemused and athirst, far out of his course. Even after making due allowance for exaggeration—and the true nomad Arab is not prone to hyperbole—I was convinced from what data I had collected from other sources that most of the native reports, whether on matters archaeological or topographical, were broadly true. As a matter of fact they were all ultimately verified. We found the unmapped mountain to be some 80 miles long by 15 miles broad and it certainly was the home of a number of wild sheep: we found the red brick "temple" which turned out to be a tiny pyramid: we saw four distinct groups of fine rock pictures, three of which were known to the Arabs, but upon the fourth we stumbled by pure accident: we passed scores of stone tumuli and for miles our camels were crunching beneath their feet sherds of pottery and broken bones: we located the drumming sand-dunes, but unfortunately the thunder of their *nahass* was silent: we passed the rocky pinnacles which terrified the Arabs by their curious weatherings into human profiles and bestial forms; and we rode for nearly 50 miles at one stage in the teeth of a sand blizzard such as must have overwhelmed Cambyzes' army which tried to march from Luxor to Siwa *via* Dakhla and of which not a man returned. I am anticipating my story but mention these discoveries to show that the journey was something more than a wildgoose chase in search of fabulous marvels.

Although these finds were of great interest to me as an archaeologist, they were not the primary object of my journey, and I naturally had to put forward stronger reasons for being two months absent from the centre of my district before I was allowed to set out. These were, fortunately, not hard to find. They were twofold: (a) Administrative and (b) Topographical. As regards the administrative value of the trip it must be remembered that from Soderi merkaz as far North as Lat. $16^{\circ} 45'$ my route lay across country grazed over by the great camel-owning tribe of Kababish, and that the great plain between this latitude and Lat. $15^{\circ} 30'$ constitutes the "Gizzu" country, (1) where the grasses remain green from the end of the rains in September until the following April and where the Kababish send their herds of camels to fatten from October till the end of March or later, whence they return sleek and plump to the Wadi Melik to enjoy their first drink for 6 months. I had only seen

(1) Gizzu is a generic name for a group of grasses. I do not know its derivation. See MacMichael "Tribes . . . of Kordofan," p. 192. I give a list of the grasses below.

the fringe of the gizzu country before, and no European, save Browne in 1793, has ever traversed it from North to South, West of Jebel Tageru. (1) Consequently it was distinctly worth while to collect first-hand information of the economic conditions under which the largest tribe of Northern Kordofan live with their herds for six months of the year, their social and pastoral arrangements, their commissariat in this barren and waterless region, their communications over an area the size of England.

The topographical side of the journey was no less important. Apart from the discrepancy between the map delineation of Jebel Tageru as a small two-peaked hill in Long. 27° Lat. 17° (*vide* 1,250,000 Sheet 44 K) and the native description of it as stretching from within sight of Meidob to within sight of the Wadi Hawa, *i.e.*, sprawling over a whole parallel of latitude, there was the need to verify as much as possible of the line of the great Wadi Hawa itself, which runs for 600 miles from South Ennedi in French Territory south of Bir Natrun until it loses itself in the desert immediately West of Dongola Town, and also to map and describe the sources of water-supply, if any, on the route, especially the rockwells reported by the Arabs as existing up in the hills. Bir Natrun itself has been surveyed and described, but the days of raiders from the West cannot yet be said to be overpast, and it is essential to have as reliable information about routes to Bir Natrun from Darfur and the South, (2) as that we already possess concerning communications with Dongola.

As it was unlikely that anyone would visit this remote area again for some considerable time, I set myself to note what I could besides of the geology, game, trees and grasses, especially as this region marks the transition from parkland to steppe and from steppe to sheer desert probably more clearly than it can be seen elsewhere in Africa.

(1) The shooting trips of Major Maydon, and Messrs. Scott and Van der Byl, carried out in the winters of 1921, 1922 and 1923 respectively, certainly covered a part of the gizzu previously unexplored, but they did not reach far enough North to impair the truth of this statement. For Major Maydon's trip, see *Geogr. Journal*, January, 1923. Messrs. Scott and Van der Byl followed his route to a great extent, *viz.*, from Jebel Meidob to Jebel Teiga and onwards in a North Westerly direction to the Wadi Hawa about Lat. $16^{\circ} 30'$. Although their objective was addax, all three brought back archaeological relics in the shape of pottery and stone implements.

(2) The westernmost route to Bir Natrun hitherto traversed was that of the Camel Corps in 1908 by Capt. Whittingham, Percival, and by Capt. Cottingham, R.E. It lay East of Jebel Tageru 8 days without water from Bagaria Wells in the Wadi Melik.

So much for the circumstances that led to the journey and the preliminary account of its local setting. (1)

I left Bara on August 27th with instructions that I was not to go North of Bir Natrun or West of the meridian $26^{\circ} 30'$. (2) I arrived at Soderi (110 miles), (3) the Headquarters of District Commissioner, Dar el Kababish, on August 31st, and picked up there five guides and escort of the Howawir tribe. I stayed at Soderi 8 days trying cases and clearing up arrears of office work and left on September 8th for the camp of Sheikh Ali el Tom, Nazir of the Kababish, where I had arranged to take on three more guides and complete my quota of hired camels. As the rains had only just ended Sheikh Ali was still on the move with his herds and his household, but wherever his "*feriq*" was I intended to make that the jumping-off place for the actual journey to Bir Natrun, as it was with him that I could best recuperate my camels and obtain the latest information about the all-important question of water and grazing en route.

I arrived at Hamra wells (195 miles), Sheikh Ali's summer headquarters but then deserted, after three days over a well-trodden route, familiar to many readers of this Journal. The Wadi Melik was in flood where we crossed at Abu Zaima, with the water about 4 feet deep and 30 yards across, and full of duck. The plain between the Wadi and Hamra was swarming with gazelle, and I counted 103 within half an hour on the last stage into Hamra. Bustard, jackals, and a few quail were also seen, but as yet no *ril* (addra gazelle). Hamra

(1) I apologise for the length of this exordium, but as almost nothing seems to be known about the South Libyan Desert, which forms as big a blank in literature as it does on the maps, I have taken the opportunity to set down some of the information which I have accumulated about it during my three years in Kordofan, although it is only a medley of native traditions and gossip, excerpts from classical geographers, and odd reports of medieval and modern travellers. In the account of my journey which follows I have likewise inserted a mass of information, much of which was not actually obtained on the march, but comes from other sources, although it is all relevant to the places visited or things observed en route. I ask the reader's indulgence for the way in which it is presented, as this article was written out of "*homo subsecivus*" during a very busy period. For similar reasons and in order not to render it unduly turgid, I have not overweighted this article with a mass of references, and I hope that it may be taken for granted that the historical and literary allusions contained therein are correct. It is probable that by the time this has appeared Hassanein Bey will have delivered his account of his latest journey to the Geographical Society and it should be possible to link up our discoveries in the Sudan with the explorations of the French in their two neighbouring districts, the Circonscriptions of Kavar-Tibesti and of Borku-Ennedi, by means of the information provided by his journey down the border of the two countries. When this has been done we shall have a firm foundation upon which to build up a historical and ethnographic survey of these parts.

(2) The reasons being that no topographical or archaeological discoveries were likely to be made in this region, while risk of collision with raiders was not slight.

(3) Figures in brackets refer to mileage from Bara.

was of course dismantled, but a few Kababish were there, looking after the cultivation, and we learnt from one of them, Sheikh Ali's *rais el khazna* or store-keeper that the Nazir was probably somewhere near the pool of El Burbeit, which is not marked on the map, but which I had passed during a visit to Jebel Meidob from Soderi in 1922. We accordingly set forth the same afternoon and reached Adha el Hareiq (243 miles) near Abu Busma two days later. On the way we passed patches of *tebeldis* which probably represent the Northernmost distribution of these trees in Kordofan. We also came upon a fresh group of the pre-historic stone cairns or "tumuli" which are so common all over the hill country of Northern Kordofan. The long sandstone ridge of Jebel El Heitan, "the Walls," lay on our right, and we now turned Northwestward and then North, following its great bend parallel to and about three miles from its foothills, while on our left horizon there appeared intermittently the vast grey bulk of Jebel Meidob, which had first come into view from 85 miles away and of which we were not to lose sight for another 110 miles.

We eventually ran Sheikh Ali el Tom to earth at Khor el Sunt (291 miles) a flooded valley on the Kordofan—Darfur boundary in Lat. 16°, Long. 27°, approximately, and arrived in his camp on the morning of September 15th. Here were all his own herds, numbering 2,000 to 3,000 camels (the whole tribe boasts 26,000 mature camels and 150,000 sheep and goats) and plentiful water, but poor grazing owing to the rocky environment. I stayed at the Nazir's *feriq* (camp) for 6 days, the first three of which were fully occupied in discussing tribal business, and the remainder in mapping our position, as there were no fixed points to help me ahead once Jebel Meidob receded out of sight, and in making preparations for the hardest part of the journey. During these days I was fortunate enough to witness the departure of the Nazir's herds to the "gizzu." This is an important event in the seasonal movements of the tribe and the details of it deserve record as they have not, I think, been set down before with any accuracy. I cannot do better than quote from my official report the Appendix dealing with this unique exodus into the distant deserts.

"The conditions surrounding the annual migration of Kababish herds and herdsmen to the gizzu area are worthy of note as they affect the economic and social life of the tribe very closely. By the end of the rains some 20,000 of the 26,000 mature *ibl* (camels) of the Kababish are to be found West of the Wadi Melik drinking at the numerous pools between there and Meidob. Towards the end of September a Northward movement takes place and the herds bit by bit spread out fanwise into the great gizzu area lying between Lats. 15° 30' and 17° and Longs. 25° and 29°, some 24,000 square miles of variable grazing. This movement is not a casual drifting but an organised migration demanding preparation.

"I had the luck to witness the departure of Sheikh Ali el Tom's own herds from Khor el Sunt, the Northwesternmost pool of his *dar*, on September 18th. The noon shade temperature was still 108° Fahr., but these herds were probably not going to drink water for 6 months. Great bustle attended their send-off. Herd-boys were clamorous to be provided with clothes, tea and sugar. Saddles were had out and mended. Sick camels were weeded out. The Nazir's son, El Tom, was on his feet all day supervising the distribution of stores, especially extra clothes for the coming winter. Eventually the herds had their last drink, with plenty of rock salt and moved off. Most of the party accompanying them were young men and boys, with a sprinkling of women. Dogs and a few donkeys trailed behind. As is known, these eat the *handal* melon where it is found (c.f. the similar use of the *tsama* melon of the Kalahari desert, where there is a counterpart of gizzu conditions). No heavy baggage, e.g., tents, *ufas*, etc., was taken, but a few carpets for the more luxurious to put up as shelters.

"Similar scenes were probably being enacted, though in humbler style, throughout the tribe, as three weeks later, I had met herds of the Atawia, Howarab, and Berara clans on either side of Jebel Tageru. At the time of writing (November, 1923) the remaining sections have probably joined them and are far afield, save the Easterners, Awlad 'Ughba and Awlad 'On. Last year the Awaida Zurrug, the next richest section after the Nurab, penetrated to Musbut on the edge of French Territory, while Sheikh El Tom was grazing his father's herds North of Latitude 17°, at El Jihaf, 250 miles away. But 1922 was an exceptional year like its two predecessors, and this winter I doubt whether they will go half the distance.

"Actual life on the gizzu is not such a hardship as is commonly imagined. On the whole it is rather a "loaf." The diet and work appear to us monotonous, but an Arab's life is always so. They eat *kisra* from the grain they take, flavouring it with Um Gibbein berries, and drink the she-camels' milk, while those that have rifles vary their menu with gazelle, or even desert cat or hare or rockrabbit, if else fails, and those that have not achieve periodical repletion on ostrich eggs, being careful to take those on the outside of the clutch as being new-laid. They cook them with fat and camels milk butter into a semblance of scrambled eggs.

"Herds are kept continually on the move but may revolve round a sheltered spot where the Arab puts up a rough tent, otherwise they move straight North or West. The Arabs can live on milk for any period and are even ready to fill a waterskin with a gallon or two and travel three or four days away from their herds if occasion demands. Milk is said to become unpleasant after three days in a skin bag on a trotting camel. Personally, I think it is nauseous after one. They do not, however, disdain water as long as it is available

and many parties remain within reach of the Tageru and Teiga rockwells until they dry up. Water is convenient for sick camels and the Arab washes sometimes. By December the region is fairly waterless, and the intense winter cold has set in. At night the thermometer is not far above freezing and as the Arab has never learnt to make or buy a woollen garment, rheumatism, bronchitis and pneumonia are frequent and bitter winds add to the discomfort. The Arab reckons the cold as the only real hardship on the gizzu. Hunger, thirst, monotony have few terrors to a desert-dweller, but cold unmans him, and he lies like a sheeted corpse in his clothes until the sun is high in the heavens.

"Meanwhile animal disease is almost unknown on the gizzu and the herds are putting on wool against the winter and fat from the succulent grasses and this is the Kabbashi's consolation as they are his all in all. "*Hal el ibl suf wa jaban*," The worth of the camels is wool and milk."

Such is life on the gizzu and the departure of the Nazir's herds to the North only whetted the more my desire to see this mysterious region and the more mysterious deserts beyond. I now completed my caravan by taking on five more baggage camels to carry water, three Kababish guides who, I was assured, knew every bush and stone in the Western deserts, and, as extra escort, ten youths of the Awlad Fadlulla, the ruling family of the Kababish, all cousins or nephews of Sheikh Ali el Tom. I had not intended to take them with me, as they form a sort of staff to the Nazir, and are invaluable to him as envoys, arbitrators, tax-collectors in the administration of his large and far-spread tribe. But as soon as Sheikh Ali heard that my objective was Bir Natrun he announced his intention of accompanying me himself with a large party, on the grounds that we were going into unknown country and that he was responsible for my safety. Much though I should have liked his company it was impossible that he should come, partly because I could not let him be absent from his tribe, over which he wields absolute power, for so long at a busy time of year, and partly because being the paramount secular chief of the Western Sudan it was unthinkable that he should be exposed to the risk of a raider's bullet or any accident so far from medical help. He was insistent and I had to close the discussion by a flat prohibition, but I compromised by agreeing to his suggestion of taking the ten "princelings" of the tribe, mentioned above, under his son El Tom Ali. Being all very fair marksmen, owning good riding camels, and possessing the good looks and perfect manners of the best type of nomad Arab, they were valuable companions and ultimately proved invaluable.

Our completed party numbered 36 men and 40 camels, including 20 Arab guides and escort, 6 police, 9 servants and hired camelmen. We had 27 rifles and 6 water-camels carrying 96 gallons in iron *fantasses*, while the police and

Arabs had their own waterskins. I had with me a Kodak camera, an oil compass, a survey wheel, which was pushed by a stalwart Nuba convict from Soderi, and a good small aneroid. I had begun my mapping at Hamra wells and the odd hundred miles between there and Khor el Sunt had enabled me to judge with some accuracy what allowance was to be made for the "joggling" of the wheel in calculating the distance of each march. It was essential to reduce the margin of error to as small dimensions as possible as I had about 230 miles ahead of me without any fixed points whatever before I reached Bir Natrun and another 350 after I turned S.E. before I again came to known country.

We rode out of the camp at Khor el Sunt on the afternoon of September 20th, amid a scene of bustle and excitement. As I looked back on our long array of camels and riflemen and the crowd of old men and boys leaning up to exchange farewells, and then in front to the rolling semi-desert country stretching away to the dim blurs on the horizon that represented unknown hills, and listened to the gurgling of the laden beasts, and the shrill ululations of the Arab women, I was irresistibly reminded of Flecker's lines:—

" Away, for we are ready to a man,
Our camels sniff the evening and are glad ;
Lead on, O Master of the Caravan,
Lead on the Merchant Princes of Baghdad.
We travel not for trafficking alone,
By hotter winds our fiery hearts are fanned :
For lust of knowing what should be known,
We make the golden journey to Samarkand."

After two hours' ride at the easy pace of well-watered camels we got clear of the tangled hills at the North end of the long scarp of the Heitan and halted about sunset in undulating goz country of excellent going and covered with grasses. A compass bearing on the Northeastern apex of the Meidob mass revealed the fact that the well-known spring of Ain Mansur, or Ain Basoro lay due West of us. For the next two days we travelled due North over rolling dune country exactly on the 27th meridian, and the second day saw the beginning of the green gizzu grasses at the Wadi Um 'Afarit at Lat. 15° 30'. The wadi itself is a broad depression here with two tiny channels cut through the centre by the rains and is dotted with tundub, heglig and seyal trees. A herd of "ril" were grazing in it when we appeared over the edge of the southern sandy ridge and vanished at once. The wadi, besides marking the dividing line between the gizzu and the south, also marks the Northern limit of most of the species of birds inhabiting Kordofan. Some, as the hornbill, had already disappeared but here I saw for the last time the hoopoe, roller, bee-eater, and the little long-tailed sun bird, and, save for one colony further North, the common dove.

On mounting the gentle slope on the further side of the Wadi the whole expanse of the gizzu country came into view. As far as eye could see rolling downs stretched away to the horizon on North and West. The Eastern horizon was broken by hills, near and far, and straight ahead was the long low mass of Jebel Tageru which had first come into view about two hours South of Wadi Um 'Afarit and was now becoming clearer and broader at every stride. To the South West was Jebel Um 'Afarit past which the Wadi ran, and behind us Meidob still loomed colossal, but drab in colour compared with the rich tints of the sandstone outliers of the Heitan, which hemmed in Khor el Sunt and stretched low tongues North and East of it till they died out in the flat country we had just traversed.

After crossing the Wadi Um 'Afarit (324 miles) we marched for another twenty miles over the rolling pasture country, passing many herds of Kababish camels and encountering our first ostriches, which invariably fled at the first sight of our party. The gizzu area is simply a mass of old sand-dunes deposited, geologically speaking, in some distant "desert" period prior to the present steppe period. When this steppe period supervened moister conditions favoured the growth of trees, bushes and grasses, whose roots and vegetable debris consolidated the surface of the shifting dunes. A later regression to the present semi-desert conditions eliminated the trees, thinned the bushes, but left enough matted vegetation to fix the general lie of the dunes and provide a yearly crop of grasses. (1) The undulations of the dunes are gentle and their surfaces firm. They are mostly flat-topped and have a good parallel in the *bulta* of the Kalahari Desert, though these latter are built on a larger scale. There are no large trees on the gizzu at all, and only very few scattered bushes, chiefly *sellim*, *tundub*, and *arak*. Of the grasses, most of which are rather flowering plants than what are commonly called grasses, I listed some fifteen different kinds but there must be many more. (2) They are mostly low-lying,

(1) I have not attempted to date the periods of these cyclic changes as the problem of African desiccation is far from solved, and it is not for an amateur to dogmatise over so vexed a question. But it is probable that there were one or more humid periods in Tertiary and early Quaternary times, i.e., before or contemporaneous with the advent of man. Then ensued the desert period referred to above, which gradually merged into the present steppe period. Whether or no the existing climate is tending to become more arid, or whether the beginning of the steppe period was more humid than now I cannot here discuss, but I am convinced that there is no historical, ethnographical, or geological evidence to show that the North-western deserts of the Sudan, or for that matter Western Egypt and Cyrenaica, were any less arid 6,000 years ago than they are now. Whether they were less sparsely inhabited is a different matter. I incline to think that they were more populous.

(2) I give in an Appendix a list of trees and grasses encountered en route with Arabic names and certain and probable identifications. On the whole there are few grasses on the gizzu not met with elsewhere and the only difference of this area from the regions to the South is in the variety and succulency of the grasses.

owing, I suppose to the violence of the seasonal North wind and well-spaced, so that the actual gizzu appears from a distance to be, not a prairie of waving grass, but very nearly bare desert, and it is only on closer inspection that the network of stalks and blades and tiny flowers is seen sprawling over the surface.

On the morning of September 22nd, we arrived at the South West corner of Jebel Tageru (1) (344 miles) and rode on for another hour under its Western cliff, where we halted, tired out after a 20-mile march which had taken us 4½ hours against a tearing headwind. I was now able to get some idea of the amazing mass of Nubian sandstone known as Jebel Tageru. On our approach from the South it had unrolled its Southern slopes to view, stretching away from the corner which we had passed in a great curve to the South-East and then again North-East for some fifteen miles with a group of outlying conical hills at its South-East point, called Burj el Riyasa ("the Tower of the Heads"). Turning to the North we saw the unbroken cliff of the mountain stretching out of sight in an unending succession of headlands and re-entrants, not unlike Jebel el Heitan further South. The actual cliff is a steep scarp standing not more than 300 feet above the plain. In other words Jebel Tageru is so low in height that it is really inaccurate to call it a mountain unless we think of that word as being no more than a translation of the Arabic word *jebel*. We eventually found it to be about 80 miles in length from North to South. It lies about two miles East of the 27th meridian. To the West and North-West lay the featureless gizzu spotted with scattered dots that were sometimes grazing camels, sometimes game, and sometimes isolated *sellim* and *tundub* bushes. Just before reaching the South-West tip of Tageru we had passed on our left a low ridge overlooking a depression and called Debba el Dhobah ("Slaughter Knoll") while a few miles on was another conical hill called Jebel Qulb el Ba'ir ("Camel's Heart Hill") from its shape, but apart from these two there was not even a mound to break the undulating monotony of the gizzu as it rolled away to an unbroken horizon.

We kept close in under the Western cliff of Tageru for the whole of the eighty miles of its length. By so doing I was enabled to look for the archaeological remains which for various reasons I expected to find on the foothills, and also to send scouts ahead from time to time to reconnoitre the rockwells which, it was reported, might be holding water. On the other hand the going

(1) This point of Tageru is visible from the N.E. extremity of Jebel Meidob, I am told by Mr. A. J. Arkell, Assistant District Commissioner, Kuttum, Northern Darfur. It must also form a magnificent landmark from the West especially when the reddish cliff is touched to gold by the setting sun along its interminable length. But as far as I know none of the many District Commissioners of Northern Kordofan have ever penetrated to within view of it from the South and consequently it has, for all its odd 1,000 square miles, blushed unseen upon the desert air.

under the sandstone scarp was very stony and tiring to the camels, and for a large proportion of this stage trotting was quite out of the question.

On Saturday, September 22nd we passed Qnelti el Adusa, a rockwell on our right up the hillside at the head of a small wadi. I did not visit it as it was empty of water and an inspection would have involved a toilsome climb. The last mile of this evening's march brought us over a tongue-shaped ridge jutting out of the lower slope of Tageru and the same rolling plain came into view on our left, and the same unending cliff on our right unrolled its horseshoe curves to the far north horizon. Then we would journey on until the surmounting of another outlying ridge brought us another vista of unbroken plain and unending scarp. In spite of the incessant North wind the heat was rather burdensome. At 8.30 p.m. this night the thermometer was still at 86° F., but in the early morning it fell to 74°. The noontide average was 102°. Water was not scarce enough to prevent our drinking our fill but a bath was impossible from the day we left Khor el Sunt to that day on which we could first find water.

On the morning of September 23rd we passed that part of Tageru known as Jebel Muqsam (*i.e.*, "the divided") where there was a defile winding up the cliff, where it broadened out into a great re-entrant. From here the flat crown of the mountain could be seen for the first time, seamed with gullies and covered with grassy patches and even a few bushes. Hereabouts one of my police who had rather a flair for discovering antiquities found an iron hoe-head, near a stone cairn, of undoubted pre-Arab workmanship. It was of thin-beaten metal and T-shaped. On this day's march we also began to come across countless broken sherds of pottery (see Plate I) and a good many broken stone querns and pestles. It was again 101° F. in my tent at mid-day and my aneroid showed the height as 2,000 feet. The great cliff on our right for all its enormous length never rose, as far as the eye could judge, more than 300 feet above the foot of its actual wall. The glacis, along which we were travelling transversely, sloped gently down—probably another 100 feet—to the plain, and where the downward slope finally meets the actual gizzu plain there is an almost imperceptible depression known to the Arabs as "Baheir el Tageru" ("the little sea of Tageru").

The going was still very bad owing to the stony surface and after a four hour march on this Sunday morning at a funereal pace under a hot sun and against a tearing headwind I was glad to find from the guides that we were within 12 miles of Qelti el Khideira (Qelti—rockwell, *Khideira*—diminutive of *Khidar*, green: probably so-called from the colour of the water). This is

a well-known rockwell which the Kababish had described to me in Sheikh Ali el Tom's camp as being the only spot where I was at all likely to find water between Khor el Sunt and Bir Natrun, an eight days' march. They had assured me that there would probably be enough water in it for our party, but I had taken no risks and had calculated our supply on the basis of an eight days' waterless march of 215 miles. This meant a ration of about two quarts per man per day. I had not, of course, attempted to ration the party daily, but had warned the guides that they must carry an eight days' supply, and had put my own fantasses in charge of the police corporal to distribute himself each evening on the same principle. But it now became apparent to me that if the rockwell of el Khideira were dry the ensuing nine marches to Bir Natrun were not going to be comfortable. The Arabs were, it is true, drinking sparingly, but the heat was greater than I had anticipated, the strong North wind had caused the water in the skins to evaporate quicker than usual, and the skins which the five Howawir guides had brought with them turned out to be hopelessly inadequate, being both small and leaky, and it was obvious that before long I should have to water a large proportion of the escort of twenty from the fantasses which I had originally brought for my own servants, police and hired camelmen. Fortunately, at this juncture a scout, whom I had sent on in front to the well, returned and reported that it was full of water. None the less, I was compelled to record for future reference that as a party we could not afford to go more than five or at most six days without meeting water. Bir Natrun was only $4\frac{1}{2}$ days away so there was no immediate fear, but I proposed to return by a different route where we might not encounter water for $8\frac{1}{2}$ days. However, sufficient unto the day was the evil thereof and I decided that in Rome one does as the Romans do, and consequently as in the desert the necessities of the road, water and grazing, come, in the Arabs' words, "*min Allah*," worry was superfluous.

Accordingly we set out that afternoon and after over an hour's march we found that the long wall of Tageru had a welcome twist to the East for a while and we slipped righthanded through a col where a large isolated boulder, shaped like a couchant lion, marked the turn and rode for another two hours over a stony plain and across a depression with trees and gazelle into the mouth of a valley, which formed a sort of delta to a number of small wadis descending

from the hillside. On this march we passed two of the "Anag" graves, or stone cairns, which are familiar to all travellers in Northern Kordofan.

We pitched our camp at a spot (383 miles) where the ravine, in which Qelti el Khideira lay, ran out into the valley, and we found a few trees for shade and any amount of good grazing. Here we halted for two and a half days and watered and rested the camels and re-filled the water-tanks and skins.

The rockwell of el Khideira itself is a curious spot. It lies about two miles up a winding defile and is really a *tumud*, i.e., shallow sand well, rather than the normal conception of a *qelti* or rock cistern. It is, however, like the *qilt* of Haraza or other hills of Northern Kordofan in that it is a catchment of rain water, filtered through the porous rock, but here it emerges in the form of an actual open-air pool in a cavity weathered out of the wadi bed, whereas in the former cases the water is held up in natural cisterns inside the hillside. The little wadi has its source a mile further up in the hill. In the rains I imagine a spate comes down, whose downward flow is barred by a transverse wall of sandstone right across the wadi: some of the water obviously cascades over this barrier through a waterworn groove or runnel which is well marked, while the remainder filters through this wall and on the lower side, where there is a drop of about 15 feet, it comes out at the foot of a tiny amphitheatre and forms a very welcome pool of cold and sweet water, whose evaporation, though obviously more rapid than that of the covered-in rock cisterns is yet fairly retarded by the fact that the overhanging rock wall shades the water from the sun for all but four hours of the day. (1)

The rainfall in this latitude is light and it is probable that the number of big showers in the *kharif* season could be counted upon one hand. When I visited it the pool was about three feet deep and ten feet square. But old rope scorings on the overhanging cliffs showed that its extent had been much bigger formerly and also showed that it had been used of old by caravans approaching it over the top of Tageru from the East, as the approach from the West needs no such helps but enables camels to come straight up to the edge of the pool and

(1) I have described this rockwell in detail for various reasons. It is well-known to the Arabs. It forms an invaluable halfway house for any traveller to Bir Natrun from the South, and is apparently one of the few spots along the 80-mile length of Jebel Tageru which are accessible, as far as I could gather, from the East as well as from the West. Moreover it is from a geological point of view, probably typical in its configuration and supply of the other rockwells which must exist in the interior of the mountain. In fact the only other rockwell we later discovered, Qelti Um Tasawir, was formed in identical manner, but on a far vaster scale.

drink. The Arabs stated that these rope grooves in the rock were very old and were made in the first instance by the Zaghawa. (1)

The water was cold and sweet, and we watered our caravan of 40 camels and filled all the water tanks and skins in about three hours. There was a small colony of doves at the rockwell and a swarm of the common big black wasps. I climbed up one of the small peaks above the wadi in order to get some idea of the lie of the land and the contouring of this particular part of the mountain. But the result was unsatisfactory. To the West lay the *gizzu*, featureless as always. To the North, East and South was a tangle of ridges of blackened sandstone with no defined system, a chaos of rocky knolls, walls, hogs' backs enclosing depressions and little amphitheatres of sand and straggling grass. There was no defined watershed, nor any commanding peaks, nor could I even delimit the Eastern edge of the mountain, although there were indications that it sloped gently to a plain several miles East of where I stood and certainly did not end on that side in an abrupt cliff as on the West.

The climbing of this peak and the two or three mile trudge back to camp along the deep sand of the wadi bed under the noon-day sun had a bad effect on my head already jaded with constant manipulation of compass and aneroid, and I had to take to my bed as soon as I arrived and remained there for 48 hours. Meanwhile we picked out five camels who were becoming lame from the stony going and put them in charge of a small party of Kababish of the Awlad Suleiman section, who were grazing within the vicinity of the wadi, and took from them five fresh camels in exchange. We were very lucky to obtain fresh camels so far from the usual grazing grounds and had we not been able to obtain them should have been compelled to shed part of our heaviest load, namely, water. Meanwhile scouts sent on ahead had returned and reported that they had found water in another rockwell, called Qelti Um

(1) This is probably true. The Zaghawa without doubt ranged over this area long before the Kordofan Arabs, Kababish and Howawir, arrived on the scene. Moreover Bir Natrun itself was formerly known as Zaghawa and appears on maps of the XVIII and XIX centuries as such, and even on not a few modern maps. It must be remembered that the Zaghawa have their roots in this part of the world, as, whatever their exact tribal composition may be, it is fairly certain that they are closely allied to the Tibbu inhabitants of the wild and hilly regions of Ennedi and Erdi which lie due West of Tageru and Bir Natrun. Political changes and the rapid growth of the herds of the Kordofan Arabs have, however, altered the range of the tribes of recent years.

Sheikh Ali el Tom, it may be noticed here, stated to me definitely that no Kabaish visited Bir Natrun or even the North parts of Tageru until about 1885 and it was only recently that it could be said to be at all within the sphere of his tribe. But it is probable that from time immemorial isolated parties of Kordofan Arabs have penetrated there for raiding or other purposes. Browne explicitly states that the Kababish were accustomed to raid as far as Bir Natrun in 1793.

Gereinat, about a short day's march ahead. They also reported that on this part of Tageru there were a number of Barbary sheep ("kabsh mai"). It was very unfortunate that they should have appeared on the scene just at the moment when I was too weak to do any stalking on the mountain-side. We set out on the afternoon of September 26th. The two short stages to Um Gereinat were a nightmare to me, as the going was still bad and I had a high temperature and the North wind became a persistent gale against which we struggled over the most pernicious going at a snail's pace. On the second march at dawn on the 27th the surface at the foot of the hillside became more broken and there were now outlying ridges on our left running out into the gizzu plain. We also passed some very curious rock formations at the base of the scarp itself, a little way South of Um Gereinat, where the sandstone had weathered into grotesque shapes like beehives, chessmen, etc. As soon as we arrived at Um Gereinat (400 miles), which is a valley with good grazing enclosed on three sides in a sort of large amphitheatre, I tumbled off my camel on to my bed and remained there for the next four days. I was attacked by some form of heatstroke accompanied by nausea. For three days I was unable to move and was slightly delirious on the second day. The heat was still trying, the daily shade maximum being 104° F., and it was probably this coupled with the long slow marches and the monotonous diet of meat, dirty water and tea that had upset me. The Arabs were very solicitous and the young Sheikh El Tom Ali, who had received the strictest injunctions from his father to see that I came to no harm was very troubled and did his best to provide what he considered to be a suitable invalid's diet, viz., first a newlaid ostrich egg, then the haunch of a baby Barbary sheep, and lastly when I refused these, being unable to eat anything at all, he offered to send a swift messenger to the nearest herd of camels some thirty miles away for a skinful of "fresh" milk. I eventually got my temperature down by wrapping myself in wet towels and on the fourth morning felt much better though very weak. At this moment when I had decided that another two or three days rest would enable me to face the rest of the journey with fair equanimity, it was tactfully broken to me that the rockwell had run dry and that we must therefore go on or go back at once. As our camels were rested and full-watered and had a bellyful of rich grazing, and our fantasses and skins were full and as Bir Natrun was only 110 miles ahead, with its perennial springs, i.e., 3½ days' good marching, and the Wadi Hawa, which I was very anxious to see, only 45 miles on, I decided that it was unthinkable to turn back.

Owing to my sickness I did not visit the actual Qelti of Um Gereinat, (1)

(1) Qelti Um Gereinat — "the rockwell of the little horns." Gereinat (properly Qereinat) is the diminutive of *qurun*, and is a very common placename in hill country.

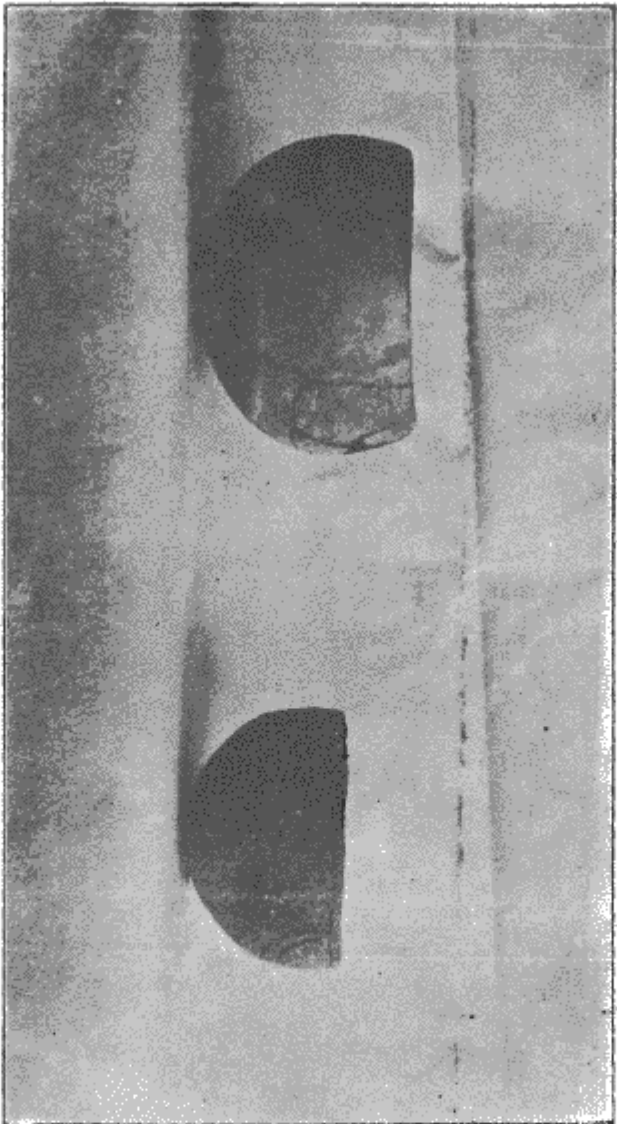


PLATE II. LEFT, BOWL FOUND NEAR UM QEREINAT.
 RIGHT, BOWL FOUND BY MR. VAN DER PUI.



PLATE III. POT RECONSTRUCTED FROM SHARDS FOUND NEAR UM QERINAT.

It is not easy of access to camels, I believe, and is a poor source of watersupply. It is, however, noteworthy as being a good camping-place for the hunting of wild sheep, of which the Arabs shot five hereabouts, including two good heads. No other meat was available, as the gazelle do not come in so close to the hill-side. The Arabs also discovered an ostrich's nest with some 20 eggs. (1)

I was lucky at Um Gereinat to obtain some good pieces of pre-Arab pottery. One of the Kababish remembered that once on his way to Bir Natrun he had passed near here a "midden" or heap of debris, pottery and bones, and so I sent him out to try to find it again. He was absent two days and returned with a waterskin full of sherds and bones. The former included pieces showing several different well-marked patterns, and also one complete bowl (*see* Plate II), while out of others a second pot of large size, considering its thinness, has been partially re-constructed. (2). (*See* Plate III.)

We set out from Um Gereinat on the afternoon of October 1st, and I now altered the order of our going. Hitherto I had marched in the usual Kordofan fashion, *i.e.*, sending the *hamla* (baggage) camels on ahead with some of the guides and escort and trotting on myself about two hours later. This enabled me to travel entirely in daylight myself so as to observe the country, take bearings, etc., and enabled the baggage camels to get in early to graze before the heat of the day. They had consequently been marching from 2 a.m. to 7 or 7.30 a.m., and from 3 p.m. to 6 p.m., and I myself from about 5.30 to 8.30 a.m. or 9, and 4.30 p.m. to 6.30 p.m. We had been averaging about 27 miles a day. But henceforth it was essential that we should all keep together as we were now about to enter what might fairly be called No Man's Land, *viz.*, the desert country lying North of the gizzu and between it and Bir Natrun. The chances of encountering Qura'an raiders from French Territory were according to my latest information, very meagre, but it would have been unwise to take any unnecessary risks, especially as quite a dozen of my escort of riflemen were already dispersed daily, some scouting ahead to find grazing for the

(1) This is by no means an unusual number. Major H. C. Maydon in his article in the *Geographical Journal* (January, 1923) "North Kordofan to South Dongola" writes, in describing the gizzu plain about 90 mile W.S.W. of Um Gereinat, "Ostriches which had been rather rare before, were now very common, sometimes in herds of fifty to a hundred. Nests of eggs were everywhere, generally ten to twenty eggs, but once about sixty together, probably three nests, side by side. The wandering Arabs look on ostrich eggs as fair spoil, and live on them to a great extent."

(2) By Mr. Addison of the Gordon College. All this pottery is now visible in the College Museum at Khartum. Mr. Crowfoot has pronounced most of it to be of Meroitic type. It is certainly absolutely different from the pots or *burnas* made by the Kordofan Arabs to-day. The pot which Mr. Addison has so ingeniously put together is wheel-made and in that alone unique in a spot so far from the river. The other small complete bowl is identical with one found by Mr. Van der Byl on the southern gizzu to the S.W.

next halt, others searching for fuel, others for gazelle for the daily meal, while I had always had to keep a few out to the West as a flankguard to give us warning of any strange party of camelry that might appear. Another reason for keeping together was that after leaving Tageru landmarks would be few and far between and I had no desire to get parted from my hamla either in a sandstorm which obliterates all tracks in a moment, or through getting lost on a moonless night.

From this point onwards then to Bir Natrun, and thence until we were back in what the Arabs call "guaranteed" country, we all marched together at a walking pace from 2 a.m. to 7.30 a.m. and from 2.30 p.m. to 5.30 p.m. daily, $8\frac{1}{2}$ hours at $3\frac{1}{2}$ miles an hour, i.e., 30 miles a day. The first march brought us clean out of the *gizzu* country into rocky desert and we spent the noon halt in a wadi opposite the North end of Tageru, from which we were now drawing away. The ground was very broken and low rocky ridges extended for miles on every side of us. In this wadi were a few of the thornless *Ban* trees with their drooping leaves, a kind of willow. The evening march of 13 miles brought us really clear at last of Jebel Tageru which had overshadowed our path for 80 toilsome miles, and we now emerged on to a plain slightly tilted down to the North. At our noon halt the aneroid had read 2,057 feet: at our night halt it had descended to 1,880 feet. This plain was semi-desert, hard going, with clusters of *arak* and *sellim* bushes dotted sparsely over its bare surface. The thermometer at night was still never below a minimum of 74° F.

The morning of October 2nd saw us off under a brilliant moon at 2.20 a.m. the Arabs well muffled up and the whole party drowsy and taciturn, and we marched for four hours, without a word being exchanged and without a sound save the light shuffle-shuffle of the camels padding along, over flat, hard sand-levels, bare of any vegetation save an occasional pocket of *nisa* grass. Sunrise showed our environment to be true desert at last with an excellent firm surface, which was a great relief after the exasperating stony going of the previous 100 miles. With the advent of the sun the Arabs unmuffled their heads, tongues were loosened and the caravan quickened its pace. An hour after sunrise the Wadi Hawa appeared in the haze ahead as a ragged green ribbon, and at the same time I saw my first herd of oryx *leucoryx*. The sight of our long caravan was too much for them and they lumbered off at a deceptive pace which rendered pursuit futile. About this time we also came across a species of desert cat, with black ear-tips, which I had not met before, but which Major Maydon reported from the *gizzu* to the South West in 1921. The Arabs rode it down, and skinned and ate it.

About 7.30 a.m. we arrived at a clump of *shau* bushes about 2 miles short of the Wadi Hawa and halted for the forenoon, having covered about 17 miles.

We sighted a good many ostriches hereabouts but they vanished at once: the vicinity was full of their tracks. At 2.30 p.m. we started off again over a bare plain sloping almost imperceptibly down to the Wadi Hawa, which we entered after $\frac{1}{2}$ hour. The Wadi Hawa (445 miles) which rises in French Territory, probably about Lat. 16° and Long. $20^{\circ} 30'$, runs East from its source for about 250 miles and then curves North-east in a broad sweep, reaching this point after another 200 miles. Its course has never been accurately traced and much is conjectural, but its general line is more or less known. Major Maydon in 1921 crossed it about 105 miles S.W. of here, as did Messrs. Scott and Van der Byl in 1922 and 1923. Their reports varied as to the amount of trees, but all agreed that it was a broad depression and a notable feature of the landscape. Here, where I crossed it, it was about 7 or 8 miles across, a broad and sandy valley, with a very gentle slope leading down to it on either side, full of tiny hummocks and isolated sand-dunes. Over almost every hummock sprawls the stiff-growing grey-green *had* plant with its smell like mint. On the dunes and small sand knolls grow *sellim* and *shau* bushes and *seyal* trees. The *shau* bush is so common that this part of the Wadi Hawa is also known to the Arabs as Wadi Shau. This is the bush whose twigs are used by the natives as toothbrushes. It is not unlike syringa in its leaves and berries, and the latter are the favourite food of the ostriches which abound in the wadi. Grasses are plentiful, especially the bright green *agul*, the dainty *durma* with its tiny red flower, the succulent *jutub*, the ubiquitous waving *nisa*.

I halted for half an hour in the centre of the Wadi to note the vegetation and to ascend a high isolated dune to take bearings. The wadi bed here was 1,670 feet above sea-level. There were a good many gazelle in the Wadi but they were extraordinarily shy. The Arabs shot an addax with a good head but I myself did not see any. At 5.30 p.m. we emerged from the Wadi and camped at a tiny clump of trees and dunes about $1\frac{1}{2}$ miles North of it. During the last few miles of our journey across the wadi bed, stumbling over the countless hummocks and winding in and out of the shrubs and sand dunes, we picked up from the floor of the depression five stone implements, (1) like

(1) I do not propose here to indulge in futile speculation as to the date, use, or affinities of these implements, which are, at present, on view in the Museum of the Gordon College, Khartum. Their date cannot be surmised as there is no geological evidence such as usually attends Continental finds. Their use can only be conjectured by common sense from their shape. As regards affinities, they have no exact parallel in Africa, as far as I know, either in Nilotic archaeology, or in the Capsian culture of Tunis, or in the Congolese or South African implements. In Europe the only parallel of which I am aware is a neolithic implement which was found at Keystone in Huntingdonshire and is now in the British Museum. It is figured in Sir John Evans' "Ancient Stone Implements" (p. 137, fig. 83a) and is made of greenstone. He states that some hand-hatchets from Australia are similar, but have distinct knobs formed of *xanthorrhoea* gum.

neolithic celts, ground and edged, but unpolished, and of very fair workmanship, and made, as far as I can gather, of glauconite, which is sandstone cemented with the green silicate of iron. Prof. Reisner, to whom they have been shown, has not seen their like before. Some of them appear to have been held in the hand and others to have been hafted. (See Plate IV.)

As we left the Wadi and ascended the almost imperceptible northern slope, we stumbled on some old sites of habitations. There were no signs of buildings, but they were obviously ancient dwelling-places, as there were scattered heaps of pottery, bones, stone querns and pestles. Presumably here on the bank of the wadi, with its good grazing, its plentiful animal life, and, in earlier times, its water-supply, dwelt the ancient fashioners of the axe heads and possibly the artists, who engraved the amazing rock-pictures that I was to find at Zolat el Hammad, about thirty miles on. The pottery was similar to that brought to me by the Arab at Um Gereinat, and the grindstones and pestles to those which we had seen strewing the ground at intervals along the underside of the long cliff of Tageru. They were all of sandstone, except one, which appeared to be of quartz.

The aneroid here registered 1,720 feet, showing that we had descended 160 feet in the last 27 miles. On Wednesday, October 3rd we set off from the north bank of the Wadi Hawa over barren desert, marching a few degrees West of North. The low confused mass of Jebel Rahib now lay parallel to and on the right of our course, about 4 miles East of us. Rahib, though marked on the maps as a mountain of considerable bulk covering some 35 miles by 20, is even less of a mountain than Tageru. It had first come into view about 5 miles South of the Wadi Hawa and now revealed itself as a tangled mass of low ridges of blackened sandstone whose slopes were covered with sand dunes continually forming and re-forming under the strong North winds. No one I believe, has ever really explored Jebel Rahib, which does, in fact, sprawl over several hundred square miles, nor even sketched its whole outline. As far as is known, it has no water supply, and the Arabs denied all knowledge of any rockwells in its interior, but I have reason to believe that there are one or two *qilut* known to the Kababish. In this latitude, however, with its meagre rains, they must form a very unreliable source of supply. The jebel is alleged to be the home of a number of Barbary sheep, which is probably true, considering its inaccessibility.

The chief claim to fame, however, of this untidy mass of rocks is neither its game, nor its remoteness, but a mysterious beating of drums, which periodically is heard booming in its interior. This sound is vouched for by the Arabs, and I had heard of it previously from various sources. It is said to resemble the boom of a *nahass* or tribal drum, and to be so loud that camels shy when

passing that part of the mountain, whence it comes. Jebel Rahib is not the only "singing" hill. Similar legends are told of Jebel Owdun about 170 miles to the S.E. on the Kordofan-Dongola border, and of a hill near Debba on the Nile, called Jebel el Naqaqir (plural of *naqqara* — a tribal drum of smaller type than the copper *nahass*). It is significant that there are two small hills between Rahib and Owdun called Jebel Beit el Nahass (Mt. House-of-the-drum) and Jebel el Naqaqir, and at first sight it might appear that these links with the Nile show the westward drift of some legend of early times from the river, a legend as was attached to the "Vocal Memnon" at Luxor. But, in reality, the explanation is far simpler, being geological rather than anthropological. Many similar phenomena have been reported from various parts of the world, and authenticated cases from the Libyan and Sinaitic Deserts have been proved to have been caused by loose sand shifting on a rocky slope. Both Rahib and Tageru, and, I fancy, Owdun contain many ridges of Nubian Sandstone with dunes banked up against their faces, and cascades of sand must continually occur when strong winds cause the angle of rest of blown sand, which is normally about 32° , to be exceeded or other factors, *e.g.*, movements of Barbary sheep, disturb the dunes. It may be that in certain cases the "Song of the Sands" may be due to disintegration of fissile rock, as probably in the case of the Vocal Memnon, but here at Rahib the explanation given above is beyond doubt the correct one. (1) I did not have the luck to hear the drumming either going or returning past the mountain, but I was 5 miles to the West of it, and moreover the strong North wind would have prevented me hearing anything. The Arabs ascribed the silence of the "drums" to the fact that they only beat on Fridays and Saturdays, whereas I passed North on a Wednesday and returned on a Monday. (2)

On October 3rd we spent our noon halt on a nameless little rocky ridge at a spot which could only be called the "abomination of desolation." Nothing was visible but rocks and sand. On our right was the low irregular mass of Jebel Rahib, on our left, in front, and behind, was bare broken desert, ridges and sand levels. We had ascended again slightly since we left the Wadi Hawa and were now 1,920 feet above sea level. This morning we had covered 21 miles, plodding on and on in a vain attempt to find some spot where we could either shelter from the burning sun, or at least from the tearing gale, which continually hurled sandgrit into our faces. But there was not a tree or a bush

(1) The curious will find all the known instances of "Singing Sands," except this example, recorded in Chap. XI of Marquis Curzon's "Tales of Travel," where the subject is fully discussed.

(2) This superstition about days is also held by the Sinaitic Bedouin in the case of the bell-like sands of Jebel Nakus, near Tor (v. Curzon *op. cit.*, pp. 282 *seq.*).

nor even a blade of grass for the camels to eat, nothing but the sand ribbed by the wind and crossed here and there by ostrich and gazelle tracks and frequent outcrops of barren rock. Consequently after 6 hours of the most dreary travelling I have ever encountered we halted on a ridge where some large boulders offered a few square feet of shade and a precarious shelter against the howling gale. I, of course, had my tent, but, if I closed it up, the heat was insupportable, while, if I opened it, it became filled with whirling eddies of sand which drove me outside to sit in the sand under the lee of a rock and watch the landmarks around us become obliterated as the sultry mid-day haze thickened and the sandstorm gained in strength.

About 2 p.m. the caravan lurched off at a sullen walk, and as tempers were rather short and it was inconceivable that any raiding Qura'an would be about on such an appalling day and in such a revolting spot, I trotted on ahead with three or four of the more philosophical of the Awlad Fadlulla. I also wanted to see the rock pictures that were alleged to exist at Zolat el Hammad, a ridge about 8 miles ahead, before the sun set, as our shortage of water made it necessary to push on again in the small hours of the morrow to Bir Natrun. Two hours trotting brought us to Zolat el Hammad (483 miles) which is a good-sized belt of rocky hills, about 5 miles long by 2 deep. No part of it is more than 100 feet above the level of the plain. At the south-western end is a *wa'ra* or clump of bushes and trees in a depression and just north of this I found the pictures cut on boulders on a steep hillside. They were roughly incised on the flat surfaces and sides of the sandstone. I was only able to stay there an hour as the light was waning and took a few hasty photographs and drawings, intending to return *via* this spot on my way back from Bir Natrun. Unfortunately, I was eventually prevented from so doing by unforeseen circumstances and had to content myself with the hasty impressions and representations which I obtained on this afternoon. The drawings, which I took, were luckily enough to give an adequate idea of the nature of the pictures (see Plates V and VI). These showed tailed and phallic men, elephants, giraffe, ostriches, oryx, cattle innumerable, and several other animals difficult to determine, but including, I think, monkeys, rock-rabbits, insects and possibly

a lion. (1) The elephants were quite distinctly drawn and their occurrence in this remote desert is amazing. I was reminded of Swift's lines :

Geographers in Afric's maps
With savage pictures filled the gaps,
And o'er unhabitable downs
Placed elephants for want of towns.

It is a curious fact that on more than one of the medieval maps elephants are drawn in on the blank spaces of the south Libyan desert a good way north of their usual habitat. (2)

It is also noteworthy that both here and at Qelti Um Tasawir, in Jebel Tageru, where I discovered more rock-pictures on my return journey no camels are represented, whereas at the two groups of pictures at Abu Sofian, which were found still further South, camels and camelry preponderate. Moreover at Owinat Oasis, which was first visited (3) by Hassanein Bey on his famous

(1) The lion is not unknown, even now, on the gizza. I do not know whether any European has actually seen a specimen, but it is vouched for by the Arabs as having taken baby camels and donkeys by night and as being much shyer than the ordinary lion. I hoped to see the tracks of one but failed. Major Maydon had his camels attacked by one in 1921 on the Southern Gizza, and saw the tracks. The lion is not, as may be supposed, a stranger to the desert belt. It existed in Tunisia where the last specimen was shot in 1891, and also in Mauretania till about 40 years ago. It was, as is well-known, tamed by the Dynastic Egyptians.

(2) It has been reported recently that there is a solitary elephant somewhere in North Darfur about Lat. 15° which has somehow got confined in an amphitheatre in the hills but at the time of writing I have been unable to obtain any details. The elephant was known in N. Africa in pre-Christian times and disappeared with the Roman conquest of Numidia. There were elephants in Dongola in 1st century B.C. All lingered in the High Atlas of Morocco until the Arab invasion.

(3) There appears to be an erroneous impression, which I should like to take this opportunity to correct, that Ahmed Bey Hassanein "discovered" Owinat Oasis. This is quite untrue. He was beyond doubt the first explorer to visit and his actual trek is probably one of the most arduous and heroic in the annals of African exploration, but the existence of the oasis was known before. From certain evidence in early maps I am inclined to think it was reported to Ptolemy and it was possibly known to the Arabian geographers and through them to d'Anville in the XVIIIth century. In any case a hearsay account of it was given by Mr. Harding King in an article in the *Geographical Journal* (September, 1913) entitled "The Libyan Desert from Native Information." He calls it Jebel Owana and guesses its position on the map with comparative accuracy. It was also described by Lt.-Col. Tilho, also from hearsay, in his "Exploration of Tibesti, Ennedi, etc., 1912-1917" in the *Geographical Journal*, August, 1920, as "Djebel Aouinat, an unexplored mountain mass of an extent not exceeding 1,500 to 2,000 square miles, and whose altitude may be roughly put at from 4,000 to 5,000 feet." Jebel Owinat appears yet again as Jebel Annuar in "The Southern Route to Kufra" (*Sudan Notes and Records*, December, 1922) where Bidi Audi a Zaghawî guide describes it, by the pen of Mr. A. J. Arkell, as "a large jebel like Meidob" with several springs, 15 days' march North-west of Bir Natrun.

journey of last year, and which lies about 315 miles northwest of Zolat el Hammad, rock-drawings were found, picturing oryx, giraffe, lions and other animals, but no camels. Consequently we can only assume that, although Owinat and Tageru can now only be reached by means of camels, this was not the case at the time when these pictures were made. It also gives a clue to their date as we can deduce safely that they were certainly made not later than the first century B.C. (1) The pictures were all more or less weathered. In most cases the outline only of the man or animal was incised, but in a few cases the whole body was cut out, notably in the case of one giraffe. The drawings were numerous and mostly about a foot to 18 inches long, but some of the giraffes were shown with necks 2 feet long. There were a variety of horned animals, and even one horned man, probably a representation of one of the Libyan forms of head-dress, seen on the early monuments.

I have no space here to discuss analogies or comparisons with other African or Continental petroglyphs or to attempt to associate these pictures with other antiquities discovered in the N.W. Sudan, but many suggestive inferences and parallelisms can be drawn, and I will content myself with registering my opinion that these drawings are the work of the Southern Libyans, known as Tamahu, who formed the ruling caste in Ethiopia in the Meroitic period. Whether they are to be dated in that period, say, B.C. 300, or in the period of the Napatan dynasty B.C. 750-300, or even earlier—for the Dongola and Halfa deserts were ranged over by the Tamahu as far back as B.C. 2500—cannot yet be determined, but they must be over 2,000 years old in any case.

The actual clump of trees near the rock pictures is known to the Howawir Arabs as Wa'ra el Qilud (the shrubbery of the skins), so-called because in their famous raid of 1917 in these parts against the Quraan, they skinned a number of animals here for a feast. It was, incidentally, on this occasion that they discovered the rock-pictures which had hitherto remained unknown. We left Wa'ra el Qilud after spending an hour at the pictures and then rode on through a col at the west end of Zolat el Hammad, until we eventually emerged on a plain, with the same desert landscape on all quarters. As we looked back on to the north side of the long ridge the setting sun threw into strong relief a group of curious pinnacles and fingers of rock at the North-east corner of Zolat

(1) I cannot here go into the interesting question of when the camel first appeared in the Northern Sudan. There is a mass of indirect evidence, and I here follow Mommsen who states categorically that the Libyan camel appeared on the scene in the first three centuries A.D., except that I antedate this by another century after seeing in the Gordon College Museum the attractive little bronze camel, complete with pack-saddle, found by Dr. Reisner in the tomb of Arik-Kharer, a Crown Prince of Meroe, who died B.C. 20. This figure is probably the earliest known representation of a camel.

el Hammad. These rocks had weathered into all sorts of grotesque shapes, both human and bestial, and had inspired such fear in the minds of the superstitious Arabs that they had given the ridge (*Zolat* — rocks or pebbles) the name of *el Hammad* or "the praiseworthy" a euphemism which recalls the name *EYEEINOE* or "Hospitable" which the Greeks gave to the stormy Black Sea. These pinnacles of rock were seen by Capt. Whittingham in 1908 and are noted on the *Jebel Rahib Sheet* (1,250,000 44-K) as "Peculiar pillar-like boulders on N. E. side of Rocky Jebel." But, unfortunately, he missed the rock-pictures which lay 5 miles to his left, as his guides were then unaware of them.

I had now, at last, converged upon Capt. Conyngham's surveyed route of 1908 and was able to adjust my route-sketch. We spent the night on a flat piece of desert where there was a patch of fair grazing, and I calculated that *Bir Milani*, the nearest well of the *Natrun Oasis*, was about 17 miles ahead. This calculation depended on certain doubtful bearings taken by moonlight, and I allowed for a large margin of error, and arranged to start about 1.30 a.m. in case we had a very long march ahead. It turned out to be exactly 19½ miles. It was essential that we should reach the wells in one march, as our water had almost run out, and I wanted a slight margin in hand, in case we found the wells in the occupation of a hostile party and were compelled to parley or manoeuvre in order to oust them. I had very little fear that we should find any large body there, but *Bir Natrun* has been the scene of so many battles even in recent years, and so many *Kababish* and *Howawir* Arabs have been killed or wounded there that they are always very nervous of approaching the place without every precaution being taken. Consequently I sent on 5 scouts overnight to find out whether the wells were tenanted or not. The Arabs insisted on an odd number, averring that this was their usual custom and brought luck.

Next morning, October 4th, we rode off in the small hours and covered about 8 miles of broken desert in the darkness. With the first glimmerings of dawn we found ourselves on an immense plain, absolutely barren desert, slightly undulating and sloping gently to the North. On our left were broken ridges in the distance, akin to those we had just passed over. On our right was a succession of hills, several miles away, the northern outliers of the *Rahib* system. But in front and for a wide circle around us was the barest of bare deserts. It sloped gently down to the North and we soon came into sight of *Jebel Kashafa*, a conical hill which stands in the middle of the *Natrun Oasis* and of the long bluff which overhangs the oasis of *Bir Milani*, a tiny, almost toy oasis on the East of the saltfields.

At 7.30 a.m. we arrived at *Bir Milani* (506 miles) which we found untenanted by friend or foe, and shortly afterwards our scouts returned from

Natrun itself to report that it too was deserted. We had at last reached our goal, but were too tired after our twenty-mile march to feel any excitement and the Arabs contented themselves with a chorus of "Hamdulillah" and immediately addressed themselves to watering the thirsty camels. I have never seen camels drink so much. This all-important job executed we took a much-needed bath ourselves, and then one and all went to sleep. In the cool of the evening I strolled round the diminutive oasis of Milani and took a few bearings. As the whole area of Bir Natrun has been adequately mapped and described by previous visitors notably Capt. H. Hodgson, who was the first officer to visit it in 1903 after the Re-occupation of the Sudan, it will suffice here to say that Milani(1) is an oasis about a mile square, situated in the elbow of a curving ridge of Nubian sandstone, of hard sandy surface, diversified with clumps of the tufted and reedy *tomam* grass. The vegetation is entirely *sellim* bushes some growing on the flat, and some, as at the Wadi Hawa on the sides and tops of sand-dunes. Water is everywhere under the surface and is actually tapped in two wells with a depth of five feet. It is sweet and perennial. The actual oasis appears from the top of the neighbouring ridge as a square patch of green in an otherwise barren desert. There are a few gazelle, and hawks, and plenty of small passerine birds. It is a favourite camping-ground of Arab and Egyptian caravans that come to get the rock-salt and the whole oasis is littered with dried camel dung.

On the morrow, October 5, I rode out at dawn with the young Kababish sheikhs to explore the actual well-field and salt-pans of Bir Natrun itself. Captain Hodgson has well described the configuration of this spot in Vol. I, Chap. IX of Lord Edward Gleichen's "Anglo-Egyptian Sudan," and I cannot do better than quote him. He says:—"I reached the Natrun Valley on the 31st January (1903). It is not literally a valley but an undulating plain stretching south and south-west as far as the horizon. From south-east to north-east it is bounded by a high range of steep hills of black rock: from north-east to north-west by high broken rocky ground with isolated conical hills; to the west by low gravel hills. On the distant horizon, north-west, is a high range of hills. Close under the bluff on the eastern side of the plain are two thickets of *selem* bushes, growing luxuriously and suffering in places from over supply of water. This is very plentiful and near the surface, the

(1) I do not know the origin of the place-name Milani, and the Arabs told me that it was derived from the Arabic word *milyan* — full, with reference to the perennial water supply, but I feel convinced that this was merely an *ad hoc* derivation, and venture to put forward the suggestion that the name is a legacy of the *Melana* tribe, who, with the *Zaghawa* and other peoples, are mentioned by el Mas'udi (circa 950 A.D.) as descendants of Kush son of Kana'an and migrating from the East to the countries West of Lake Chad. (MacM. Hist., Vol. I, p. 5.)

sand being brown and damp, but it is not the best water in the valley. The southern of these two thickets is called Melani. An isolated peak in the northern centre of the plain, called Jebel Kashaf, lies at a bearing of 315° mag. from Melani. The best water called Bir Sultan, lies 3 miles from Melani at a bearing of 278° mag. and due south of Jebel Kashaf. On the ground called Bir Sultan (which includes an area of about $\frac{1}{4}$ square mile, covered with tussocks of Halfa grass, etc.) I found three or four pans of good water, the soil below the sand being white clay. There is a small clump of date seedlings near the biggest spring.

"There is plenty of natron in the valley, but the place where most of the digging is done and where the thickest seam of natron is reported to be, is 2,400 yards from Jebel Kashaf and to the West of it, at a bearing of 310° mag. The diggings are in what looks like a dry-salt pan left by the sea, except that the sand is very red. The method of collecting it is as follows: About 2 inches to 4 inches depth of sand is cleared away until the natron, a substance resembling a yellowish rock salt, is reached; the top part is usually bad, being half sand. Then there is a seam $\frac{1}{2}$ inch to 2 inches thick, of good natron, and again below a little bad natron, and then below all sand again. Sometimes all the natron is spoilt by being mixed with sand."

The above gives a fairly accurate description of the area and shows that rather than being the normal conception of an oasis, it is in reality a barren desert spot with two or three large salt pans and three tiny clumps of vegetation, that can hardly be dignified by the name of oasis (they are the sort of clump that is called a *hattia* in the Northern Libyan Desert), and four distinct well areas, Bir Milani, Bir Nakhla, these two in the "oases," and Bir Sultan and Bir Natrun, these two by the salt pans and providing the best water, a perennial, surface supply. In the middle stands the cone of Jebel Kashafa with a winding path cleared to its summit by the Camel Corps soldiers who were posted here in 1907.

On leaving Bir Milani we rode straight for Jebel Kashafa passing on our right Bir Nakhla with its sellim bushes and few untidy palms, whence it gets its name. On our left we passed a line of knolls called by the Arabs "Bereijan el Bedawan" (i.e., "the little towers of the Bedouin"). They have been used from time immemorial as look-out posts whence visitors can overlook the saltfields unobserved. Jebel Kashafa is, of course, the observation post of all this part of the desert and all parties keep a man stationed on its narrow summit to watch for predatory parties, or, if they themselves are brigands, for a rich and unwieldy caravan. It is also called by the Arabs Jebel Talia' ("Scout Hill," طلع in its use of "to go up a high place to have a look round"). The summit and outlying knobs are still crowned with the stone sangars erected

by the 1907 Post, which are in good preservation. They all have a magnificent field of fire and the hill must be impregnable to Arab attack. I picked up a few buttons, clasps, cartridge clips, etc., relics of the ill-fated Company, which on its evacuating march back to the river, was lost in the desert owing to the guide, and lost about a score of men who rode off to the south and ultimately perished of thirst in a waterless and unmapped area. Conditions were, of course, different 15 years ago, guides rarer and many of the sources of water supply still unknown, but even to-day it does not need more than one or two slight mischances to bring a caravan into danger in these remote and friendless regions.

The view from the top of Jebel Kashafa is desolate in the extreme. Although the peak is only about 200 feet above the plain, the panorama is immense. To the East the view is blocked by the long bluff that overhangs the Nakhla and Milani oases, but to the North and West and South the desert, quivering in the morning heat, stretched away till the aching eyes could hardly tell where it met the sky. It might have been *Marusthali*, the desert of the old Hindoo literature, which the Prince Umra-Singh crossed in his quest for the Land of the Lotus. "For he stood on the peak of a high mountain in the very zenith of the sky. And all around him, and all before him, and behind him, was a vast desert of burning sand, that stretched away to the very limit of the range of sight, and on its edges rested the quarters of heaven. And it glowed in the fire of the sun's rays like a furnace, and was furrowed and pitted with holes and chasms; and its surface rose and fell, as he watched it, like a woman's breast, and it looked as if it were alive, though it was in truth the home of death. And as he gazed, he saw, how over it there crawled swiftly living things with pointed tails, of the colour of sand which entered the desert by the holes, and issued from them, and at length stood still, and became invisible, save that their tails never rested, and their bright eyes stood out of the sand to watch. And it seemed to Umra-Singh, in the loneliness of that vast solitude, that all those hideous eyes sought him out, and fastened on him, and rested on him alone, saying to him as it were: 'Thou canst not escape. (1)'" I know of few passages which convey the terror of the desert better than this. The very flat desert has few fears for the traveller, but the broken desert with knolls and rocks and hollows that quiver in the heat and change shape and colour every hour has a lurking horror that is impossible to put upon paper. There is always the feeling that behind the ridge or in amongst the rocks are watching things, invisible against the drab background, but alert for the slightest stumble or hesitation on the part of the unwary traveller. They

(1) F. W. Bain's "Translations" from the Sanscrit. "The Descent of the Sun," p. 64.

are no ordinary animals but waifs of an older age, snakes and giant lizards and wrinkled vultures. From ancient Hindoo literature to modern Arab demonology, with its jinns and efrits, this feeling of fear and insecurity has been recorded by all desert travellers and desert-dwellers. There is something eerie about these barren and rocky desert uplands. They are like pieces cut out of the moon or some lifeless planet; the silence, the absence of vegetation, and of the more familiar animals give an unearthly air to these spaces, unmarked by footprints or human relics. I remember having the same sensation during the war, when, on a march with a small column of yeomanry into the interior of Sinai, we emerged from the long defile of the Wadi Sudr, which no troops had traversed since Saladin and his Saracens, to find ourselves on the Nekhl plateau, a land of rocks and ravines and naked hills, as remote and bare and unearthly as this Natrun desert.

From the top of Jebel Kashafa the Arabs pointed out to me the way to the large oasis of Nekheila, 75 miles to the north-west, where there are a thousand date palms, in the shade of which lie numerous addax, and a deep lake of brackish water, and sweet water everywhere within a few inches of the surface. No white man has ever visited this oasis, but many of the Arabs have. It is also called Tura el Bedai (the "Oasis of the Bedayat," a tribe that ranges from north-western Darfur into French territory) and Tamar el Qusar, which is actually a spot at the extreme north of the oasis where two isolated palm-trees overhang a well. To the Egyptian Bedouin it is known as Merga (presumably from مَرْج — meadow). It is probably the Lacus or Palus Chelonides of Ptolemy the Geographer, the "Lake of the Mud-Tortoises," which he places far out in the south Libyan desert. The Howawir told me that there is a breed of large tortoises there, which must be the ordinary large Kordofan tortoise (? *testudo calcarata*), which I have not seen north of Latitude 15° 15'. It was a great disappointment to me that my instructions did not allow me to go on to it. It was only three days march ahead, my camels were fit, and I had at least half a dozen Arabs with me who had been there before. There is no water on the 75 miles between it and Natrun, but the going is not difficult and provided that no raiding parties are about in this No-Man's Land, access to the oasis with a competent guide should present no difficulties. It is unlikely that I or anyone else will have such an opportunity again. But, as a matter of fact, beyond the actual fixing of it on the map, no real advantage would be gained by visiting the oasis, as it is too remote to have any economic value, and there are, apparently, no antiquities there. It could probably be reached without much difficulty from Abri in Halfa Province *via* Selima and Lagia, whence it is six days' easy travelling with one doubtful source of water-supply en route.

Until Hassanein Bey did his journey South from Kufra last year the desert N.W. of Nekheila was almost entirely unknown. Even now the route from Nekheila to Owinat is only to be conjectured from native information but it is probable that there are even in this inhospitable and uttermost desert one or more unknown oases.

After descending Jebel Kashafa we rode out to the actual salt-pans and halted awhile at the well of Bir Natrun itself, which is nothing more than a shallow hole scooped out of the sand, but with a perennial supply of sweet, clear water. I was surprised to find the water so good, as it is a surface supply emerging within a few feet of the actual salt. There are a few small clumps of *sellim* bushes near the well and some *zobat* grass (which I believe is the same as *halfa* grass) growing on hummocks. The salt-pans themselves are a desolate sight, and reminiscent of the salt-crust surface of the edge of the Dead Sea in Palestine. Both these spots bring a vivid picture to the mind of the denunciations of Judaea by the Prophets and their images of her laying waste and desolation. Zephaniah might have had Bir Natrun in his mind when he said (1) "Surely Moab shall be as Sodom, and the children of Ammon as Gomorrah, even the breeding of nettles, and saltpits, and a perpetual desolation, . . . everyone that passeth by her shall hiss and wag his hand," or Isaiah in his famous passage (2):—"The pelican and the bittern shall possess it: the owl also and the raven shall possess it: and he shall stretch out upon it the line of confusion, and the stones of emptiness. . . . And thorns shall come up in her palaces, nettles and brambles in the fortresses thereof: and it shall be an habitation of jackals, and a court for ostriches. The wild beasts of the desert shall meet with the wild beasts of the island and the satyr shall cry to his fellow. The screech owl also shall rest there . . . and there also shall the vultures be gathered."

As regards the actual pans, I have nothing to add to Capt. Hodgson's description quoted above. They appear to be inexhaustible. They are tapped chiefly by the Kababish of Kordofan and Dongola, the Howawir of Kordofan, the Zaghawa and people of Jebel Meidob in Northern Darfur, the Bedayat of the Darfur-Wadai border country, and by certain Bedouin tribes of the Western Egyptian Desert and Oases, especially the Bill. The pans are littered with addax and oryx horns, especially the latter, which have been employed from time immemorial to dig out the rock-salt. The longest pan is 1000-1500 yards across and oval in shape. West of it is another pan. The Arabs differentiate between the "Atrun" or rock-salt of one and the "Gab" (3) or earth-salt

(1) Zephaniah ii, 9.

(2) Isaiah xxxiv, II *seq.*

(3) Presumably so-called because it is the same sort of salt as that found in the Wadi el Gab west of Dongola town.

of the other. They use the salt not only for the camels to drink, but also for washing their own or their camels' sores, as they did in the times of Jeremiah, where we read (1) "Though thou wash thee with *nitre* and take thee much sope, yet thine iniquity is marked before me, saith the Lord God."

From Bir Natrun we rode across the pans to Bir El Sultan. It was a short ride, not more than $3\frac{1}{2}$ or 4 miles, but extremely unpleasant as a sandstorm had arisen and the surface of the pans is very deceptive and perilous, since under the salt crust the ground is moist and slippery and liable to make camels slip up. Several of us, including myself, had falls. Bir el Sultan is a tiny pool about 20 feet long by 3 wide and 2 deep, under a bushy palm tree. The water was clear, cold and sweet. I dug in the natron pan hereabouts with an oryx horn and after penetrating a six-inch crust of salt flakes and six inches more of reddish sand, in which lay the lumps of rocksalt, came to water.

We returned to Bir Milani at 11 a.m., very hot and tired, glad to have seen the Natrun Oasis, but resolved never to visit such a revolting spot again. The sand blizzard increased in fury and blew for the remainder of the day. The shade temperature was 110° F. and I resolved to depart the next day as soon as we had watered the camels. On this afternoon some Arabs of the Atawia section of the Kababish arrived in quest of rocksalt from Abu Sofian, over 200 miles to the south east. They had heard that our large party was coming here and had snatched the opportunity to hasten to the oasis while protection was available. Their water had given out 25 miles short of the wells and they had sent one man on with the waterskins to fill them and return to his exhausted friends. We left them at the oasis after gaining some useful information about the route to Abu Sofian, which was my next objective.

We watered our camels again on the morning of October 6th, and left Bir Milani the same afternoon without regret. I had planned to return on our tracks for the first 100 miles to the north point of Tageru and then diverge south-west to Abu Sofian, in order that I might re-visit Zolat Hammad and examine the rock pictures there more fully. Unfortunately our guides lost

(1) Jeremiah ii, 22. *Nitre* and *Natron* are derived from *Nether*, the Hebrew word for carbonate of soda.

The Libyan Desert has been famous for its rock-salt and earth-salt since the time of Herodotus (*Vide* iv, 181 *et alibi*) and Pliny (*vide* xxxi, 7). It was brought to the Carthaginian coastal factories from the country of the Garamantes and thence exported or used in the pickling of fish. It was also used, Herodotus and Pliny report, for building, probably as a mud-and-salt plaster like that used in Siwa Oasis to-day. Pliny mentions a superstition that it waxed and waned with the moon. Salt outcrops now also at the Wadi Gab in Dongola, Abu Tabari, East of Natrun, and Zolat el Zomam near Wadi Hawa. That at Abu Tabari was found on analysis to be composed as follows Sodium chlorid 91.90%, Sodium Sulphate 4.20%, Calcium Sulphur 0.95%, Moisture (etc.), 2.95%.

their way in the dark in the small hours of October 7 and when the sun rose we found ourselves about 6 or 7 miles south-west of Zolat Hammad. It was impossible to go back to it as I could not afford to dally on the road owing to ignorance of where we might next find water, and consequently we went straight on that evening towards the Wadi Hawa. This day we covered 31 miles over another part of the bare sandy plain which we had previously traversed to the East and we halted at sunset where a small patch of grasses, *agul* and *nisa*, and one or two *sellim* bushes offered fodder for the hungry camels. Here for the first time for many days the tearing North wind ceased its fury and dropped. As night fell the succeeding calm was almost unbearable, and the whimpering of distant jackals and the intermittent rustlings of lizards and jerboas in the scanty patches of grass only threw the unusual silence into stronger relief. The clearness of the windless air and the flatness of this part of the desert made the stars low down on the horizon appear as brilliant and as close as those directly overhead: and one might have been standing on the "ΑΕΤΡΟΦΕΙΤΟΝΑΣ ΚΟΡΥΦΑΣ", where Aeschylus places the chained Prometheus, "the summits that rub the stars."

At this point the Nuba yokel who was pushing the survey wheel announced that he had acute indigestion, which was probably the result of gorging on ill-cooked gazelle meat, and stated that he had to stroke his stomach so frequently on the march with one hand that he was unable to prevent the wheel from steering a devious course with the other. He also remarked that he had a blister on his foot and was tired of the desert. As he had pushed the wheel without a word of complaint for 530 miles and 2 furlongs according to its reading, I put him and it up on a camel for the remainder of the journey after dosing him suitably, and resigned myself to mapping the next 500 miles by camel-pacing and compass, a tedious and highly unsatisfactory method.

On the morning of October 8th we re-crossed the Wadi Hawa and halted for the noon in its centre. The Arabs here failed to get any meat as the gazelle were scared away by our large party, so I allowed them to shoot and eat an ostrich, which they did with gusto. I was meanwhile keeping my end up with tinned sausages. I ascended a high dune here in order to try to trace the eastward course of the wadi but failed. The *shau* bushes seem to give way to scattered trees and *sellim* bushes towards the East and the Arabs say these too eventually fade away and the Wadi becomes a bare depression, ultimately dying out in the Abiad plateau.

The same afternoon we left the Wadi, and, passing the knolls called Debbat el Shau, ascended the tilted plain leading up to Zolat el Zomam, a ridge where rocksalt is found. Here were *tundub* and other bushes and a few *ril* (addra gazelle) and a good many Dorcas gazelle. I also noticed a new kind of lizzard,

thin and yellow, about 18 inches long. On the afternoon of October 9th we reached the Northern promontory of Jebel Tageru again and now passed down the Eastern side. On the way thither we passed close to one of those curious crescentic dunes, which are so common in the Northern Libyan desert, and are called *barchans*. (1) I had never seen any of these before in the Sudan except in the unique dune belt of the Kheiran near Bara in Kordofan. Hereabouts, too, we passed several oryx tracks.

The Eastern edge of Jebel Tageru is not a continuous cliff like the Western, but has sandy slopes banked up against it and is broken with many defiles. We were now ascending perceptibly at every mile, and halted for the night in a grassy hollow at the foot of the mountain with a great plain stretching to the East and dotted with conical hills and providing fair grazing. I was told that in 1922 a large part of the Kababish herds had been grazed for several months in this area, which is called El Jihaf, owing to the exceptionally good crop of grasses in that year. We were now 2,310 feet up and had ascended 200 feet since noon. As the survey wheel was out of action I had only a very rough idea of where we were, and accordingly started at 1.45 a.m. on October 10th, hoping to reach Qelti el Khideira by noon, as our water was getting low. The Qelti was, as a matter of fact, nearly 30 miles away and empty to boot, but I was in blissful ignorance of this. We were now fairly in the *gizza* country again and found many herds of Kababish camels scattered over the great plain. We halted near an Arab encampment after covering 16 miles and were told that Qelti el Khideira was dry. This was a blow, as I knew of no water nearer than 3 days away. We had already come 4 days from the Natrun wells and only had 15 gallons of water left for nearly 40 men. Fortunately there was a certain amount of camels' milk available here and we should have had to fill our waterskins with that and make a dash for Abu Sofian, still over 100 miles away, had not a small boy arrived on the scene and announced that there was water in a rockwell not far ahead, called Qelti Um Tasawir (the rockwell of the pictures). The name of the well excited my interest and I was told on enquiry that it was situated in a ravine up in the heart of the hill, and that the sides of the ravine were covered with pre-historic drawings such as we had seen at Zolat el Hammad. I was greatly cheered by the double luck of finding water and an unknown group of rock-pictures simultaneously and we set off the same afternoon to ascend the mountain. Before departing from the encampment we took back the sore-footed camels which we had left with the

(1) For a description of these geological curiosities, see the Appendix on Geology at the end of this Article. The occurrence of these dunes is worth noting as they have an important meteorological significance.

Arabs at Qelti el Khideira, and which had meanwhile been brought across the Jebel to enjoy the better grazing on the Eastern side.

Shortly after starting on this afternoon we ascended the Eastern slope of Tageru which here juts out in a long wall running East and West. We had been slowly climbing during the morning stage and the actual ascent to the flat crown of the low mountain was nothing more than the surmounting of a gentle slope, grassy with a few rocky out crops. The top of Tageru is a plateau more or less flat, but broken with many depressions and ravines. The surface is in the main rocky, but the going is passable, and there are many patches of good grazing, *agul*, *nisa*, *taghr* and *tomam*, and even few bushes. The place swarms with gazelle, and I also noted a few *ril*, and some greater bustards. Even here there was a certain amount of old pottery littered about on gravel patches among the rocks. In my search for good specimens of sherds in one place I found beneath a stone the biggest scorpion I have ever seen. It was four inches long of a beautiful amber colour, with a tail of 6 joints, and a sting quite $\frac{1}{4}$ -inch in length. There were also several small snakes among the boulders.

It took us still two more painful marches to reach Qelti um Tasawir, and we eventually arrived at the well (661 miles) on the evening of October 11th, $5\frac{1}{2}$ days after we had last seen water. We were reduced on arrival to about half a pint a man. The last 15 miles were bad rocky going, with gravel patches, culminating in a perilous scramble up and down the sides of steep ravines. The actual rockwell of Um Tasawir lies in a wonderful chasm, where the wadi bed drops by a succession of falls into a narrow and deep ravine with rocky sides. The last fall is about 70 feet and the cliffs on either side are about 120 feet high, with their faces scored with innumerable pictures even in the more inaccessible parts. The drawings showed endless cattle, also giraffes, elephants, oryx, and other indeterminate animals (*see* Plate VII). There were also a number of human figures, some showing tails, some armed with bows, and a few phallic, and one steatopygous. Here, as at Zolat el Hammad, there were no pictures of camels at all, as far as I could see. I was unable to examine them all as many were almost impossible to reach on the cliff face and I was still suffering too much from periodical dizziness after my touch of the sun to attempt to scale it. I took copies however of about twenty varieties of figures and then descended to the bottom of the ravine to examine the well, which is a *tumal* or scoop in the sandy bed at the foot of the great cliff. As at Qelti el Khideira the water is filtered through the sandstone and emerges from some invisible catchment. The lip of the cliff 70 feet above is worn smooth from the trampling of generations of men and animals and is scored with old rope-grooves.

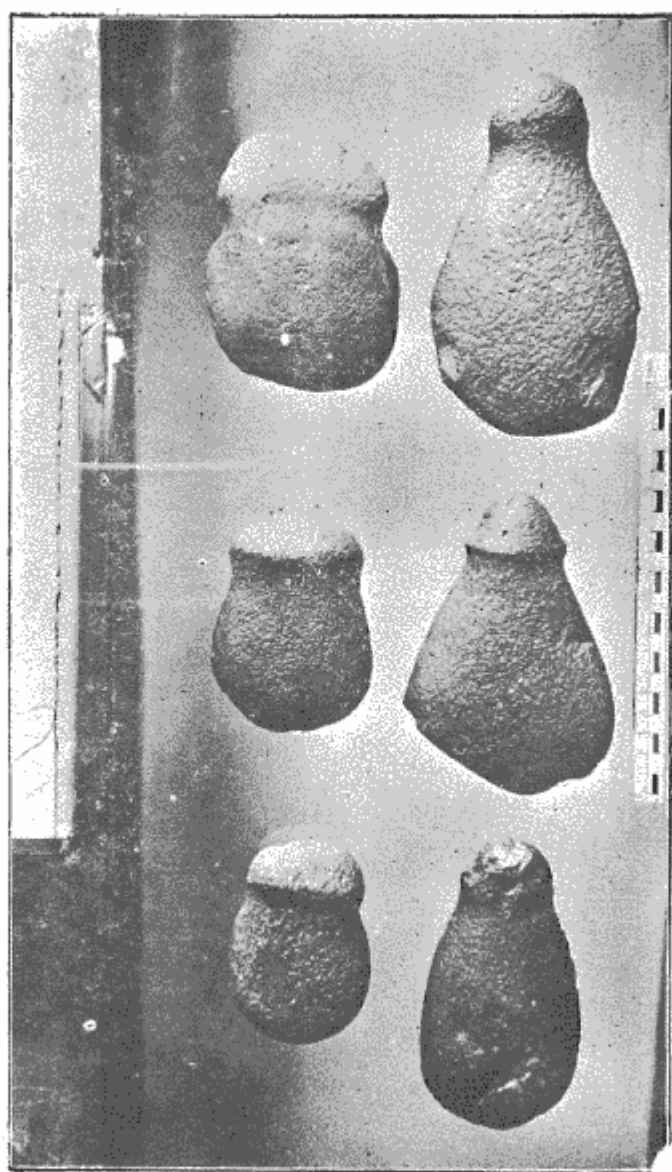
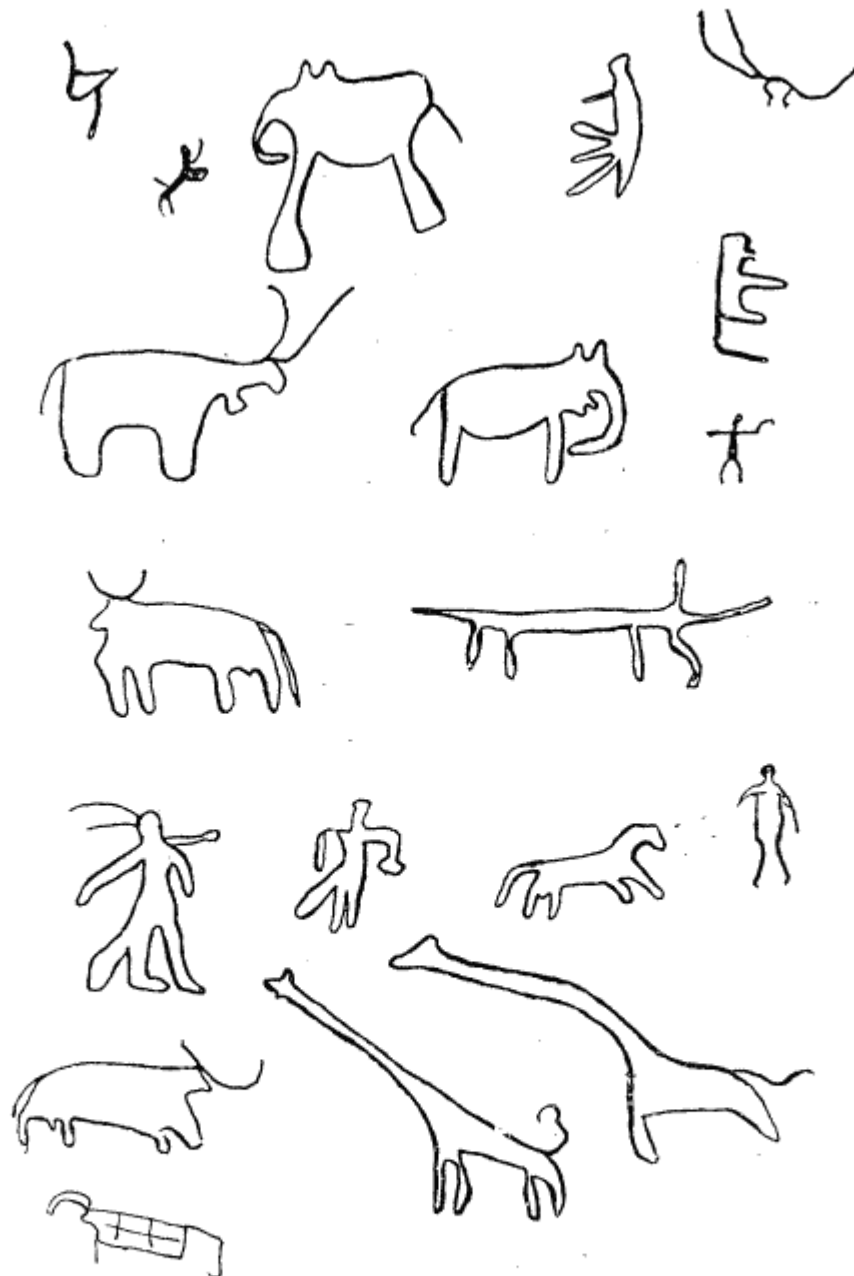


PLATE IV. GREENSTONE IMPLEMENTS FOUND ON THE WADI HAWA.

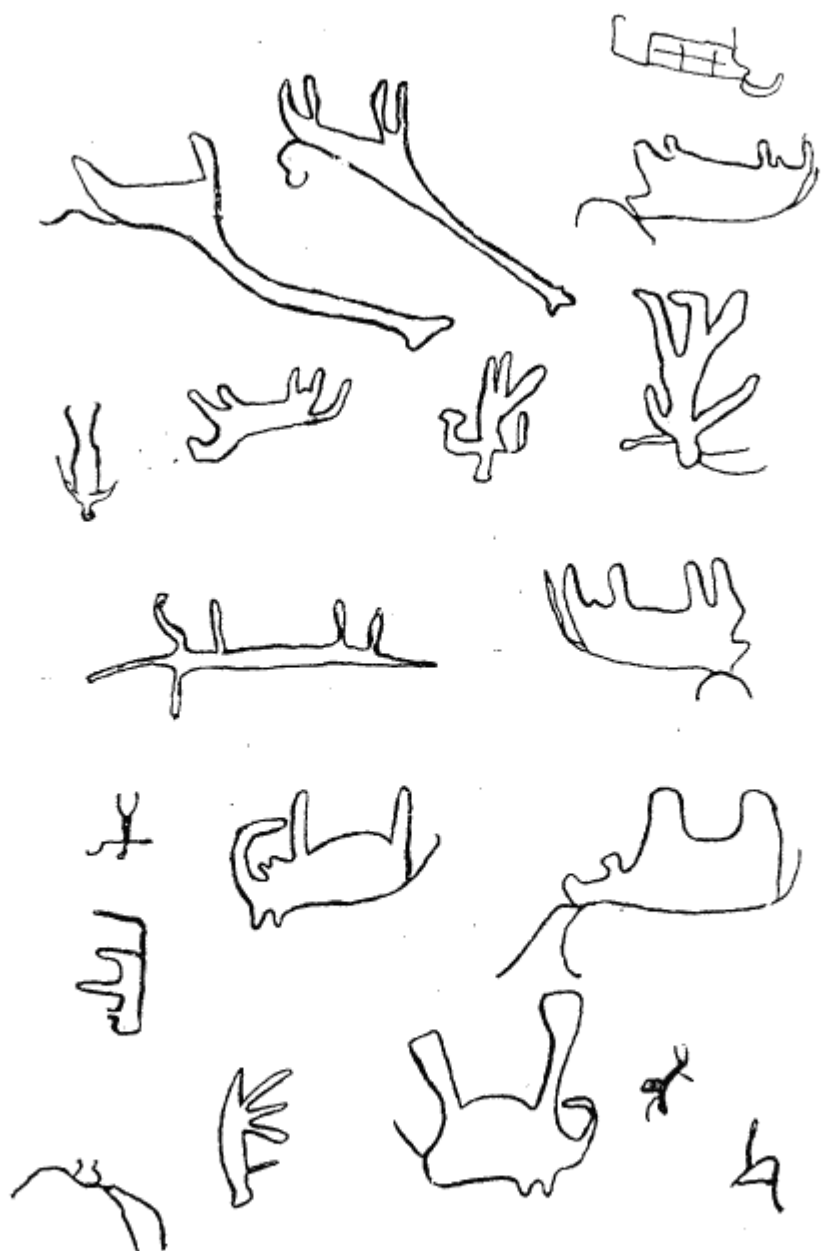


Rock Pictures : at "ZOLAT HAMMAD near BIR NATRUN



PLATE VI. ROCK PICTURES AT ZOLAT EL HAMMAD NEAR BIR NATRUN.

Rock Pictures : at ZOLAT HAMMAD near BIR NATRON



We watered all our camels here, a laborious process that took the whole morning and remained yet another day, as I had another bout of sickness. On the dawn of October 13th we moved off, still over the crown of Tageru towards its Western wall, which overlooked the route by which we had travelled North. Although I ascended several knolls, the highest of which was shown by my aneroid to be 2,970 feet, I could get no clue as to how far Tageru stretches eastward, but it must be at least 6 to 8 miles before it descends to the great Eastern plain, and is probably 10 to 12 miles. The whole of this 25-mile march over the broken plateau was very interesting. Although the actual height above the plain is inconsiderable, the flat top of the *jebel*, like all desert mountains, gives the illusion of being poised in space. The crown of the hill was, as mentioned, so wide hereabouts, that the plain was not visible and on either side the rim of the cliff edge in the crepuscular light of our early marches cut sharply across the sky, as it were the rim of the world, and gave a sense of complete isolation and complete peace. The knowledge that there were no human beings save vagrant shepherds within several days' march, and that these rocky uplands were as untrodden as the craters of the moon produced a feeling of remoteness from human affairs, such as has inspired the climbers of peaks, in comparison with which Tageru is but an ant-hill, to endless flights of fancy. There is no better description of this sensation than the few words in stiff Latin of Professor Conrad Gesner who, led to mountaineering in the middle of the 16th century by his study of mountain vegetation, wrote:—

"Nihil hic auribus molestum esse potest, nihil importunum, nulli tumultus aut strepitus urbani, nullæ hominum rixæ. Hic in profundo et religioso quodam silentio ex prealtis montium jugis ipsam fere celestium si quæ est orbium harmoniam exaudire tibi videberis."

With the advent of the sun and the unloosening of the Arabs' tongues and the appearance in the distance of spirals of smoke betokening perhaps an Arab encampment, the spell was at once broken, but in the early morning and evening it took strong hold.

The chasm of Um Tasawir is not more than 4 miles from the Western scarp and we soon came to the only path by which the long cliff can be descended. It was very precipitous and hazardous: camels had to be off-loaded and led, but no accidents happened, save the breaking of a few saddles and buckling of the survey wheel by a jutting out boulder. Here we were again on our original track and next day we reached the South West point of Tageru (685 miles). As we were now back in the "dar madhmun" or safe country, I parted company with Sheikh el Tom Ali and his young cousins, who had been very good companions and of great use on the journey, and retained only my original three Kababish guides out of the escort of 15. I had dismissed the five Howawir guides from Qelti um Tasawir.

From this point on I made a bee-line to the area known as Abu Sofian 70 miles to the South East where lay the main group of antiquities which I wished to discover and examine. The various officers who travelled to Bir Natrun from the Wadi Melik in 1907 and 1908 had passed just East of Abu Sofian, but had recorded native reports of ruined habitations there. Mr. MacMichael also remarks in a footnote to p. 85 of his "Tribes of Northern and Central Kordofan" (1912) "There are said to be ruins on a large scale at Abu Sofian, N.W. of the Wadi el Melik, but I have not seen them." I had myself obtained amplified reports in 1921 and 1922 from various Kababish, but all were hearsay. Sheikh Ali el Tom himself had told me that there were "inscriptions" there, and this led me to expect the geometrical figures which I eventually found. (1)

Fortunately one of my guides knew this area personally and promised to show me stonewalled compounds, burnt-brick buildings, and rock-pictures in number. Although he had not been to any of them for 15 years he fulfilled all his promises. After rounding the South West point of Tageru we passed obliquely along the length of the south wall which, like the western, is a succession of headlands and re-entrants, and I was at last able to get some idea of the breadth of this amazing hill. Strictly speaking, we were just south of the *gizzu*, but the grasses here were all green. The whole of the ground under the southern cliff of Tageru was littered with broken pottery, pestles, and grind-stones, showing ancient occupation. After leaving the *jebel* behind us we passed over a rolling sandy country of little scrub and bad grazing but harbouring a good many *ril* and swarms of gazelle and on October 16th we arrived at 'Id Abu Sofian (756 miles). For the third time we were lucky to find water when our ration was almost exhausted. The well had fallen in and we dug it out, and after several more fallings in we lined it with bark and managed to water all the camels. It was about 30 feet deep and dug in soft sand, with an uncertain supply.

I stayed here three days to rest the camels while I rode out each day with the guides to search for the antiquities. Both during the passage of the last 70 miles and during these three days I suffered from the after-effects of my heatstroke and headaches prevented me from doing any accurate mapping, which was unfortunate as most of this area is a blank on the existing maps and does not appear to have been visited before. I will describe the antiquities in the order in which I found them :—

(1) The Arabs here and in the rest of N. Africa are prone to call all petroglyphs "hajaret maktubat" which portray any figures not clearly recognisable as men or beasts. It is a pardonable error, when we remember that until quite recently many eminent archaeologists considered certain conventionalised figures of human beings which appear in Neolithic rock-pictures in Spain to be some form of writing.



PLATE VIII. RUINED BRICK PYRAMID AT ABC SOELAN.

(a) A stonewalled *kosh* or compound near Sheinat el Aja, about 12 miles due East of Id Abu Sofian : about 200 yards square with broken down walls nowhere more than 3 feet high : scattered pottery and bones inside and one or two pieces of iron slag. Surrounded by old sites of habitations or middens with pottery and bones.

(b) About 10 miles N.E. of the well and about 8 miles N.W. of (a) a group of remains comprising :—

(i) A stonewalled compound similar to (a), but here the composition of the wall was clearer, it being composed of two containing walls of flat stones, unhewn, but carefully chosen, with the interspace filled in with rubble. On the North-east side were two smaller walls leading in towards the middle of the compound from the main wall. No part of the walls was more than a few feet high. Along the north and inner side of the compound were some of the usual stone grave mounds, and there were also some burnt-brick foundations in the enclosure.

(ii) About 500 yards South of (i) was a small circular stone-walled enclosure with the walls equally low, and about 200 S.E. of this another of similar pattern, both being not more than 20 yards in diameter.

(iii) Some burnt-brick remains, whose form could not be determined. They were three in number. One was a circle, one some kind of foundation, and the third a large heap of broken brick, which may have been the remains of a kiln. The bricks were in all cases well burnt, large, and probably burnt from a patch of sandy clay about a mile to the East, but there is not trace of water within many miles except the well of Abu Sofian, 8 miles away, nor any fuel in the vicinity. They are much bigger than the common English brick known as "Flettons" which averages 9 ins. by 4½ ins. by 3 ins. in the green stage and is slightly reduced on burning. These run to over 1 foot long by 5 inches by 3½ inches or even bigger, and are almost exact replicas of the large bricks of the ruins at Jebel Zankor in Western Kordofan, and probably of those at Shau Dorshid's palace in Northern Darfur. (1)

(iv) A large mound of red burnt-brick which cannot, as far as I can see, be anything else than a dilapidated baby pyramid (*see* Plate VIII). It is about 20 feet high and although the photograph of it does not show it to be of pyramidal shape or indeed at all symmetrical, it is in reality carefully built up of regular courses of red brick cemented by mortar. In one place eight superimposed courses are actually exposed, but for the most part the sides of the pyramid are a *débris* of broken brick and much overblown with sand.

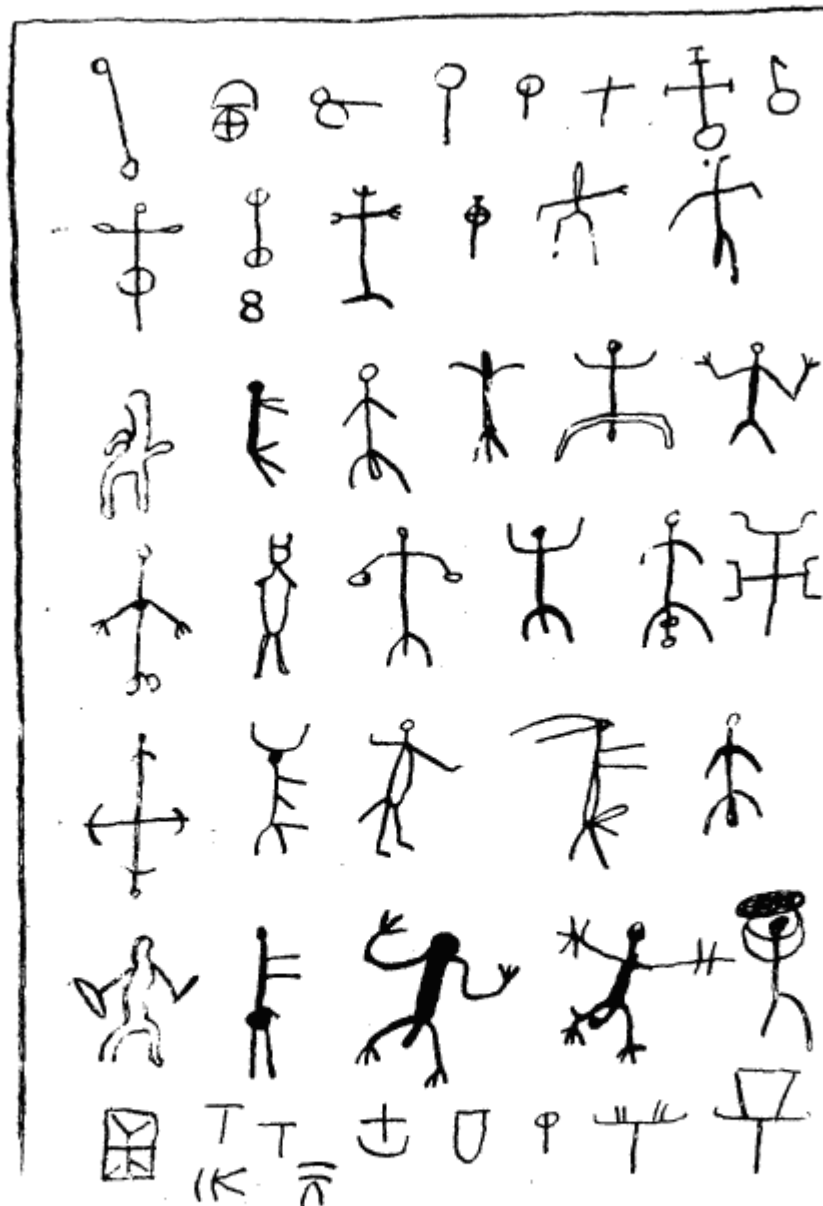
(1) *Sudan Notes and Records*, January, 1920, p. 27 "The Tungur-Fur of Dar Furning, H. A. MacMichael.

As it stands I estimated its height as 60 courses (@ 4 inches per course, brick and mortar). It now has a flat top, square with rounded corners, and at the north-east corner there is a depression and disarrangement of the bricks, which may mask a concealed entrance, but to the eye the structure appears to be perfectly solid. I found nothing on or near the pyramid, either pottery or bones, which could help me to determine its character, but it might yield to excavation, though this would involve several days labour with a large party of workmen, and I had none available. The actual structure is a good landmark, for all its low height, as it stands in the middle of a grassy rolling plain. It is difficult to say whether it has an orientation or not, but it appears to have its corners at the four points of the compass. It is roughly in the centre of the other remains.

(c) There were a number of graves at the entrance to Wadi Abu Sofian, and they had two peculiarities which distinguished them from the numberless other cairns which I had seen over all N. Kordofan and at Meidob in Darfur, in that some had by their sides circles of biggish flat stones laid flush with the ground and about 3 feet in diameter, and others had tiny little avenues of long, thin stones upended in the ground leading up to them, so as to form miniature alignments. These peculiarities seem to point to this area of Abu Sofian having been the headquarters of "Anag" area of Northern Darfur and Northern Kordofan.

(d) Rock pictures (see Plates IX, X and XI).—There were two groups of rock pictures but as they were within a day's march of each other and obviously of the same date and "school," I have not attempted to differentiate between. The drawings, which are legion, are all incised on rounded boulders which form the two ridges where they lie, Qola'a el Wish and a nameless ridge to the South. The main representation is that of camels, which appear in hundreds. Pregnant she-camels, suckling foals, bodies of camelry with spears and hoisted banners, camels carrying two and even three men, camels with waterskins (?) dangling beneath their flanks, are portrayed over and over again. Giraffes and ostriches still figure, as at Zolat el Hammad and Um Tasawir, and cattle in dwindling numbers, but the elephants of the North do not appear and the archers give way to spearmen, who in a few cases also bear shields. Antelopes horses (or donkeys!) and other indeterminate animals are to be found in moderate numbers. There are large numbers of geometrical figures, which, I am convinced from Continental analogies, especially that of the stylized figures in the Andalusian caves, (1) are simply conventionalised human beings.

(1) E. A. Parkyn "Prehistoric Art," 1915, p. 114: M. C. Burkitt "Pre-history," 1921, pp. 282, 3. These figures, especially in the caves of Lubrin and Jimena, are almost identical with the Abu Sofian figures. They are either early Neolithic or Palaeolithic (Magdalenian age). The amazing resemblance may be fortuitous.



Rock Pictures at QOLAAT EL WISH, Northern Sudan.

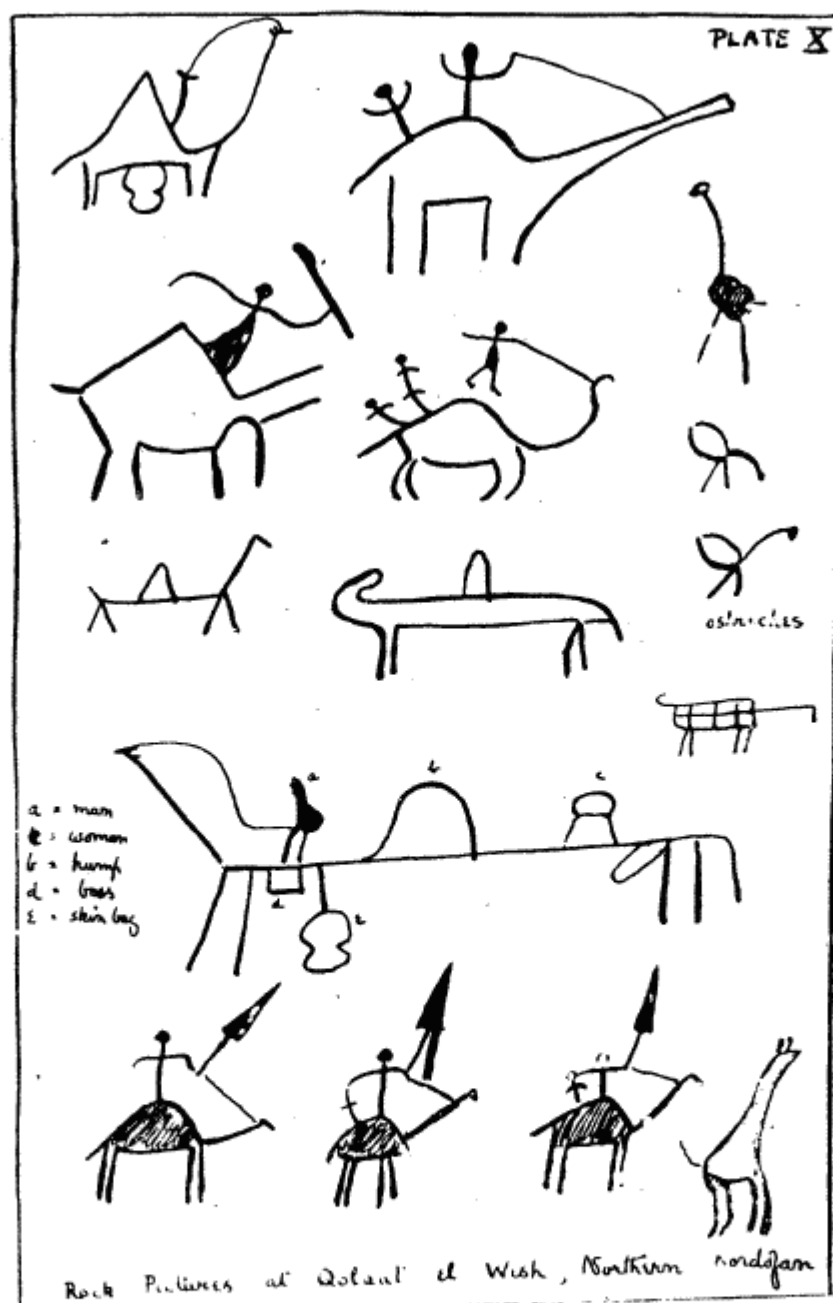




PLATE XI. ROCK PICTURE AT QOLAA EL WISH OF SHE-CAMEL SUCELING A FOAL.
* THE WHITE APPEARANCE IS CAUSED BY WEATHERING AND IS NOT PAINT.

In any case there is no question of their representing any sort of writing. Some of them might be either totem marks, as those on the curious painted pebbles of the palaeolithic site of Mas d'Azil (Ariège, France) (1) are by some alleged to be, or they may be the beginnings of tribal marks or camel brands, like the marks found by the Beechey brothers in Tripoli, cut upon the rocks in the Syrtis Major, (2) in 1822. The great majority, however, of the geometrical figures at Abu Sofian are quite clearly human beings, drawn "economically." The sequence from a line and a circle or a simple cross to a composite man or woman with arms and legs is apparent from the accompanying Plate. The actual sequence is, of course, the reverse, legs, arms, and finally head being pared off until merely a line or two remain.

The horned or double-plumed head-dress is seen here as in the case of the archers at Um Tasawir, and suggests strongly the ostrich plumes worn by the early Libyan chieftains in dynastic times. (3) One or two of the human beings had tails, and there were some amusing figures of dancing devils and one swastika figure of four men in one.

I have given above my theory that the pictures at Zolat el Hammad and Um Tasawir are the work of the ancient Libyan nomads, the Tamahu of middle and late Dynastic times. The Abu Sofian groups are obviously later, because of the inclusion of camels, but must equally be the work of Libyan artists or their descendants the Berbers. It is impossible to date them within several centuries, but they are probably between 2,000 and 1,500 years old. The rock paintings discovered by Mr. MacMichael (4) at Jebel Haraza 200 miles to the East and at Jebel el Afarit 200 miles to the South are too meagre to establish any connection, nor, in fact, do they show any close affinity. (5)

(1) Parkyn (*op cit.*), p. 93, Burkitt (*op. cit.*), p. 142.

(2) F. W. and H. W. Beechey, "Expedition to . . . the Northern Coast of Africa," p. 161.

(3) Orie Bates "The Eastern Libyans," (1914), pp. 129, 130 and Plate V. This wearing of plumes was especially associated by the classical writers with the Nasamonians, who inhabited the Western Deserts of Egypt, in the first five centuries B.C., but Libyan chiefs are so depicted in the Middle Empire reliefs. Dr. Reisner found in one burial a woman with a number of ostrich plumes thrust into the hair. (Archaeological Survey of Nubia, Vol. i, p. 40, fig. 29.) They are the most characteristic Libyan ornaments.

(4) H. A. MacMichael "Rock Pictures in Northern Kordofan," J.R.A.I., Vol. XXXIX, July-December, 1909.

(5) Owing to difficulties of reproduction, it has been found impossible to illustrate here more than a few of the pictures which we discovered, and it is equally impossible to dilate on the theories to which the drawings must give rise without illustrating them. I hope, consequently, to publish them all with a detailed comparison with other early rock-pictures of North Africa, Spain, and France, in the Journal of the Royal Anthropological Society, as soon as possible, as I consider that far-reaching conclusions can be drawn from them concerning the early relations of Egypt and Ethiopia with the rest of North Africa.

As regards the general conclusions to be drawn from the archaeological discoveries as a whole, viz., stone implements, graves, pottery, rock pictures, I will quote again from my official report —

"These discoveries vindicate, I think, the theory of continued migration into the Northern Sudan of desert peoples from the North West and West from the earliest times, and the introduction thence of a Hamitic element into the riverain population, which is still strongly marked. The 'Anag' and 'Abu Qonaan' were Libyans and Barbers, fused, perhaps, like their modern counterparts the Quraan, Tibbu, etc., with negro and negroid tribes from the South. They came from Marmarica, Tripoli, Tunis *via* the Oases and Tibesti and Wadai, where they have left their mark on Siwans Tibbu, Bornu, Zaghawa and Quraan, to North Darfur, Western Dongola, and North Kordofan, where Tunjur, Meidob and Nuba preserve a remnant of their customs and place-names among a medley of newer ethnic elements.

"Classical geographers, ancient records (*e.g.*, even the genealogy of Genesis X) medieval Arab historians, local M.S.S. of Siwa, Wadai, Bornu, and the Sudan, place-names and tribal names still existing, all corroborate the silent evidence of the remains. Oxympioidorus testifies that the Libyans were no mean well-diggers, and it is obvious that before the advent of the camel the *étapes* of the desert traveller needed to be closer each other, and the Garamantes and those ancient Tuareg the Gatuli could not have developed their ivory and slave trade without some organisation of communications. As the Aegean islands tempted the Greek and Ionian mariners to venture further and further afield, so the Oases Islands of the Libyan 'Sea of Sand' formed stepping-stones to the Tripolitan and Cyrenaican tribes until we find on Ptolemy's map the same tribe at the Syrtes on the Mediterranean and in Darfur.

"Dr. Reisner has now come to the conclusion that 'In Ethiopia Libyans from the Western Desert formed the ruling class, while the mass of the people were probably racially Hamites if not actually of Libyan origin' (Boston Bulletin of Fine Arts, April, 1923). He is talking of the Meroitic period and here at Natran and at Tagera we see the invading Libyan with his cattle and bowmen *en route*."

From Abu Sofian I turned due South to Hamra wells. The various exploratory marches around Abu Sofian brought my mileage up to 875 miles at Hamra. This latter part of the journey was uneventful and only of interest as being imperfectly mapped. I did what sketching I could, but it is formless country, a rolling plain covered with bush and showing few outcrops of rock. There are several large rain pools hereabouts not marked on the map, and I found Um Eidam not far North of Hamra to be a lake of considerable dimensions with fine *sand* trees and quantities of duck. It also marks the Northern

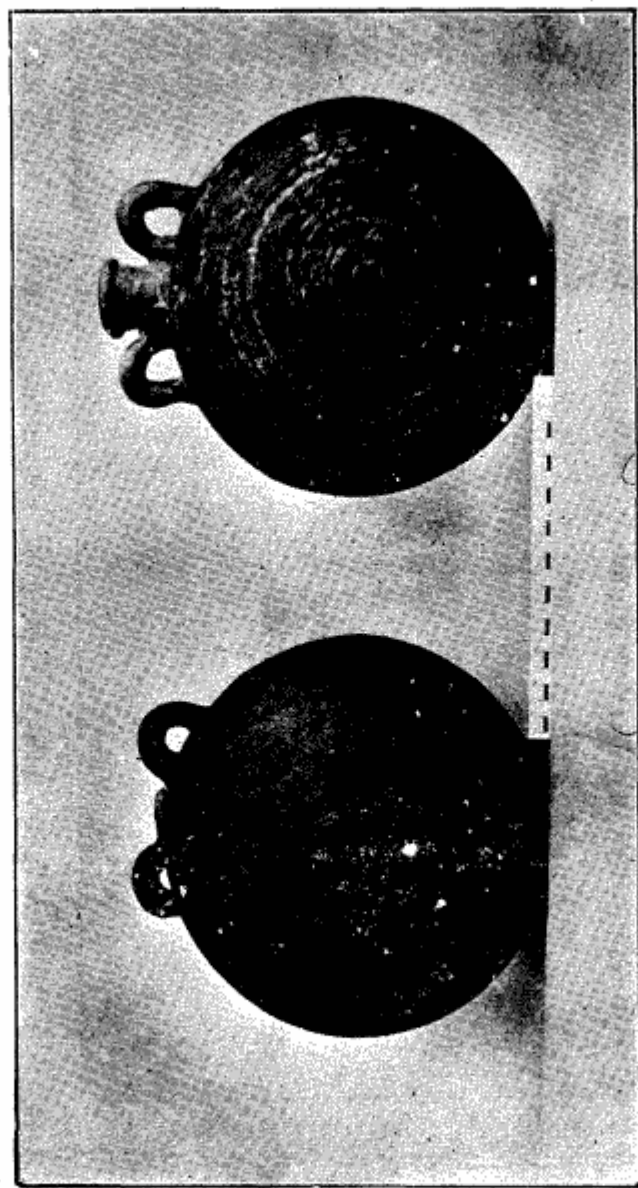


PLATE XII. "TILGRIM" BOTTLES FOUND IN N. W. KOREOPAN—FRONT.



PLATE XII. "PILGRIM" BOTTLES FOUND IN N. W. KORDOFAN. SIDE.

limit of the *tebeldi* (baobab). We reached Hamra on October 23rd and Soderi 4 days later (960 miles). At Hamra I had the luck to obtain from a Kabbashi Arab a perfect example of a large "pilgrim" bottle of red earthenware, of the usual amphora shape with two small handles. One had been brought into Soderi some months previously, and I was told that there were several in the possession of Arabs, who had found them in the *gizzu* country. They are of a pattern which has varieties in early Egyptian pottery throughout the first millenium B.C. and for several centuries later.

At Soderi I was ill again and did not reach Bara until November 16th, having covered 1,070 miles in 57 days (including halts, but excluding the 24 days spent in district work at Soderi coming and going). I was lucky not to lose any camels on the journey out of the 40 that accompanied me, especially as they were not grain fed from start to finish, but had to subsist on what grazing they could find. I owe a great debt to the cheerfulness and energy of all the Arabs who accompanied me, and especially to Sheikh El Tom, son and heir of Sheikh Ali el Tom, M.V.O., M.B.E., Nazir of the Kababish, and my chief guide Ali Barkol, also a Kabbashi.



APPENDIX A.

TREES AND GRASSES.

(A) General Remarks.

The transition of forest to desert through all the intermediate stages is nowhere better seen than in Kordofan. The following quotation from the Cambridge Ancient History (Vol. 1923) puts it in a nutshell:—"Deciduous trees give place to evergreens and tall forest to thickets and shrubs: as drought and warmth increase even shrubs stand further apart in an undergrowth of tough resinous bushes and spring-flowering bulbs, annuals and grasses. Eventually grasses, halfa rush, and spiny, leathery camel-fodder predominate, until they too fade out before drifting sand and sun-tanned rock." This was written concerning the North and South transition in Algeria, but applies equally in the main to the changes seen by a traveller, say, from Muglad in Southern Kordofan to Bir Natrun. By a coincidence of treks I have travelled up the Meridian of 27° 30' from South of Lat. 11° to North of Lat. 18°, at varying times, and in this 550 miles the gradually thinning out of the vegetation is as uniform as the decline in the rainfall, and provides a perfect object-lesson of the conditions necessary for forest, parkland, steppe and desert.

(B) Trees and Bushes.

Sellim (*Acacia Ehrenbergii*) occurred everywhere in clumps or isolated, as on the gizzu, and was the only bush at Bir Natrun. It occurred also in the Wadi Hawa in fair quantities and on the top of Tageru. It was often the only grazing for camels. It is said to occur at Nekheila Oasis and in the desert West of Lagia in Halfa.

Seyul (*Acacia spirocarpa*) occurred in Wadi Hawa but nowhere else save in Wadis and Fulas South of Lat. 16°. It apparently demands more moisture. It also occurs at Nekheila Oasis.

Tundub (*Capparis aphylla*) surpasses even the sellim in its ability to maintain itself in waterless places. It occurs in the Natrun deserts and on tops of rocky ridges in waterless places as isolated specimens, and tiny clumps or "hattias" are found in the hollows of the gizzu gozes. It gives its name to El Tuneidhib on the plain N.E. of Tageru and to the Tundubi Oasis on the

Dongola-Natron road. It is the only fuel in the desert. Indian forestry experience shows that a related species can draw water from a depth of over 80 feet. It is poor grazing.

Baw (a willow—*Salix Egyptiaca*) was the only non-thorny tree, save the shau, North of Lat. 16°, and was found in one wadi N.W. of Tageru. It occurs at Abu Sofian and gives its name to Ban Gedid on the Wadi Melik. A favourite with young camels.

Shau or *Arak* (*salvadora*—mustard tree) was the prevailing bush in the Wadi Hawa growing in great profusion on sandy hummocks. It has tiny berries, like red and black currents, which the ostriches like. It is not unlike *syringa*. This is the tree whose twigs are used by natives for toothbrushes.

N.B.—*Tundub*, *Shau*, *Sejal* and *Sellim* are the prevailing vegetation of the semi-desert country between the Nile and the Red Sea East and South-East of Halfa and their appearance under similar conditions in the Western Desert confirms previous knowledge.

Turning from the actual desert area, the scattered bush area between Lata. 15° and 16° is of interest as showing which trees fade out first in the general thinning-out of vegetation as one goes North, and which need the soil of wadi beds and pools, and which grow on the stony steppe.

Gafal (*frankincense-Commiphora africana*) grows on most unpromising soil but rarely isolated. It withers easily, is shallow-rooted and a ready victim of storms. It stops short of Lat. 16°. It is often seen on hillsides and thrusting up through old "Anag" graves.

Aradeiba (*tamarind*), *tarfa* (*tamarisk—Sterculia cinerea*), *sunt* (*mimosa—Acacia arabica*), *sidr* (*Zizyphus spina-Christi*), *heglig* (*Balanites aegyptiaca*), *laot* (*Acacia nubica*) are all rare north of Lat. 15° 30', which is their general limit, if we except the Wadi el Melik and a few specimens in dried-up rain pools. On the other hand *Inderab* (*Cordia abyssinica*), *haraz* (*Acacia albidula*) persist in Wadis and depressions and the *kitr* (*Acacia mellifera*) *jerfa*, (*cinnamomum*), and *hamra* (*Khaya senegalensis—mahogany*) on the plain till Lat. 16°, and *inderab* especially is common in the Abu Sofian area. *Gerfa* is used to flavour date wine, *laot* to line wells, *sunt* grows in rainpools to a great size. The *samra* (*Acacia tortilis*) is said to persist north, but I did not see it. *Merkh* (*Leptadenia spartium*), so common in the rest of Northern Kordofan occurs on the Southern gizzu and then fades out. (Both *merkh* and *samra* occur in Tibesti, called respectively in Kanuri *kenzeun* and *tefi*).

Tebeldi (*baobab*) is seen in quantities on a rocky plateau East of Abu Busma and again N.W. of Hamra wells. Its northern limit is Lat. 15° 15'. Trees are not large as in Dar Hamar, nor used here for storing water. The majority, strangely enough, flourish on rocky soil.

The *Date Palm* occurs at Bir Natrun in a few dishevelled specimens, but not at Tageru as has been alleged. The oasis of Nekkheila has masses as is known, and as its name foretells.

(C) **Grasses.**

The special interest of the gizzu area between Lats. 15° 30' and 17° is the nature of the grazing, which is unique as the grasses remain green and succulent from the end of the rains, say, mid-September until the end of March or even later, while the vegetation in the better-watered South withers and fades long before. It should be noticed that the gizzu plains are not, as might be imagined, prairies of waving grass, but undulating *gozes* which look quite bare from a distance, but on close inspection reveal a covering of low-lying and succulent plants with here and there a tuft of reedy grass. Nor are these plant-grasses mysterious freaks that do not grow elsewhere but mostly well-known, though a few are rare in the South.

I have managed to identify a good many of them with the aid of: (1) A. F. Broun's "Catalogue of Sudan Flowering Plants" and the actual specimens in the Sudan Government Herbarium in the Government Botanist's office at Khor Shambat, which I have inspected; (2) Muschler's "Manual of the Flora of Egypt" which has an excellent index of vernacular names; (3) Appendix II on p. 310 of H. St. J. Philby's "Heart of Arabia." The following is a list of them:—

Khoshaina or *Qoshaina*. A low spreading fragile plant which the Arabs say is a variety of the well-known "*shirra*" grass. Leaves rather like clover. The best and commonest of the gizzu grasses. If, as is probable, this is the same as the grass called *Khoshain* in Egypt (var. *ralah* and *ra'al*), it is *Helianthemum Lippii* (cistac), which is found also in Palestine, Arabia Petrea, and Central Arabia where it is called *Ragruq*. It is not listed in Broun.

Jutub. A plant of three or four 6-inch stalks with a yellow flower. Full of moisture. I have failed to identify it. Found in Dongola Desert (Nicholls, 1909).

Sa'adan. A straight-growing plant with flowers rather like vetch and on the stalk tiny circular pin-cushions of thorns which drop off and are picked up on camels' feet like tin-tacks. Very good grazing. I have identified this grass in the Sudan Government Herbarium as *Neurada Procumbens* (Rosac), described by Broun as a tomentose annual with procumbent branches. This same grass is also known as *sa'adan* in Egypt (var. *luseyq* and *shubbeyt*) where Muschler states it grows in deep sandy places near Damietta, Abusir, etc., and in Arabia.

Silih or *Silli*. I have identified this in the Herbarium beyond doubt with *Blepharis edulis* (Acanth), which is almost identical with the well-known *begheil* (*Blepharis linariæfolia*). The plants are prickly and bushy-leaved but bigger than *begheil*. A dozen stalks grow on one root, ending in a silvery-grey thickish finger, not unlike a fir-cone. It has a beautiful little flower of real gentian blue and a mass of the plants presents a vivid splash of blue on the drab rocky background which it prefers. Broun states that it is said to be good camel-fodder. I could rarely get my riding camel past a patch. It grows in Egypt and Arabia, where it is known as *Shok el Dab* and *Najia*, respectively. It lies in patches all over the crown of S. Tageru and occurs South of the Gizzu near El Heitan. It dries early. It is relished by oryx leucoryx.

Seleiyan. I have been unable to identify this. It is a smallish plant rather like heather. In 1922 was very plentiful on the gizzu, but a very poor crop in 1923. Philby notes a grass called *sulaiyan* in Arabia. Identified by the Bombay Nat. Hist. Soc. as a sub-species of *Aristida* (Cyperaceae) but I cannot tell if it is the same.

Tagha or *Taghr*. A large bushy plant with scores of stalks, white flower, grey-green flannel-like leaves and pods. Very nutritious. Fairly succulent. I have identified this in the Sudan Government Herbarium as *Morettia Phileana* (Crucif.). Broun describes it as a stiff erect hispid herb growing in Nubia. Muschler (p. 403) states it is known near Kharga Oasis, and the Giza Pyramids, as *Taghagha* (var. *saggar*, *thagar*). It is also found in the Eastern Desert of Egypt (where it is called *tagha*) in the W. el Atrash, and in Sinai and Palestine.

Dirmy. A very dainty plant lying low on the ground, with tenuous stalks and tiny leaves, and a little red flower like the pimpernel. It is hardly a mouthful for camels, but a great favourite with them. I think this must be *Zygophyllum simplex* (Zygoph.), which Broun describes as a prostrate, succulent much-branched herb: good camel-fodder growing in Nubia. Philby notes a grass in Arabia called *duraima*, probably a diminutive of *dirmy*. This has been identified as *fagonia* sp. which is of the same order. *Zygophylleæ*. It has been noted elsewhere in the Dongola deserts (Nicholls 1909).

'Aqul. A green bushy plant-grass of broad blades, found also towards the South, e.g., near Soderi. Not popular with camels, but persists in desert, where other grasses fade out. The name *'aqul* is given in Egypt to *Alhagi Maurorum* (Broun No. 129) (Leguminosæ), the camel-thorn, found in Nubia, and to *Fagonia Bruguieri* (Zygophyll.) a herb common to deep sandy places, and spread over Algeria, Syria, Persia, Mesopotamia. If the Dongola *'Aqul* is either of these, it is probably the latter.

Had or *Hadh* is a well-known herb that grows all over North Africa and Arabia. It occurs in Tibesti where it is known in the Kanuri language as

zuri or *tiai*. It was found by Gerhard Rohlfs in Kufra Oasis in 1879, and by Philby in Central Arabia, although his Arabian *hadh* was identified as *Salsola* sp. (*Chenopod.*), whereas in Egypt the name is given to both *Salsola vermiculata* and to *Cornacula monacantha* (*Chenopod.*). Neither of these figure in Broun. The Tibesti *had* is the latter. The *had* of the Wadi Howa, and Dongola desert (Nicholls 1909), was a stiff-growing plant of strong stalks, spreading over hummocks, drab grey-green in colour, with leaves and twigs looking and smelling like mint. It is fair camel-fodder. I am unable to state definitely which of the above species it is, but presumably *cornacula*, which is found in all the Egyptian Oases, and, incidentally, in mid-Persia and Afghanistan (Muschler, p. 302) and in Arabia, where it is called *Ghulsaira* (v. Philby *op. cit.*), and in the Sahara South of Tejerri (Vogel), and in Dongola (Ehrenburg (v. Flora Trop. Afr., Vol. VI, p. 93).

The above are not I suppose, botanically speaking grasses, since they are more in the nature of herbs and plants, i.e., they have thick stalks, big roots and flowers. They contain varying amounts of moisture and certainly look ideal camel fodder.

The following are more like meadow grasses proper :—

Ashub. This also grows south of the gizzu. A reedy grass of single stalks with a fluffy head, grows to 9 inches. Good grazing. Horses like it. In Egypt the name *ashub* is given to *Cyperus capitatus* and also to *Cyperus conglomeratus*, which is a tufted species, growing near Rosetta, Damietta, Ismailia, etc. (Muschler, pp. 167-8). There are over 40 species in the Sudan of *Cyperaceae* (sedges) figuring in Broun, but the above two are not included. The *'ashub* of the gizzu is probably *C. conglomeratus* as far as I can identify it in the Sudan Government Herbarium.

N.B.—*'Ushb* is a classical Arabic word meaning "grass," or "green food" and Philby reports that *'ishb* is used in Arabia generically for grass and pasture.

Tomam. This is a well-known grass, reedy, tall and tufted at the joints grows on hummocks to a height of 2 feet. It is used for lining wells. It has a wide distribution, the Oases, the gizzu, Dongola Khartum, etc. It has been identified as *Panicum turgidum* (Broun, No. 643) (*Gramineae*).

Natash. This is a bigger variety of the well-known Abu Dahyan of Kordofan and Dongola, the bushy grass which is always being uprooted by the wind and is seen blowing over and over the plain. It has a red flower and has been found in the North Libyan Desert. The name is given in Egypt to *Crotalaria aegyptiaca* and *C. thebaica* (*Leguminosae*) and also to *Lavandula coronopifolia* (*Labiatae*). I am not sure which my *natash* is, probably *Crotalaria thebaica* which is found in Nubia (Broun 116). *Lavandula cor.* does not figure in Broun,

but in "Flora of Tropical Africa" (Vol. V. Thistleton-Dyer) it is stated to exist in Nubia, Erkowit and Eritrea. *Natash* was found in Dongola by Nicholls (1909).

Zobat. This is the same, I think, as *halfa* grass, or certainly an allied species. It is tall and reedy and only found near water. It occurs at Natrun Oasis, where it is almost the only ground grazing. *Halfa* grass is *Desmostachya cynosuroides* (Gramineae) (Broun 674) which grows all over N. Africa and is common in other parts of the world.

Nissa. A thin waving grass, growing to 18 inches, poor grazing, compares with other grasses as bog hay, gets dried up in winter, but has the merit of growing in patches over the most barren desert where no other grass is. It was the only grazing found in the howling wilderness between Wadi Hawa and the Natrun Oasis. I have been unable to identify it in the Sudan Government Herbarium, but because of its likeness to so many grasses, rather than because of its rarity. It may be a species of *Aristida* (Gramineae). I note that Philby found a grass called *Nussi* in Arabia, which has been identified with the genus *Aristida*.

Merhabeib is a grass well-known in the Northern Sudan known also as *Mahareb*. It is very tall with fluffy brown head and grows in sheaves like corn-stooks. It is lemon-scented and not grazed upon. It was common in Wadis up to Lat. 15° 30' and its heavy scent permeated many little depressions and khors. North of this it only occurred at Jebel Tageru. It is a species of *Andropogon* (Gramineae) and is found at Um Ruaba, Soba, Sennar, Rufaa, etc. (Broun 662). I have identified it in the Sudan Government Herbarium.

Sumeim. This also is a tufted desert grass, *Aristida plumosa* (Gramineae) (Broun 673) found in Dongola, Berber, Kordofan. It occurs in Arabia under the same name *sumeima* (var. *ribba*).

Burbeit. This grass I did not actually see, but I quote it as it gives its name to Burbeit pool not far east of J. Meidob and therefore obviously exists there. The same Arabic name is given in Egypt to species of sedges, *Cyperus pictus* (Dakhla and Kharga Oases) and *Cyperus rotundus* (found near canal edges in Alexandria). Latter occurs in Broun (No. 628) described as a glabrous herb growing in Kordofan, Sennar, Suakin, White Nile, Gallabat, etc. There are over 40 species of *Cyperus* in the Sudan mostly in the Bahr el Ghazal, and it would be futile to speculate which this is without seeing a specimen.

APPENDIX. B.

GEOLOGY.

The whole of the area traversed is underlain by Nubian sandstone, which crops out in various forms. In the south the dividing line occurs between Hamra and Um Badr (1,250,000 Sheet 54 G). The Um Badr hills and other rocks to the S.W. of Soderi are old sedimentaries altered to flaggy grits, quartzites and schists, with intruded granites: whereas Jebel Hamra 25 miles North is of Nubian sandstone, and this sandstone apparently continues Northwards until it meets the Limestone Plateau of the Lower and Middle Eocene in which the Egyptian Oases lie.

The Western slopes of Tageru are exactly similar to the Heitan, a succession of capes and re-entrants, with the cliff face much weathered and sections so burnt as to give the fictitious volcanic appearance that has deceived so many travellers. The crown of Tageru is partly denuded, but mostly has a soilcap which nourishes grasses and occasional bush.

West of Tageru there are no outcrops of any sort as far as is known, save J. Abu Asbaa to the S.W., until the Erdi foothills in French territory are reached, which are also sandstone. Sarra well in Lat. 22° and Long. 22° was also dug through hard reddish sandstone. In view of these facts and of the certainty that the water of Dakhla and Kharga Oases is derived from the rainfall of the Tibesti and Ennedi highlands conveyed underground in permeable and uniform strata, it may be considered as proved that the whole of the Northwestern deserts of the Sudan West of Long. 30° and North of Lat. 15° , save the lava slopes of Meidob, are underlain by this stone. Jebel Meidob contains also sandstone and granite. The Safia ridges N.E. of the Wadi el Melik are all blackened sandstone. Selima Oasis and Bir Murr (Lat. $23^{\circ} 30'$) show its North-eastern extension. (Egyptian Geol. Survey Map I, M Sheet 5).

The actual slopes of Tageru and the spoil in the wadis at the foot washed down by spates, and the ridges of the Natrun deserts show the manifold varieties of sandstone. In places it was so soft as to have weathered and been undercut into weird shapes like the "show" rocks of the Lower Greensand of East Sussex. The ridge outcrops were usually big copper coloured boulders, of rounded shape, exhibiting "insolation" in process, i.e., the splitting and disintegration due to the great diurnal range of temperature resulting in over-rapid expansion by day and contraction by night. I picked up pieces of

every colour. C.f. Mr. Harding King's remarks on the plateau extending South-West from Dakhla Oasis to Jebel Owinat. "The sandstone varied considerably in colour: large areas were almost black, while in other places, white, yellow, orange, rose-coloured, purple and even blue rock was seen." (Geogr. Journal, February, 1912). This description applies admirably to the Natrun area. Pale blue outcrops appeared at Natrun itself, often laminated, thus appearing to have been laid down in shallow water in currents.

Red and purple fragments, known, I believe as limonite, showed effect of oxide of iron, and at Wadi Abu Sofian pieces of iron slag proved that the prehistoric inhabitants had actually worked an area for ore. The 5 or 6 axe-heads I picked up in the Wadi Hawa are of a green stone, which I presume is sandstone cemented with the green silicate of iron called glauconite, but I have not yet had a geological opinion upon them. The beds of wadis and runnels from the scarp of J. Tageru showed many pieces of pure quartz and flakes of close-grained rocks, which I do not know. One of the pestles which I found is of quartz, apparently, while the rest are of sandstone.

The Sand Dunes of this area are interesting. The whole earth-sculpture of the district is the work of the prevalent North winds. The conditions north of the gizzu appear to be identical with those of the North Libyan Desert. Mr. Beadnell of the Egyptian Geological Survey found that in Kharga Oasis in 1907, 337 days out of the 365 were windy and 29 calm. Out of the 337, 281 were north winds, and of these 103 were either sandstorms or winds visibly charged with sand. We also know that as a result the great longitudinal dunes, or *sifs* of those parts run 336 degrees, i.e., nearly due north and south.

The meteorology of the Southern Libyan Desert is naturally complicated by the annual rainfall, though it is slight, but from October to April, at least, the conditions do not vary. I found the wind, which blew a gale for 23 out of 26 days, to vary within 15 degrees either side of Magnetic North, likewise the tongues of sand stretching out from bushes and rocks. I also had the luck to come upon two groups of the crescentic or horned dunes called "barchans" by Mr. Beadnell. The formation and movements of these curious horseshoe belts has been fully discussed by Dr. Cornish and Messrs. Hume and Beadnell in the Cairo Scientific Journal and the Geogr. Journal. Those I saw are a replica of the Kharga dunes. I only met with them in open desert between Lats. 17° and 18°, but they also appear in degraded and stabilised forms in the North and South dune-belt of the Kheiran at Bara, Kordofan.

The Wadi Hawa must have been in Miocene times one of the great feeders of the Nile trough together with the Wadis Mugaddam and Melik. It would be worth traversing along its whole length. I did not notice any shells in it, but hardly searched.

THE HISTORY OF GALLABAT.

For the last 300 years the history of the Gallabat District seems to have been dominated by the fact that it lies at the junction of the two main roads connecting the plains of the Sudan with Northern Abyssinia.

Bruce who passed through these parts in 1772 after a sojourn of some years in Abyssinia, states (1) that Chelga and Ras El Fil (the Gallabat District) were two gaps or spaces made in the belt of Shangalla country dividing Abyssinia from the Sennar kingdom for the sake of commercial communications and that they were settled and possessed by strangers to keep the Shangalla in awe.

Who originally made these settlements is a matter of conjecture, as is also the date at which they were made. Bruce implies (2) that they were made a considerable time before the expedition of Yasous 2nd against Sennar (about 1733) and states that the settlers were Moslems and further that Saneaho (in his time dependent on Ras El Fil) was inhabited by Base Shangalla who had become Mahommedans. The original settlement was, therefore, almost certainly a Moslem one. From this and the fact that he states that the boundary of Sennar and Abyssinia was originally the Khor Dongola, (3) between Dabdo and Saneaho, it seems probable that the original colony of Ras El Fil was founded by the Sennar kingdom.

A note by Capt. Smyth, v.c., states that Gallabat was founded in the 18th century as a dependency of Abyssinia by a certain Forinkwei, who settled there with a large following of Kuni, Umu, Kurakwa and Dima (Dar Fur tribes) on returning from the Mecca pilgrimage; he also gives a list of Sheikhs who ruled from the beginning of the colony till 1900. (See Appendix.) It is, however, noticeable that this list does not include either of the chiefs mentioned by Bruce as ruling the district in his time (Abd el Galil and Yasin). Nor does Bruce mention the Wadai-Fur settlement, referred to by Lejean, (4) though he speaks of a Fellata village North of Ras El Fil. It appears therefore probable that Forinkwei's colony was founded subsequent to Bruce's visit or was in his time merely a village dependent on Ras El Fil and that it was only later that Forinkwei or his successors became the chiefs of the District.

At the time of Bruce's visit Ras El Fil was directly dependent on Abyssinia and under a Kasmati or Abyssinian Governor, appointed by the King of Abyssinia. This official did not however live at Ras El Fil but appointed a Mahommedan Wakil to administer the District. (5) Bruce was himself given the post of Kasmati of Ras El Fil, with the revenues attached,

to support him during part of his sojourn in Abyssinia and he appointed Yasin as his wakil in succession to one Abd El Galil. Yasin still held this position when Bruce passed through, though Bruce was no longer Kasmati. (6) Bruce states that both Ras El Fil and Saneaho had previously been prosperous enough to pay a tribute of 400 and 100 ozs. of gold respectively but that since the interruption of intercourse between Sennar and Abyssinia, consequent on the expedition of Yasous 2nd against Sennar (about 1733) trade had ceased and as there had been no reduction in the tribute a great part of the population had left Ras El Fil and gone to Tcherkin.

At the time of Bruce's visit, Saneaho, which he describes as an old Frontier territory of Abyssinia, was dependent on Ras El Fil. It was then inhabited by Base who had been converted to Islam and was ruled by a Base Erbab, called Gimbaro, who had negarit (drums) and whose rule was absolute within the district. He describes the village as built on a hill in the middle of a plain. The village was approached by an artificially made path on the Eastern side, the other slopes of the hill being perpendicular precipices. A similar fortified site in Base (Kunama) country at Lacatecoura, North of the river Setit, is described by James in "Wild Tribes of the Sudan" pages 201—203.

The village of the Chief of Ras El Fil was at that time on the Khor Kakamut to the West of Atbara and about 4 miles East of Jebel Ras El Fil (*i.e.*, probably on the Khor Yabis, as Lejean suggests, or in the vicinity of the present village of Tukulein). The only Khor Kakamut, now known as such, is an affluent on the right bank of the Atbara. The district of Ras El Fil in Bruce's time appears to have included roughly the present district of Gallabat and Saneaho. There had been he says 39 villages but he does not state how many existed when he passed through.

As regards the neighbours of Ras El Fil, (8) Bruce describes Ras El Fil as dividing the Shangalla (a nation of woolly-headed blacks) in two. The one to the West and bordering on Fazogli (part of the Sennar kingdom), as also on the Agau (round the source of the Abai). These, he says, are the Shangalla who traffic in gold. These would presumably be the Gumuz of Gubba and the Berta of Beni Shangul, though during part of the Fung kingdom at any rate Gubba was subject to Sennar. The other nation, he says, are the Ganjar who live 3 days West of Khor Kakamut, *i.e.*, somewhere between Meshra Shereik on the Dinder and Ras Amer. These were a formidable nation of several thousand horsemen. Their origin was said to have been that when the Fung dispossessed the Arabs from Sennar the black slaves who were in service among the Arabs all fled and took possession of the districts which they held in Bruce's time, where they had continued independent and had greatly increased in numbers. It is difficult to understand how Ras El Fil could be accurately described as dividing these two nations in two.

The northern neighbours of Ras El Fil were the Dabbayna Arabs who appear to have possessed the country from Beila to the Atbara. He states that they had made a desert of the whole country between Beila, Tiwawa (near Gedaref) and Gallabat. He was also told after his departure from Sennar (9) that Moorish troops from Ras El Fil accompanied by Dablayna Arabs and Ganjar horse from Kwara had burnt Tiwawa and plundered the Jehaina Arabs camped in the neighbourhood.

At the time of Bruce's visit a complete understanding existed between the Sheikhs of Ras El Fil and Tiwawa which had the result of keeping the Arabs to a certain extent in their place. If the Arabs paid tribute to either party he divided it with the other. In spite of this, however, it appears from Bruce's account that the Gedaref-Gallabat road was quite impossible for ordinary commerce. The King of Abyssinia used to obtain heavy horses for cavalry purposes through the Sheikh of Beila. Both the Sennar and Abyssinian Kingdoms were at this time at a very low ebb and it is probable that on the frontiers the conditions were in an unusually disturbed state.

As mentioned above the present population of Gallabat is descended mainly from the colony formed by Forinkwei, a Kunjari who came from near Barei in Dar Fur. This Sheikh settled at Gallabat with a large following on returning from the Mecca pilgrimage in the 18th century. His colony seems to have included both Wadaia (Bornu) and Fur. He remained friendly to Abyssinia until his death when he was succeeded by his brother Atrun. The next Sheikh was Imam Wad Atrun who was followed by Hassan who was succeeded by his brother Meri from Jebel Marra in Dar Fur.

About the year 1810 (10) and during the rule of one of these Sheikhs feeling between the Bornu and Fur elements in Gallabat reached such a pitch that a fight ensued. The Bornu got the worst of it and migrated with their Sheikh (a certain Osman Abd El Razig) to found eventually the colony of Gedabi, beyond the Atbara. Lejean states that the cause of the fight was that the Fur had imposed an unpopular king on the Bornu by armed intervention.

The friendly relations (11) between the Gallabat colony and Abyssinia lasted until about 1820 when the Meri mentioned above was Sheikh and wakil of the Abyssinian Governor of Chelga. In the course of an expedition by the latter against the Arabs, Meri and his men deserted their Abyssinian leader and went over to the Arabs. The Abyssinian chief was killed and Meri declared his independence. From this time until the visit of Lejean in 1864 Gallabat retained its independence. According to Lejean this independence amounted to little more than that it paid tribute to whichever of its neighbours was at that time more powerful. This Meri (or as other accounts have it a

successor whose name is not recorded), was defeated and killed by the celebrated Dejaz Konfu, uncle of Theodore 2nd.

In 1838 Mohammed Ali Pasha visited the Sudan and appears to have thought that it was a suitable opportunity to launch an army to the conquest of Abyssinia which was at that time torn with internal dissensions. Accordingly an Egyptian army under the command of Khorshid Pasha marched through Gallabat with the object of attacking Gondar. While they were involved in the forests at Abu Kalambo between Gallabat and Wahni, Dejaz Konfu fell upon the Egyptians and cut them to pieces.

The next Sheikh of Gallabat after Meri whose name is recorded is a certain Ibrahim Wad Hassan Gandalawi, who is said to have made raids into Abyssinia and to have brought booty from even so far as Dembea. From this it seems probable that at this time Gallabat was in close and friendly terms with Khartoum. This Sheikh, however, spent some 10 years of his rule in prison at Khartoum, during which time a certain Khamis acted as Sheikh. Ibrahim returned to Gallabat in 1856 as Sheikh but died of cholera in the same year.

At his death Khamis was selected to succeed him, but on the day of his accession he was assassinated by Ahmed son of Meri who considered himself the rightful claimant owing to the fact that his father had been Sheikh. Ahmed was thereupon sent for by the Governor of the Sudan and imprisoned for some time at Khartoum. A certain Guma was nominated as Sheikh in his place by the Egyptian Government. On his release Ahmed Meri fled to the Negus and endeavoured to persuade him to appoint him ruler of Gallabat. He was not, however, successful in inspiring the Negus with confidence and the latter after having received him well interned him at Dembea. He escaped to Gallabat in 1863 and rumours were rife that he had celebrated his escape by cutting Guma's throat, they proved, however, to be unfounded as Ahmed whose ambitions appear to have now cooled considerably, settled down at Gallabat on amicable terms with Guma.

This same year was notable for more trouble between Abyssinia and the Khartoum Government. It started by the receipt by Guma of a letter from the Negus informing him that he had dealt successfully with the people of Beshir and that after the rains he proposed to pay a visit to Gallabat, and notifying him that he should collect dura and honey which would be required for the Abyssinian army. This message caused considerable consternation in Khartoum and Mousa Pasha appeared at Gallabat in February 1863 with an army of 8,000 men and two cannon. After occupying Gallabat he returned down the Atbara while the Negus who had a salutary fear of the Turkish guns remained in camp South of Lake Tana with an army of 30,000 men, his pretext for not coming down into the plain being the necessity of "eating fresh fish during Lent."

During this short campaign the Egyptians and Takarir made a raid on the Ganjar of Kwara and plundered them heavily. On the departure of the army, however, the Governor of Dunkur announced publicly that he was going to repay the Takarir for this affront with interest. Guma much alarmed had to buy off this redoubtable visitor. Ahmed Wad Meri appears to have assisted in the raid on Kwara and to have returned with some booty but died of smallpox on his return to Gallabat.

Lejean who visited Gallabat in 1864 (12) describes the state as consisting of about 20 to 25,000 people distributed among 24 villages and bounded by the Atbara, the steppes of Doka, Ras El Fil, the upper Rahad and the hills of Kwara and Dunkur. The most important villages were old Metemma to the N.W., Remeili on the road from Sennar to Metemma, Abd el Rasool at the foot of a very picturesque nipple-shaped hill and surrounded by fine maize cultivation, Hillet el Derwish and two or three hamlets near Doka with wells. North of Derwish, he says, there are no running streams. The frontier on this side is Wagin a small village belonging to the Egyptians and a considerable market where the Dabbayna and other Arabs come to sell their cotton. To the East the limit appears to be the Atbara and to the S.E. the Khor Gandoa at least the settlements of the people of Gallabat never cross these two rivers. (13) (N.B.—He states, elsewhere, that the Mariam Woha, i.e., the first khor to the E. of the Abu Nekheira, is regarded as the true frontier between Abyssinia proper and Gallabat). In this respect, he continues, it is more correct to say that the real frontier is the desert which the riverain populations and mutually inimical Takarir, Dabbaynia, Abyssinians, Homran and even Base have created to serve as a natural defence and from which such rare colonists as tried to establish themselves were driven out by the lion and hyena. The last village to the S.E. was at that time Tendelti a short distance from the Atbara.

He describes the population as being a shifting one, constantly increased by new arrivals, with the result that two rival parties, Muwalladin and Baraniya (new arrivals) were formed. The Sheikh was generally a Muwallad, he was nominated by the people and formally installed on an angareeb.

Then as now the commercial language was Arabic but the intimate idiom Furawi.

Gallabat, he states, (14) is better known for its market than its revolutions. The market is held on Tuesdays in a large open space which extends from the hill to the Khor Nekheira and shaded by tamarinds. There are not many luxuries on sale, the five chief articles of commerce are cotton, coffee, beeswax, mules and slaves. The coffee comes from Zegai, the terrestrial paradise of Abyssinia belonging to the monastery of Wara-Kedana-Meherab. As regards slaves they reckoned that over forty caravans of slaves, all Gallas, had been

disposed of in Gallabat in the summer of 1862. He remarks that the Abyssinians took care that Christians were not sold by the Gaberta slave dealers, breaches of this regulation being punished by the amputation of the left foot and right hand.

Sheikh Guma was succeeded by one Saleh Idris who remained Sheikh until driven into Abyssinia by the Dervishes under Wad Arbab. Little is known of events at Gallabat during this period, but it is worth mentioning that when General Gordon visited Abyssinia in 1878 Gallabat was one of the Districts claimed by the Abyssinian King. If the period immediately preceding the Mahdia was one of comparative quiet a very different state of affairs was to follow in which Gallabat was the cockpit in which a great part of the Dervish energy was to be expended in a war for which there appears to have been little cause except mutual animosity and of which the main result was the sack of Gondar—probably an important factor in Menelik's decision to move his capital to the new site at Addis Abbaba. There is no doubt that this transference of the capital has affected the importance and prosperity of Gallabat very considerably, it has also rendered intercourse between the Sudan and Abyssinia more difficult.

To return to the local events of Gallabat, at some time between the visit of Lejean and 1880 the Egyptian garrison which was originally at Doka was superseded by garrisons at Gedaref and Gallabat. By the end of 1883 the Gallabat garrison was besieged by the Dervishes, in November 1884 the garrison joined hands with an Abyssinian force and inflicted a decisive defeat on the Mahdists. The garrison was relieved in February 1885 and retired through Abyssinia to Massaua. Presumably Sheikh Saleh Idris retired with the garrison. He was succeeded by Sheikh Sukur who later became blind and was succeeded by his brother Abd el Rahman. The latter was followed by Sheraf, a native of Dar Fur who was still Sheikh in 1901.

In June 1887 an Abyssinian army under Ras Adal advanced into Gallabat and defeated the Dervishes killing their Emir, Wad Arbab. Dervish reinforcements were soon brought up under Yunis Wad Degheim and later an army of 87,000 men under Abu Anga and Zeki Tumul invaded Abyssinia and totally defeated Ras Adal at Debra Sin 30 miles from Gondar, which they sacked in August of that year.

This expedition was interrupted by a theological discussion which might have had serious consequences for the Mahdists, had the Abyssinians known how to profit by it. The native account, which while not contradicting, is more picturesque than the official version, runs as follows. A certain dervish proclaimed himself the "Nebi Isa" behind the army and was successful in persuading a great portion of the Dervish leaders to believe in him. He

appears to have mesmerised them into seeing armies beside which their own commands paled to insignificance. Abu Anga alone was entirely sceptical, at an interview he explained to the would-be prophet that if it was a new suit of clothes or anything within reason that he wanted he would be glad to accommodate him but his recognition as the "Nebi Isa" was an extravagant demand. The reply was that he was no beggar and if Abu Anga did not believe in him it would be the worse for him. Abu Anga replied by offering him a bowl of milk and telling him to drink it and not talk nonsense. He upset the bowl on the ground, whereupon Abu Anga put him and his chief followers in prison. Further than this, however, he dared not go on his own authority and it was necessary to send to Omdurman for persons of high religious standing to decide the authenticity of his claim. On their arrival an examination of the sectarians was carried out in the course of which one only admitted he had made an error. The remainder with the self-styled prophet were summarily hung and military operations were enabled to proceed.

The following year (1888) witnessed a crushing defeat of Abu Anga by Ras Adal, who then became King of Gojjam under the name of Tecla Haimanot.

Abu Anga died at Gallabat in 1889 and was buried there.

This same year was to see the last and most famous of the battles of Gallabat. King John of Abyssinia was determined to follow up the victory of Tecla Haimanot and occupy Gallabat and advance on Omdurman and thus wipe out the disgrace of the sack of Gondar. He left Gondar at the end of February and advanced on Gallabat. Zeki Tupal had fortified it and held it with a force of 60,000 men. On March 9th the Abyssinians surrounded and overwhelmed them, but during the last stages of the battle King John was killed by a stray bullet, whereupon his army at once retired. The Dervishes harassed their retreat and captured the body of the King, which according to native accounts had been cut in two for the convenience of mule transport. To all intents and purposes the result amounted to a serious Abyssinian reverse. The hill on which King John was wounded lies three miles to the South East of Gallabat, and that near which his body was captured is visible ten miles further off.

Subsequent to this battle little of importance has occurred at Gallabat.

In 1892 Zeki Tupal was sent up to Gedaref and Gallabat and Kassala to evolve a plan of dealing with the Italian advance in Eritrea but on his reporting that he saw no reasonable chance of success in an invasion of Eritrea he was ordered back to Omdurman.

In 1898 a small force was despatched under Lieut.-Colonel Collinson on the receipt of rumours of trouble on the N.W. frontier. This force occupied Gallabat on December 7th.

APPENDIX.

Sheikhs of Gallabat according to note by Capt. Smyth, v.c.—

- (1) Forinkwei. Founder of colony in 18th century.
- (2) Atrun. Brother of Forinkwei.
- (3) Imam Wad Atrun.
- (4) Hassan.
- (5) Mereh. Brother of Hassan and from J. Marra in Dar Fur.
- (6) Ibrahim Wad Ibrahim Hassan Gandalawi.
- (7) Juma. Appointed by Khartoum Government.
- (8) Saleh Idris.
- (9) Sukur.
- (10) Abd El Rahman. Brother of Sukur.
- (11) Sheraf. Sheikh in 1901.

Sheikhs of Gallabat mentioned by Guillaume Lejean—

Mereh.

Wad Ibrahim. (Ibrahim Wad Ibrahim Hassan Gandalawi.)

Khamis wakil of above while he was in prison.

Ahmed. Mereh. Kills Khamis but removed by Khartoum Government

Juma. Installed by Khartoum Government, 1864.

Sheikhs of Gallabat mentioned by Bruce—

Abd El Jalil.

Yasin.

Sheikhs of Gedabi mentioned by Guillaume Lejean—

- (1) Osman Abd El Razig. Leader of party which seceded from Gallabat.
- (2) Emir. Son of Osman.
- (3) Adam. Son of Osman.
- (4) Azen.
- (5) Abd El Rasool.
- (6) Mohammed Nur. 1864. (Submits to Egypt and attacks Wad Nimr, but still pays tribute to Abyssinia.)

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- (3) Voyage aux deux Nils, G. Lejean. Page 126.
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- (9) Travels to discover the Sources of the Nile, Book 8, Ch. 10.
- (10) Voyage aux deux Nils, G. Lejean. Page 131.
- (11) Voyage aux deux Nils, G. Lejean. Page 129.
- (12) Voyage aux deux Nils, G. Lejean. Page 128.
- (13) Voyage aux deux Nils, G. Lejean. Page 133.
- (14) Voyage aux deux Nils, G. Lejean. Page 130.



NUER BEAST TALES.

by Capt. V. Fergusson.

THE JACKAL AND THE HYENA.

1.

Walking along the road one day Rill the Jackal was overtaken by Yak the Hyena and after passing the time of day they sat down for a chat. "Where are you going to?" asked Yak, "I was just on my way to visit some relations who can be depended on to supply a good hot brew of porridge which I am badly in need of having eaten nothing for two days," replied Rill. Yak was also famishing as, owing to a bad foot, he had been unable to procure meat for himself so asked Rill if he might accompany him.

Setting off together they walked for many miles until Yak, whose bad foot was painning him, said he could go no further. Rill, therefore, volunteered to carry him as the distance to go was not far but said that Yak must allow himself to be bound to a log of wood so that he could be carried with ease. Arriving at the house they were greeted by the inmates who had not seen Rill for some time but were astonished to see him carrying his friend in such a peculiar way.

Rill told them that he had discovered Yak on the road in a dying condition on account of hunger and asked that a bowl of porridge might be prepared without delay. All this time Yak was lying on the ground still tied to the log of wood from which Rill refused to release him until he had eaten his fill.

Two plates of porridge were eventually produced and having released one of Yak's arms they began their meal. However, Yak who was not used to using a spoon, managed to swallow it by mistake and when their hosts came to remove the empty dishes and found that one spoon was missing they were very annoyed and accused Rill of stealing it. Rill, however, told them what had happened and advised them to punish Yak for his carelessness. Whereupon Yak was soundly beaten and in his struggles to release himself from his bonds he sicked up the spoon and so was once again at peace with the occupants of the house. Yak was then released and after a short rest proceeded on his way with Rill.

2.

After going a little way Yak noticed some bees swarming in a tree and asked Rill what was the cause of the disturbance. Rill explained that they

were busy making a very excellent form of food called honey and held forth lengthily on the beneficial results that ensued after eating it. This so impressed Yak that he determined to sample the delicacy and asked how it could be obtained. This was just what Rill wanted and said that it was quite easily procured so long as Yak would comply implicitly with his instructions. Having promised to do this they both cautiously ascended the tree until they were just underneath the hive. Then tying Yak firmly to the trunk by a stout rope, leaving only one arm free from the elbow, Rill placed a long stick in his hand. With this stick Yak was to strike the hive violently in order to frighten off the bees but must be careful not to do so until Rill had given him warning. Rill then hastily jumped to the ground and ran home as fast as his legs could carry him shouting to Yak as he went to hit the hive as hard as he could. Little expecting what would happen Yak smote with all his might and was immediately set upon by the infuriated animals who stung him until he became quite unconscious. Remaining in this position for several days he got so thin that he eventually slipped through his bonds to the ground and slowly made his way home swearing vengeance on his newly acquired acquaintance.

3.

Not long afterwards Rill was returning from the River carrying with him a large piece of hippo meat which he had been given by some people he had by chance met. Turning a corner he suddenly came face to face with Yak who at once flew into a rage and threatened to eat Rill for the trick he had played him. Rill, however, was little perturbed and explained that if he had struck the hive properly all would have been well. Seeing that he was about to be eaten Rill produced the hippo meat and handing it over to Yak suggested he should sample it before carrying his threat into execution. A fire was quickly made and the meat cooked and Yak was so taken with it that he promised to forgive Rill if he would tell him how such excellent meat could be procured.

Rill said he had been to the River that morning and finding a young hippo on the bank had tied a rope round his waist and making a noose at the other end had passed it quietly over the head of the hippo whilst he was asleep and then had speared it to death.

Yak then asked Rill to accompany him when they together could have a good feed but Rill said his wife was about to give birth to a child and therefore begged to be excused though he had no objection to lending his rope.

Arriving at the River Yak had no difficulty in finding a hippo and, carrying out the instructions he had been given, speared the hippo in the buttocks and was immediately pulled into the River and very nearly drowned, only escaping in the nick of time.

4.

When they next met Rill was about to cook Looth the fish (*Protopterus*) which he had caught and had indeed already got on the embers when Yak appeared.

"I let you off last time through the goodness of my heart," said Yak, "but never again and this time you surely shall die." However, at that moment the delightful smell of the roasting fish reached his nostrils and instead of taking action sat down beside Rill to partake of the feast. "Why do you not kill me," said Rill, "After I've tasted some of that fish," replied Yak, licking his lips in anticipation. No word passed between them until Yak had devoured the whole fish himself and then turning to Rill asked how that was procured. "Saved again" thought Rill to himself and then addressing the hyena continued: "That's a very easy matter. Go to the River and on the bank look out for a small mound of newly turned earth and when you find this scrape with your fingers to the depth of a few inches when you will find the fish with its mouth open looking up at you. All you have then to do is to lower a certain part of your anatomy into the hole thus made when the fish will catch hold of it and can be lifted out."

They once again parted Yak for the River and Rill in the opposite direction, having asked to be excused on the pretext of cleaning his crops. Doing as he had been bidden, the hyena was badly bitten on a very tender part of his body and ran away howling with pain.

5.

No words were wasted at their next meeting but Rill was immediately attacked, knocked down, and pulled over the rough ground by the infuriated Yak. Rill stuck it for a bit but the pain was getting so intense that something really had to be done if he was to survive such terrible treatment. In a very feeble voice Rill murmured, "I'm nearly dead now so please finish me off quickly by pulling me over the sandy soil." This the hyena did and so saved Rill's life for the sand scratching his back soothed him immensely and he dozed off to sleep. Waking up suddenly he saw Yak perspiring profusely and at the same time drew his attention to some people who were passing with a herd of goats a little way off. Noticing that the hold on his legs had slackened somewhat Rill jerked them free and grabbing Yak by the ankles soon had him on his back and raced backwards and forwards over the rough ground paying no attention to the pleadings of his enemy. This went on until Yak became unconscious and seeing this Rill left him on the ground and departed for Yak's house.

On reaching there he told Yak's wife that her husband had had a seizure and was on the point of death and suggested that she should go and bring him home but before doing so to kill a bull and get her sister to prepare plenty of

good food for the invalid. In due course, Yak, who was still unconscious, was carried in by his wife and, acting on Rill's advice, was shut up in a house alone with Rill who assured the woman that he would tend him properly.

After a bit Yak came to and found Rill sitting in the middle of the floor surrounded with pots of food which he was devouring. Feeling hungry Yak asked for something to eat but Rill refused saying that it was not good for him in his critical state. After repeated entreaties which met with no response Yak called out to his wife who came running to the door to know what was wrong. Rill, however, assured her that all was well and as night was coming on warned her to go and sleep. On the following day the same thing happened the woman being informed that her husband was calling out as his wounds were being washed. On the fourth day the hyena died of hunger and Rill having by that time filled himself with good food crept out during the night and decamped.

The Jackal and the Hawk.

1.

Rill was sitting underneath a tree by the River one day fingering a couple of fish which he had caught and thinking what a good feed he was about to have when from above he heard, "Wish you'd give a pal a bit of that fish of yours, Rill." Looking up to see who the unwelcomed visitor was he spotted Ijong the hawk. "Alright," said Rill, "but you'll have to go and get something to light a fire with," and pointing to a shiny object in the far distance instructed Ijong to go and get it. When alone Rill saw Quet the tortoise going off to the River to drink and calling him over stamped on his back the shock of which made Quet pass nature and with this he proceeded to make a fire while Quet looked on in anticipation of a feed. Rill, however, took Quet, popped him top of the fire, cooked and ate him. In the meantime he roasted the fish, the best parts of which he devoured leaving the bones and bad parts for Ijong when he should return.

Ijong then arrived with the news that the sparkling thing that Rill had seen in the distance was only the tooth of a lion with the rays of the sun shining on it. Ijong, however, had asked the lion for a loan of his tooth to make fire with but had met with no success the lion stating that he knew Rill of old as a thief and a liar and would do nothing to help him. "Its all the same," said Rill, "I managed to make a fire and here's the fish, you eat it for I'm not hungry to-day." Ijong therefore devoured the leavings unconscious of what had actually happened.

2.

They then set out to visit a girl who Rill had fallen in love with and wished to marry. On the way Ijong was flying on in front when Rill found an exceptionally big shell which is used by everyone as a spoon. He said nothing

but put it in the bag he was carrying. Further on he found four more small spoons and calling to Ijong gave him two and took two himself adding that they would probably be wanted when they reached his fiancée's house. After a bit they started discussing marriage and Rill brought up the subject of spoons saying that he thought perhaps they had better discard those that they had picked up as it might be considered offensive if guests brought their own. Rill knew that a young man seeking the hand of a maiden must always bring with him his spoon but Ijong was ignorant of the fact. Both of them therefore threw away their two spoons but Rill retained the large one he had previously acquired unknown to Ijong. On arrival at the house Rill drew his future father-in-law to one side and said, "Look here this fellow Ijong who is a friend of mine cannot eat anything but the very hottest porridge so just see to it that the gets what he wants."

When the food arrived a big bowl of steaming potage was put in front of each and Ijong who was very hungry tried to pick it up in his fingers, but it burnt him so badly that he turned to Rill who he saw had already begun his with a spoon. "Where did you get that spoon from Rill? My food's so hot I can't touch it." "Never mind about my spoon Ijong, go off and find one for yourself," said Rill, and Ijong departed. With his big spoon Rill soon finished his own as well as Ijong's share leaving only a small portion. He then filled Ijong's bowl with grit and sand which he covered with the little porridge that he had left over. "This is very gritty food," remarked Ijong, when he got back and commenced his meal. "Gritty or not you'll have to eat it as our host has provided it," said Rill, so Ijong finished it with much difficulty.

In the evening Ijong, Rill and the girl all went to sleep in the same hut and during the night Rill complained of a pain in his stomach and went outside warning them not to be alarmed if he did not return as the evening air was better for him. Once outside he crept quietly to the cattle house and took a goat, killed it and hid the skin and intestines on the side of the road leading to his own house. Returning he cooked the meat, ate it and collecting the blood sprinkled it over Ijong as he lay asleep. Some fat too he carefully smeared over Ijong's beak and then went and washed himself in the River after which he returned to the house and laid down to sleep.

In the morning he was woken up by his prospective father-in-law saying that one of his goats had disappeared and Rill agreed that a search must immediately be made. On going outside the blood and fat were noticed on Ijong, and at Rill's instigation he was given a sound hiding and nearly killed. Rill then went home picking up on the way the goat skin and entrails which he had hidden during the night.

3.

Ijong nevertheless got news of this and going to Rill's house said that they

must go before God and have the case seen. "What nonsense," said Rill, "how can I reach Heaven without wings." "That's all arranged," replied Ijong, "You take one of my wings and my cousin Ket the shork will lend you one of his so that you'll reach there alright."

Accompanied by Ket they then flew off to Heaven, where God heard their case and let Rill off with a caution. This, however, did not please Ijong who took back the wings from Rill and flew back to earth again.

Finding himself in a bit of a fix Rill went to God and asked him for assistance but God replied that it was nothing to do with him how he got back to earth but gave him a little grain to help him on his journey. Rill took the grain but remained standing at a loss to know what to do and this so annoyed God that he gave Rill a push and sent him spinning down to earth again. Rill was afraid of his life that he would fall on some thing hard and be killed so prayed to God to be permitted to fall into a pool of water. Just as he'd finished his prayer however he landed with a terrible thump on some hard ground so that all the grain that God had given him was spilt. The fall rendered Rill unconscious and the ants came and stole all his grain. On the next day Rill, feeling very sore, regained consciousness and asked the ants to return what they had taken, which they did. He then slowly made his way to his mother's house where the old woman met him and was horrified to see him in such a battered state. "God has just thrown me out of Heaven and I am nearly dead. Go into the bean patch and dig my grave. Kill a bull and put the meat with plenty of water, cooking pots and fire wood as well and when you have done so give me warning and I will come. I will lie down in my grave and you will cover it over with a light layer of sticks and wet clay only be careful not to allow any earth fall on top of me. If you hear any noises in the hole fear not for you will know that it is the flesh falling off my bones." When the grave was ready Rill got into it and at the end of three days having finished all the meat he came out again and appeared before his mother saying that he was cured.

4.

Smarting under the treatment he had received on account of Ijong Rill was only too glad to take the opportunity of once more joining up with his rival in the hopes of getting his own back. Thus they again set out for Heaven where Ijong was anxious to marry one of the girls. This trip too gave Rill the opportunity of getting square with God so the first thing he did on arrival there was to steal one of God's goats, killed it and, as he had done before, smeared the fat over Ijong's mouth. When God discovered the loss he was very angry and proceeded to investigate matters. Rill again accused Ijong who, however, was not to be caught at the same trick a second time and demanded that some form of oath should be taken to distinguish the evil doer.

God then made a small trench and said that anyone who could jump over it was not guilty but that if he fell in he was guilty and should die. Ijong was quite prepared for this but it greatly frightened Rill who said he was not feeling well and that if he fell in it would be on account of his lack of strength and not because he was in any way guilty. God therefore found that Rill was the offender but again let him off ordering that he and Ijong should go home by different routes.

On the way, however, they met, and Rill suggested a duel with bow and arrow. This Ijong accepted and Rill who was the first to shoot missed but Ijong's dart caught Rill in the shoulder and hurt so much that he gave in.

They then shook hands and started off again as friends and on the way home they passed a dom palm with ripe fruit on it. This, however, belonged to a man who lived in a house at the foot of the tree and the problem was to remove the fruit without disturbing the owner. Rill volunteered to go up the tree and throw down the fruit if Ijong would catch it before it reached the ground. This was done and as Ijong was bending down to place one of the fruit carefully on the ground Rill landed another bit down bang on top of Ijong's head which killed him at once.

Thus ended the friction between the jackal and the hawk and is the cause of the hawk's curious shaped neck to-day.

The Jackal and the Turtle.

One day when Rill was very hungry he met Quoing the turtle and suggested that they should go to the cattle marah to get some milk. On reaching there Rill volunteered to take the cattle out to graze and during the day suddenly appeared back driving in front of him a black cow called Ashol which was the property of Quoing. "Come quick," said Rill, "and spear this buffalo which is attacking me," whereupon Quoing sallied forth spear in hand and killed his own cow for his eyesight was very bad. "What have you done," said Rill, "you've killed your own cow." "Well, you told me it was a buffalo," answered Quoing with indignation. "I did nothing of the sort, I told you to go and get the cattle rope in order to tie it up." Rill then took a water pot and, boring some holes in the bottom of it, ordered Quoing to go and get some sweet water from a far away pool. While he was thus employed Rill skinned the cow and after hiding the meat in the grass buried the horns in the ground leaving only the tips sticking out. After a lengthy absence Quoing returned complaining that he had made several trips to the water but the pot seemed to be a bad one as it always leaked out. "Never mind about the pot," said Rill who was now holding on to the top of the horns with apparent difficulty. "My back is nearly broken and if you don't come and help me quickly the cow will disappear altogether and we will lose all the meat." When Quoing caught

hold of the horns they came away in his hands. "I told you so!, now we've lost the cow altogether through you being so slow in getting the water," flashed Rill.

The next thing was to get rid of Quoing so that Rill could get rid of the meat to his house unobserved. Giving one horn to Quoing he told him to give it to his wife with instructions to boil it continuously in a pot of water when the pot would be found on the second day to be full of meat. If this did not come to pass it was a sure proof that the wife was a bad one and should be killed.

Quoing then departed and proceeded to make his wife boil the horn whilst Rill collected his meat and went home filling all his pots with what he could not eat himself. At the end of the second day Rill visited Quoing and enquired about the meat. Quoing admitted failure whilst Rill boasted of the success he had had and urged Quoing to kill his wife. This Quoing did and Rill then returned home.

When Quoing's mother-in-law heard the news she was very wrath and explained Rill's deception. Quoing thought for a long time of how to repay such a dastardly act. Knowing Rill's weakness for the gentler sex he wandered along until he reached a path leading to Rill's house. Here he sat down and proceeded to turn himself into a portion of a woman. It was not long before Rill passed by and seeing the object on the ground placed it on the end of his spear and walked home. On arrival there he called together his wife, mother, sister and cousin and asked them if they had dropped anything on the path. However, after due inspection nothing was found to be missing and Rill produced his find amidst the rejoicings of his family and hung it up on the roof of his house. He then left with his relations to spear fish in the neighbouring pool. On his return he found a most beautiful girl in place of the object he had picked up on the path and hastened off to make known the good tidings. That night was spent in dancing and general hilarity and on the following morning his newly-acquired wife ordered him to go to the River to catch fish. This he did, but she was nowhere to be found on his return and exhaustive enquiries did not help to solve the matter.

Being hungry he turned to the pots which held the meat of the black cow and to his astonishment found them all empty bar the last which still had a little fat in it. When licking round the edge of the pot his tongue was suddenly seized by some unseen object which turned out to be Quoing who had turned himself into a turtle once again having got his revenge. Rill implored him to let go of his tongue but this Quoing would not do until Rill had taken him down to the River and left him there.

So great a lesson did Rill suffer at the hands of Quoing that he never attempted to molest him again.

REVIEWS.

Excavations at Kerma, by George A. Reisner (Harvard African Studies, Volumes V and VI. Peabody Museum of Harvard University, Cambridge, Mass., U.S.A., 1923).

For some time readers of *Sudan Notes and Records* have been familiar with the most striking results of the excavations conducted by Dr. Reisner at Kerma in the years 1913-1916. The two massive volumes before us give the evidence on which the earlier statements were based and a mass of detail to fill in the brief outline we already knew.

The two volumes contain 78 Plates, 26 Plans and 345 Figures in the text: the letterpress occupies more than 1,000 pages of which some four-fifths consist of mere tables and catalogues: yet the work of the last season which was concerned with the Nubian cemetery, and the detailed anatomical study of the human remains are held over for a third volume. In our judgment this elaborate publication is fully justified by the original character of the discoveries and by the need of establishing their true import upon the surest foundation, a need all the greater in view of certain rival theories which have been put forward both of late and in antiquity. In antiquity there were writers who imagined that ancient Egypt borrowed its culture from the South, that is, from Ethiopia, and it was hoped by some modern writers that as the exploration of Nubia and the Sudan proceeded we should find here the beginnings of ancient Egyptian culture. Dr. Reisner's earlier explorations on behalf of the *Nubian Archaeological Survey* proved the baselessness of these imaginings. But his discovery at Kerma of a rich civilisation with new and brilliant artistic developments and the practice of human sacrifice at the graves suggested to Dr. Junker, (1) who was followed by Dr. Griffith, (2) that this culture was the independent culture of some unknown Nubian tribe and not, as Dr. Reisner suggested, the work of an Egyptian colony modified by strange surroundings and new materials.

Before we summarize Dr. Reisner's reconstruction of the history of Kerma, it may be best to enumerate some of the principal objects discovered. (3) The centre of each grave was occupied by a bed, the legs of which were carved to resemble the legs of cattle: in form they resemble beds found in Egypt as far back as the Old Empire, they were strung with leather like many modern *angaribs*. On the bed was the body of the dead: among the objects buried with him were head-rests similar to those still in use in the country, bronze

(1) *El Kubanieh*. Wien. 1920, pp. 20 ff.

(2) *Annals of Archaeology and Anthropology*, Liverpool. Vol. VIII, p. 70.

(3) All the most important objects which fell to the share of the Sudan Government are exhibited in the Museum at the Gordon College.

swords with ivory handles, ostrich-feather fans, giraffe-hair bracelets, leather sandals, and strings of blue and cornelian beads. Of pots there were vast numbers, many of most excellent craftsmanship: especially common were the beakers of polished red with black tops which date back to pre-historic days and, in a degenerate form, linger down to Meroitic days in cemeteries at Sanam, Meroe and Makwar: of the Kerma beakers Reisner distinguishes eight types, each with many sub-divisions. There are also painted pots clearly imitating basket-work of a kind which survives to the present day. There are the toilet utensils and scarabs common in Egyptian cemeteries of the Middle Empire: gold ornaments have mostly been looted. The textile work includes linen fragments and rough mats of a species of hemp made with knots like pile rugs. There is also a curious series of mica ornaments which were originally sewn upon leathern caps. The most startling feature, however, in the whole cemetery was the frequent, almost regular, presence of numerous human victims obviously buried alive with the occupant of the central bed.

Such are in brief the more salient characteristics of the cemetery: I pass now to Dr. Reisner's reconstruction of the history of Kerma.

In the time of the Old Empire there was a trading centre here: material evidence of this was found in a number of fragments of alabaster (aragonite) vases bearing the cartouches of Pepy I, but there is nothing to show that the country was occupied in force by Egypt. In the time of the Middle Empire on the other hand the Amenemhats and Sesostris' did so occupy it: a fort was built at Kerma and the place called Inebu-Amenemhat, the Walls of Amenemhat a name recovered from the inscription of one Yentef who was sent to repair one of the buildings. Egyptian Governors of high rank were charged with administering the country, but the name of one only, Hepzefa, has survived.

Hepzefa on Dr. Reisner's theory brought with him from his home in Assiut all the craftsmen who formed the household of a great Egyptian noble at this period, when arts and crafts were for the most part house-crafts: he brought with him, that is, carpenters, potters, weavers, leatherworkers, brewers, bakers, cooks and so forth, who carried with them their own traditions of work but found, of course, that they had to adapt these traditions to new needs and different materials. By a very minute study of the various remains Dr. Reisner shows how faithfully these craftsmen preserved their Egyptian traditions. Some of them no doubt survived their master or left behind them apprentices who would carry on the same traditions more or less. The successors of Hepzefa may be presumed also to have brought other craftsmen with them from their homes in Egypt, who would have reinforced from time to time the Egyptian tradition.

The cemetery of Kerma seems to have been used for three or four centuries and the objects from different tombs and from different parts of the cemetery

show considerable differences in detail: the pots, for example, from some graves are more finely made than those from others, the best perhaps come from Hepzefa's tumulus, and a regular gradation can be traced. The real question at issue is does the series represent an ascending or a descending scale? Did the fine work of Hepzefa's period gradually degenerate as his own craftsmen and those whom they had trained died out and new generations of copyists took their place, or are the poorer works the rude beginnings which flowered into the finer forms of Hepzefa's tomb? The alternatives are fairly stated by Dr. Reisner, but he is quite confident as to the right interpretation: the series represents a descending scale. We might suggest a parallel from the culture of to-day. Supposed an archaeologist some thousands of years hence found in the Sudan remains of our crockery and our deck-chairs side by side with the remains of native imitations of both, as he well might do: he might if he knew nothing of the history of this country or of Europe imagine that the crude native copies were the rude beginnings of an art which culminated in our finished products, but he would be grievously wrong. Progress most often is short, rapid and jerky, degeneration is long, slow and gradual. We can see the same thing happening at other periods in the history of this country. In the Ethiopian cemeteries excavated by Dr. Reisner at the other end of the Dongola province, for example, we have long series of shawwabtis from the royal pyramids: the best, as regards both the modelling and the inscriptions are the earliest, they date back to the days when Ethiopian control over Egypt enabled the kings to import Egyptian craftsmen at will into the Sudan and it is the same with many other groups of remains which can be arranged in series. In the Meroitic period again Dr. Reisner has made use of a similar hypothesis to explain the intermittent recurrence of Egyptian hieroglyphics in the temples of this date: from time to time Egyptian scribes were imported for special work by individual rulers and it is to these importations that the puzzling changes in style are due. I believe that a similar phenomenon recurred in the Christian period: new Byzantine influences poured into the country from time to time, the courts of the petty kings aped Byzantine ceremonial and on various sites fragments of fine ware with typical Byzantine ornamentation which must have been made by foreigners may be picked up side by side with crude native imitations. Dr. Reisner's reading of the Kerma material is to our mind as certain as anything of the kind can be.

But the finest piece of imaginative reconstruction in these volumes is to be found in the discussion of the human sacrifices at the graves. In the greater tumuli human victims were found by the hundred, in the smaller graves there were generally a few: men, women and children are there, in one place, for example, two skeletons of children aged about four and six lie.

close to the bones of a woman, obviously their mother or their nurse: the attitudes in which the bones were found leave no doubt that the people were buried alive. Those who are familiar with the beautiful and dignified scenes upon Egyptian tombs are shocked at first by this evidence of wholesale *sati*-burial at the grave of an Egyptian noble: their sympathies may be with Dr. Junker who declares that the practice of such a rite by Egyptians at this period is inconceivable. Dr. Reisner collects evidence to show that *sati*-burial was really an old Egyptian institution and, from further evidence collected in modern Africa, that it was most probably the custom of the native Nubians at this period. The Egyptians at Kerma might therefore very naturally adopt such a custom from their subjects, but he suggests that they may have had other and more powerful motives. "When Hepzefa died, he was many days' journey from his native town of Assiut, in which, by means of the famous ten contracts he had provided for the necessities of his *ka*. Was it to be expected that his *ka* would remain here at Kerma, in this savage land exposed to the dangers of an unknown spirit-world, or return to the familiar land of Egypt where the spirit-world was a well-mapped region, and where he had provided magic formulas in his great tomb at Assiut against every possible danger? Why were all the chief men and most of the human sacrifices laid with their faces towards Egypt? Why were none of those buried after death wrapped in the impeding bandages of the Egyptian dead? Why was a pair of sandals so essential, found in some cases actually worn on the feet of the dead? It seems to me obvious that the *ka* was supposed to return to Egypt. . . . The family itself was in a still more difficult situation. If they lived on and died singly, whatever perils the after-life might bring, whether those of the journey to Egypt or those of a shadow-world filled with the spirits of the wild tribes and the raging gods of the south, all must face it alone without the aid and protection of their master. Only a few moments of present pain separated them from his familiar presence. Existence was not to cease. The fact of continued existence under the accustomed habits of life on earth was not a matter of doubt. From their point of view manifestly the safest and the most desirable act was to pay the small price and to enter the future life in their familiar family environment. . . . Thus self-sacrifice as practised in the *sati*-burials at Kerma was not a cruel inhuman thing, but rather a kindly custom, an act of loyalty which provided both him who had died and those who offered themselves to a living death, with the assurance of the continuation of the long-accustomed family life in the other world." (1)

In the years of anarchy and confusion which followed the downfall of the Middle Empire in Egypt, Egyptian domination in Kerma came to an end.

(1) First Vol., pp. 76, 77.

The publication of the Nubian cemetery, which is not in fact yet completely excavated, may tell us a little more about the culture which succeeded it: several scarabs and sealings of the Hyksos period show that trade relations with Egypt were not completely broken off, but the great days of Kerma were over. How far the great Kerma period permanently enriched the culture of the Northern Sudan we are unable to say: we see at Kerma many of the objects with which we are familiar to-day, *angarits*, basketry, giraffe-hair bracelets, fans and so forth, but whether the Egyptian found them already in use among the people on their arrival and only stimulated or improved their production, we do not know. We have learnt, however, from Dr. Reisner's wonderful discoveries and the not less wonderful insight with which he has interpreted them, what sort of a culture actually flourished in the Northern Sudan nearly 4,000 years ago, and how closely related it was in many respects to subsequent cultures. We offer him our warmest congratulations upon the achievement.

(Sgd.) J. W. CROWFOOT.



THE CURRENT JOURNALS.

The *Geographical Journal* for October 1923 contains a paper by the Librarian of the Society on a hitherto unknown world-map dated 1506 by one Giovanni Matteo Contarini, which is especially interesting in its extraordinary misplacement of the Blue Nile system, of which the medieval cartographer makes a great Western branch reaching down to Latitude 18° South.

The *Journal* for January 1924 contains an article by Major H. C. Maydon entitled "Across Eritrea," which includes a number of good photographs and a sketch map. With two friends he trekked *via* Karora to Meteme, Baiden and Agordat. Thence they made a detour to the Gash, turned East to Asmara, and returned *via* Keren and Nakfa.

The *Journal* for April 1924 contains an article on "Field-Longitudes by wireless" by Captain P. K. Boulnois, M.C., describing his experience of this method of obtaining longitudes during the Survey of the Darfur-Wadai Boundary by the recent Boundary Commission.

The *Journal* for May 1924 contains a Note, in the Monthly Record, on the compilation of Mr. L. J. Sutton concerning the climate of Kharum, published by the Egyptian Ministry of Works (Physical Department Paper No. 9, 1923). The paper gives some very striking thermometric data. The mean annual temperature, for example, based on the twenty years 1901-1921 is 85° F.

The *Journal* for June 1924 contains another article by Capt. P. K. Boulnois, descriptive of the Darfur-Wadai borderlands.

The Journal of the Royal Anthropological Institute (Vol. LIII, January-July, 1923) contains a long article by the late Henry Parker on "Stone Circles in Gambia" where he endeavours to prove, on rather scanty evidence, that the Garamantes of classical times invaded the Gambia valley about 630 A.D. and are represented by the Mandinka tribes. His description of their stone monuments and local lore is full and interesting but his remarks on North African ethnography as revealed by the Greek and Roman geographers are unconvincing.

Vol. LIII, July-December, contains an article by G. W. Murray on the Ababda. He gives their history briefly and various customs that distinguish them from their true Arab neighbours. The number also has a note by the Rev. W. A. Crabtree on the origin of the Ba-Hima in which certain linguistic coincidences are discussed and tentatively made the base of speculations concerning the tribe's affinities.

The National Geographic Magazine (Washington) for January, 1924 contains an article by Major E. Keith-Roach entitled "Adventures among the Lost Tribes of Islam in Eastern Darfur." It has some thirty really excellent photographs and in spite of the misleading title, the letterpress, though obviously framed for trans-Atlantic readers, is a not inadequate description of Um Kedada Merkaz, though one can hardly agree with the Editor's foreword that "The mid-Africa region of great plateaux and fertile oases which this vivid narrative describes has been visited but rarely."

The same number has articles on Timbuktu and on the Citroen Expedition from South Algeria to the Niger in the winter of 1922, 1923, with first-rate photographs.

The Journal of the African Society for January, 1924 prints speeches made by Sir E. Denison Ross and Lt.-Col. R. V. Savile on the occasion of Mr. E. Pothergill's lecture on the Sudan delivered before the Society on November 21st, 1923: a short paper on Native Land Tenure in the Timbuktu District, which is interesting in its analogies with the Northern Sudan: and, *inter alia*, articles on the Arussi and other Galla of Abyssinia and the Volcanic History of South and East Africa.

The Journal for April, 1924 contains an article by Capt. Brackenbury entitled "Notes on the Bororo Fulbe or Nomad Cattle Fulani." The Jafumen, which is the name by which the Bororo describe themselves, are traditionally descended from "Ukuba, or Oqba, the son of Amiri, son of Yasiri," c.f. Mac-Michael's MS., BA (History of the Arabs, etc., Vol. 2, p. 27) "Some say the Fellata are the sons of Fellat, son of Ukba, son of Yasir." This is an interesting confirmation of the alleged wide distribution or wanderings of the Beni 'Ukba, who still survive in the Awlad 'Ughba section of the Kababish of Kordofan.

Both the numbers for January and April contain some rather startling philological flights from the pen of the Rev. W. A. Crabtree, the first of which treats of the Kordofan "Anag," Gog and Magog, Amalek, Mycenaean pottery, etc., in two pages, while the second endeavours to identify the "Wawat," a district invaded, Dr. Reisner has told us, by Pepi I in the Sixth Dynasty, with the Galla people, because of the alleged Semitic cast of the Galla language. This language, in its turn, is suggested to be derived from the Hittites.

Man in its number of February 1924 contains a "Note on Some Nilotic Languages" by the Ven. Archdeacon Shaw. The paper covers Bari, Shilluk, and Dinka, the last in some detail.

Renseignements Coloniaux, which is issued as a supplement to the monthly journal *l'Afrique Française*, contains in its number of November, 1923 a preliminary Note on the Olufsen Mission to the Sahara. The paper is largely

geological and adds to our knowledge of the tectonics of the Hoggar and other areas. Descriptions of rock-pictures and stone implements pave the way for remarks on desiccation, and much of the paper is relevant to conditions in the Western Deserts of the Sudan.

The issues of January, February and March, 1924 contain in three instalments a really valuable and informative paper by Capitaine Rottier on *Le Sahara Oriental*. Chapter 2 "*Les Poulations—Aperçu Historique*" discusses the little known Tibbu and Kanuri peoples in the light of the latest French explorations in Tibesti and of ancient records, and an exhaustive record of their habits, social organisation, religion, traditions and economic needs is now for the first time made available.

L'Africa Italiana for September-October, 1923 has an article entitled "*Le Oasi d'Archenu ed El Uenat*," describing the two Oases in the Libyan Desert visited by Ahmed Bey Hassanein.

The Bulletin of the Societe Royale Geographique d'Egypte (T XII 1924) has a "*Memorandum on the tribe of Northern Dinkas in the Upper Nile Province*" by R. C. Mayall, Sudan Political Service.

The Proceedings of the Zoological Society of London (1923), pp. 247-271 has an article by Oldfield Thomas and M. A. C. Hinton: "*On the Mammals obtained in Darfur by the Lynes-Lowe Expedition.*"

The Cairo Scientific Journal for November, 1923 is a very interesting number and contains a lecture on "*Disease and History*" delivered to the Society by Prof. E. Hindle on November 16th, 1923, with especial reference to the effect of malaria on early Eastern civilisations, the sanitation of the Israelites, and the potential influence of a languor-inducing disease like *Ankylostomiasis* or hookworm, on the distribution of political power. Dr. Cyril Crossland writes on "*Some Red Sea worms.*" There is also an article by T. W. Kirkpatrick "*Notes on the Oecology of a Cave in the Egyptian Desert,*" showing how its inmates, bats, spiders, insects, etc., are all inter-dependent for existence on each other, the first eating the second, the second the third, and the third breeding in the dung of the first, an interesting study in cannibalism and coprophagy, which could probably be paralleled in the tombs or rockwells of the Northern Sudan.

Comptes Rendus de l'Academie de Science (January 28th, 1924) contains a paper by MM. Fritel and Carrier "*Sur des vestiges de plantes dévoniennes et carbonifériennes recueillies en Oudai par la Mission du lieutenant-colonel Grossard.*"

The issue of March 13th, 1924 contains a paper by MM. Denaeyer and Carrier on "*Les résultats géologiques et lithologiques de la Mission de délimitation Oudai-Darfur.*"

D. N.

NOTES.

BACTERIAL DISEASE OF COTTON.

The following note is offered with a view to obtaining information from readers in the provinces of the incidence of this most serious disease of cotton.

The symptoms are characteristic, and if carefully noted should not be confused with other affections to which the cotton plant is subject.

The disease may occur on all parts of the plant above ground, and has been designated by the following names according to the site of the infection.

(a) Angular Leaf-Spot.—In the Sudan this form is apparently most pronounced in the seedling stage. Small water-soaked areas, which are angled because of the small veins which bound them, appear on the leaves, the infected spots frequently increase and coalesce, particularly along the larger veins, so that a considerable area of tissue is involved. As this infected tissue dries, a thin yellowish crust is deposited on the surface.

The bracts surrounding the bolls are similarly attacked.

Diseased leaves are frequently shed, which seriously interferes with the process of starch making and other vital phenomena, so that the quantity and quality of the fibre are both reduced.

(b) Black Arm—this term is applied to the infection on the stem, twigs, and petioles of the cotton plant. It is descriptive, but apt to be confusing, as a blackening of the tissues may arise through other causes.

It is the most striking aspect of the disease in the Sudan, as it persists throughout the season after infected leaves have fallen and new growth appeared on such plants as have survived. In this form the characteristic water-soaked areas also appear accompanied by an exudation of yellowish ooze which dries in the form of yellowish-white granules, scales or crusts.

As stated above, mere blackening of the stem is not sufficient to diagnose the disease; in the absence of a microscopic examination, the presence of the water-soaked areas must be noted before a correct diagnosis can be assumed.

Black Arm not only weakens the cotton plant, but in the early stages may kill the affected part, if not the entire plant. The boll stalks when attacked wither, causing shrivelling or premature opening of the boll.

(c) **Bacterial Boll Disease.**—This form is not so pronounced at present in this country, the lesions are similar to those described above, and the effect is to ruin the contents of the boll.

The cause of the disease in all its forms is a minute bacterium known as *Bacterium malvacearum*, E. F. Smith, which can be readily isolated from the lesions and cultivated in the laboratory. It has been found to occur in many cotton-growing countries, and in some is considered a serious pest. It occurs in East Africa, and has been recognised by the writer in Egypt.

In the United States a weighty body of evidence points to the seed as the principal carrier of the disease, and there can be no doubt but that this holds true in the Sudan.

Bolls lying on the ground must be regarded with suspicion, but the disease seems to die out on dried cotton stalks.

The 'baladi' type of cotton is susceptible, but the writer has failed to inoculate Bamea, Til or Hambuk. As indicated above American cotton is attacked, but not so badly as Egyptian and Sea Island types. It has not yet been discovered on any weeds in this country.

The conditions favourable for the development and transmission of the disease are a comparatively low temperature and high humidity. Driving rain has been proved to carry the infection from plant to plant, but when conditions are suitable, mere contact is sufficient to secure a fresh infection.

Disinfection of the seed is adopted in the U.S.A. for the control of the disease, coupled with clean cultivation. For this purpose concentrated Sulphuric Acid is employed as it completely removes the fuzz and destroys organisms adhering to the seed coat.

This method is both dangerous and costly, and would be exceedingly difficult to employ on a large scale. An effort was therefore made last year to find an effective substitute.

After numerous trials it was proved that a Sanitary fluid similar to the familiar Jeyes' fluid disinfected the seed coat, and, what was most important, penetrated the fuzz thus sterilising the seed coat.

Arrangements have therefore been made to disinfect seed used for sowing next season in the Gezira and the result will be watched with great interest.

Readers of the *Sudan Notes and Records* are invited to co-operate by reporting the disease whenever found in the Sudan.

R. E. MASSEY,
Government Botanist.

SOME NUBA IDEAS.

Living as we do in such close contact with our Nuba school boys we frequently hear of ideas and customs that we might easily be ignorant of after even prolonged residence in the Nuba Mountains Province. Quite accidentally the other day I came across a curious story. Day after day boys kept coming to me to say that they wanted to go to their homes for a day to eat meat. Now meat is such a treat to them that we usually give them permission to go home when their parents are killing a goat or when one of their flock dies of old age (or disease). But so many have wanted to go lately that I asked what it was all about. The boy I asked told me the following.

A man from one of the villages was out hunting when he saw a large blackbird. He made ready to fire at it but was suddenly surprised and terrified to hear the bird say "What do you want to shoot me for, can't I talk like a person? If you want to save your people from a lot of sickness go and tell them all to kill a goat."

At once I went to another boy from another village and questioned him independently and he told exactly the same story. Several other boys also from villages all round Heiban mountain told the same tale. They were not at all sure whether the bird was sent by the "High God" or by the "Spirits," but that the bird had appeared they were quite certain, and they scouted the idea that the man who saw the vision was drunk. "How could he be drunk, was he not hungry and far out in the forest hunting?" The result was that practically every family killed a goat and the blood of the slaughtered animals was smeared above the doorways of the huts.

We have long known that each boy has an "Aurika" that is a particular and familiar friend, and that one boy never calls his "aurika" by his proper name but only "aurika." If, for instance, Komi Obol has to read a sentence from the blackboard which contains the name of Kwubalo his aurika, he will always read the sentence correctly until he comes to the proper name and then read "Kuku" or "Gwalo" or any other name but Kwubalo. And we do not press for correct reading in such cases. But to-day I wanted to get the full name of a new boy and asked one of the old boys for it. The boy I asked was, however, quite unwilling to give it and "acted stupid" as only an African can. But the others explained that the boy I had asked was the new boy's "Kwair" (brother-in-law) and so must not use his proper name. He must always call him "kwair." There is a similar custom with regard to father-in-law, son-in-law, mother-in-law and daughter-in-law, they use only the term "Ngwuma" for all these "in law" relationships, and never the proper name.

Another curious belief is that attaching to the wrongful killing of a sheep or goat. We noticed with surprise that, fond as all our boys are of sheep-meat and ground-nuts, a few of them will never eat these things. We found later that these particular boys had once accidentally, or purposely, killed one of the animals they were minding. They may now eat goat-flesh, but never so long as they live may they eat sheep or cattle or duiker or ostrich or giraffe or rabbit or honey or ground-nuts. If they do eat any of these prohibited articles of food they will certainly become lepers. When asked why some people at the villages are lepers they said these people must have killed a sheep and then eaten some of the forbidden things. The same prohibition applies to the children of a leper.

Another custom among these Nubas, and one of the many reasons why the population does not increase as rapidly as it should, is that of burying infants with their dead mothers. In some cases the father resists the custom and the child is given a chance of life and, if the infant is sufficiently advanced to eat dura flour, it may live. Two such motherless infants have been brought to us to be cared for; had we not taken these infants they would have died. As a matter of fact one of them who was only three days old died, but the other has been with us for over a year.

If the father of an infant dies the mother keeps the child inside the hut for two months for fear that the spirit of the father may want to take the child. There seems also to be some sacrificial customs relating to this to ensure the safety of the child after two months, but I am not yet sure of what they are.

A new idea that mothers of backward children in more enlightened countries might like to try is this. The little Nuba boy we have cared for for 15 months has not yet learned to walk and the school boys are rather concerned about it. They advise us to adopt the native practice which is, to seat the infant on a flat rock and for company give him some large black ants. It is wonderful, they say, how quickly the infant learns to use his organs of propulsion.

D. N. MACDIARMID

SOME LINKS WITH THE ANAG AT GEBEL HARAZA.

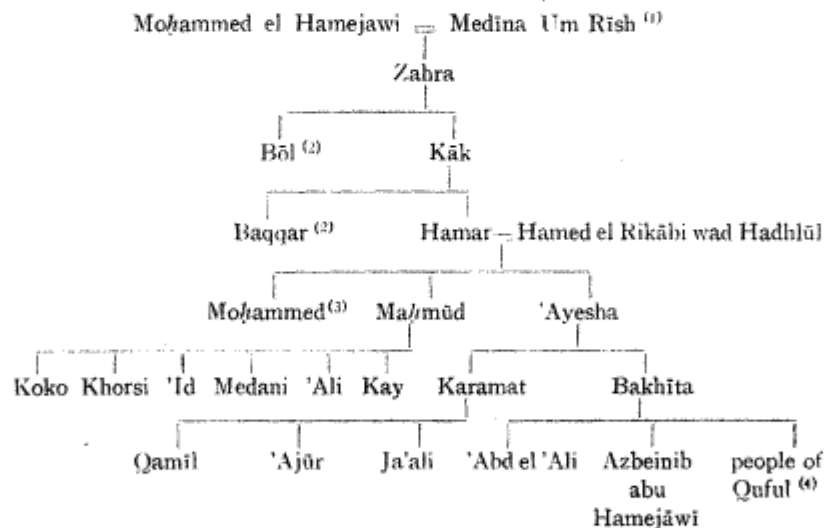
On several occasions in 1922 and 1923, when I visited Jebel Haraza in Northern Kordofan, I asked the Nuba, who now all speak Arabic, whether there was any trace left of their original language, as it seemed improbable to me that it could have entirely died out in the short time, during which these Northern Nuba have become Arabicized. They invariably replied that no

one had spoken it for at least 100 years, but as some of the Kababish had told me that it was still heard in the Jebel, and as, according to Dr. Charles Cuny ("Voyage de Siout à El Obeid" published Paris 1863), it was still spoken at Haraza in 1857, I persevered and eventually found a sheikh, who admitted that his aged father still preferred to talk the "rotana" when conversing with his old cronies of his own generation.

I was unable for various reasons to get into touch with any of these senile repositories of Anag lore before I was transferred—they were mostly either deaf or bed-ridden or imbecile—but wrote to the Feki of the Jebel, one 'Abd el Hadi el Feki Ahmed, and asked him to get hold of them and to make me out a brief vocabulary of the ancient language, by filling up the Nuba ("Anag") equivalents opposite a list of simple Arabic words, which I sent him.

He complied and also sent me, quite gratuitously, a short genealogy showing that there is still a group of people at Haraza who claim direct descent from the Anag aborigines. Both the vocabulary and the "nisba" are, I think, worth reproducing.

(1) The genealogy is as follows. I have subjoined, under A, the remarks of the feki himself, and under B some comments of my own.



A.—(1) "Of the tribe of Anag, the former inhabitants of El Haraza."

(2) "died childless." Both Bol and Baggar are female names.

(3) "Mohammed and his descendants inhabited the Jezira in the neighbourhood of El Masid wad 'Isa."

(4) "Whose mother Derham was a native of El Haraza and whose father Jnd was related to the Ghilayan, a sub-tribe of the Kababish."

(B) The date of the marriage of the Anag ancestress, Medina um Rish, with the tribesman of the Hamej race would be about 1250 A.D., if we count 35 years to the generation, as we know from the tree on p. 93 of MacMichael's "Tribes of N. and Central Kordofan" that Hadhlul father of Hamed el Rikabi, lived 16 generations ago. It is clear that the Hadhlul of the two nisbas is the same man, as he is mentioned on p. 94 of MacMichael as ancestor of the Awlad Mahmud of Jebel Haraza and here we see the six children of Mahmud set down. I have taken 35 years to the generation as this is the average at which MacMichael's tree works out, which connects Sheikh Niama Sirkatti, the present Nazir of the Northern Hills, with the Prophet. It should be noted that A.D. 1286 is the earliest date in which we have historical mention of the Anag (v. Quatremère quoted by Crowfoot in a paper read before the British Association in 1907).

The most interesting thing about the tree is the fact that it is matrilinear as regards the main stem. From Medina um Rish the line descends through five women to 'Abd el 'Ali and Azbeinib, assuming that Kak is a female name, as Zahra, Hamar, 'Ayesha and Bakhita obviously are.

Quful is probably the large village at Haraza known as Gafala.

Derham is one of the clans of the existing Nuba inhabitants of the Northern Hills. The Baqqara are another clan, to whom the Derham are said to be closely allied, and it is probable that the Baqqar in the tree is meant as their eponymous ancestor.

(2) The vocabulary is shown below. I have not had the opportunity to search thoroughly for affinities with other dialects, but a comparison with the table of dialects in MacMichael's History of the Arabs of the Sudan, Vol. I, p. 119 reveals at once the fact that the Haraza language supplies, as was only to be expected from its geographical position, the missing link between the Berabra languages of the Nile and the Birged, Meidob, and allied tongues of Northern and North Central Darfur. We know, of course, that the Birged were the paramount race in the Kaja hills of N. Kordofan during the 16th and 17th centuries and that their descendants in Darfur claim kinship with Meidob, and that their language is clearly allied to the Berabra dialects. The conclusion has been drawn (*vide* MacMichael *passim*) that the Birged came from the river to Darfur *via* Jebel Haraza and the Kajas, but hitherto no actual indication of their stay at Haraza has been found, with the possible exception of the ironworks there, which could be equally attributed to other races. The Haraza language now puts the matter beyond doubt.

Incidentally it is curious that no mention appears of this language, except in Cuny (op. cit.) who is quoted by MacMichael (History, etc., Vol. I, p. 355) as mentioning "Berbers" or "Dongolawi" from Debba inhabiting the hills of Northern Kordofan and speaking a "rotana" of Dongolawi corrupted by Zaghawa and Kungara.

The Haraza vocabulary is as follows: (a) comprises words with clear affinities with other dialects; (b) comprises words, for which I have not yet found affinities. N.B.—The termination "-ki" or "-qi" should, of course, be disregarded as being a mere suffix. It has nothing to do with the root of each word. But it is interesting because "K." appears both as a prefix in the Berabra dialects and in Bari, corresponding to the feminine article, and also as plural suffix in Berabra, Bari, Massi and Shilluk, with variants "-K1" "-CHI" "-JI," etc. It also appears in the Agau (Hamitic) dialect of Abyssinia.

(A)

English	Haraza-Nuba or "Anag"	Birged	Meidob	Berabra	Dair	Remarks (other dialects, etc.)
Cattle	tayqi	tay	tur	ti. tyg.	ti.	tei (Tama) teinyó (Baygo) tain (Suk, Kenya)
Horse	kujki	kisi	(porrnyi)	kaj		
Donkey	kizatki	kusuldi	utchi	kaj		katchiné (Baygo and Dagu)
Man	aqujki	kortogé	(irr)	ogij		
Mountain	kurki	kur	or	kullu	kul-du plural kul-i.	kurra Tama), kiri (Bari) keri (Masai), kwaro (Shilluk) kur (Din-ka)
Water	ayki	cigi	usbi	éssi		
Red	kaylaki	kailei	kayli	gel		kayli (Baygo) cf. Kailum, a place- name at J. Haraza
White	ayraqi	aylé	addé	aro		
Black	udaqi	udia	uddi	urum		udia (Baygo)
Bowl	kusqi	?	kosi	kosi		(v. MacM. Tribes, etc., p. 103)
Milk	ahkira	eshi	itchirri	iji		che (Nandi) cha (Dinka) cha-k (Shilluk)
One	faridki	meirtu	pirrki	wérum	ber	faridki probably— Arabic farad plus termination -ki.)

English	Haraza-Nuba or "Anag"	Birged	Meidob	Berabra	Bair	Remarks (other dialects etc.)
Two	awuda	ullu	uddi	awum	ora	ori (Bari) are (Masai) aryau Shiluk) rou (Dinka & Nuer)
Three	tuziqi	tizzit	tasi	tosk	toj	
Four	kinizi	keimzi	(égi)	kemaun	kenu	unwan (Bari, Masai, Suk, Nuer, etc.)
Five	tijjidi	tishi	téchi	dijin	dishu	wdyech (Dinka) diech Nuer)
Six	kurtaba	korshi	korreho	gorjo	kuarsh	
Seven	kaluda	koldi	ollotti	kolloda	kualad	
Eight	aduwwa	ittu	iddi	iduwo		otté (Zaghawa)
Nine	askuda	ijmoldi	ukuddi	oskoda		
Ten	tinina	timmur	timmigi	dününun	(bure)	timmi (Zaghawa), tomon (Masai and Suk), tomin (Be- dause), Tamman (Saho of Eritrea), taman (Nandi) toban (Somali) taban (Agar of Abyssinia)

N.B.—It will be noticed that the system of numeration is not quinary but denary.

(b) house — kalqi	dog — boukiqi	foot — kufanqi
woman — aldiqi	rain — filaqi	wadi — iwarqi (2)
sword — badalqi	war — sariqi	sheep — kurraqi
	(or spear ?)	
merissa — karbatqi	camel — kamalqi (3)	she-camel — ajimqi

(1) *ka* (Kenus-Dongola) *kadi* (Bari . . . note common exchange L for D.)
ka (Suk-Nandi) *k'eya* (— dwell, Amharic).

(2) This may be connected with *jer* (Kenus), *jer* (Bari), *iarata* (Masai) all meaning
watercourse, or with *are* (Kenus-Dongola — waterfall) *k-are* (Bari — river) *are* (Masai—
watering-place).

(3) This is obviously the Arabic *gamal* plus suffix "-qi."

All of group (a) above have obvious affinities with that group of languages
known as Niloto-Hamitic, and including Nubian (*e.g.*, Berabra, J. Dair, J.
Meidob, Birged) Bari and Masai (to which are related Suk, Nandi, Turkana,

and Latika); while some of them, especially the numbers, not only show relation to this group but also to the Niloto-Sudanic (so-called) group of languages, which includes Shilluk, Dinka, and Nuer.

The whole question of inter-relationship of the Niloto-Hamitic and Niloto-Sudanic groups has been carefully studied in a comparative essay by G. W. Murray "The Nilotic Languages" in the *Journal of the Royal Anthropological Society* (Vol. L, 1920, p. 327) whence I have taken many of the above parallels. Here he sets out to prove "the common ancestry of Nubian, Bari and Masai" and secondly, "to establish the strong probability of a former connection between these three and a fourth, Shilluk," (with which he includes Dinka and Nuer). Whether or not Mr. Murray can be considered to have established the second contention or not is immaterial to this paper, but it is beyond refutation that the Haraza dialect takes its place in the Nubian group with the other sub-dialects of Kenus, Dongolawi, Mahass, Meidob and Dair (as far as this last can be said to be one dialect in view of the unintelligibility of the tongue of one village by its neighbour in the jebel), and that this Nubian group is allied to Bari and Masai.

I hope at a later time to obtain a fuller vocabulary from Jebel Haraza. The peculiar geographical position of this hill-community makes it especially valuable as an ethnographical link between the Nile and the West, and pending the time when a proper examination, accompanied by systematic excavation, of its many antiquities is made, viz., the graves, iron-workings, rock-paintings, etc., we must rely almost entirely on the linguistic data for our reconstruction of the past history of the Jebel.

D. NEWBOLD.

THE ZEBAYDIA IN THE APOCRYPHA.

The Zebaydia tribe of the Eastern Sudan, who are perhaps best known to-day for the brown "cobby" type of transport camel, which they breed, are mentioned in MacMichael's *History of the Arabs of the Sudan* (Vol. I, p. 345) as being identical with the Gebadei or Zebadei noticed in Pliny (Bk. vi, p. 33 quoted by Crowfoot "Some Lacunæ, etc.," p. 3) as a tribe living in the 1st century A.D. on the West or Sudan shore of the Red Sea. They must, however, have come originally from the East or Arabian side as (1) the famous town of Zebid in the Yemen either got its name from them, or, what is more likely, gave its name to them, (2) the Zebada section of the Beni Rashid of Wadai claim a Himyaritic origin.

A third reason is that there is a mention of them, at least 200 years before Pliny, as living in Arabia. This is in the Apocrypha, I Maccabees Chapter XII,

where Jonathan, brother of Judas Maccabaeus, hearing that "Demetrius' princes were to come to fight against him" moved his force out of Jerusalem and met them in the land of Amathis." The enemy, however, fled in the night leaving their camp-fires burning to deceive Jonathan. Next morning he pursued them but they crossed the river Eleutherus to safety; "wherefore Jonathan" (apparently determined to have someone's blood), "turned to the Arabians, who are called *Zabadicans*, and smote them, and took their spoils." (verse 31).

The date of these happenings was, as far as we know about 145 B.C., and shows that the Zebaydia of 2,100 years ago were either widely dispersed in Western Arabia or were a folk with a taste for periodical migration. The land of "Amathis" is Lat. $32^{\circ} 42'$, Long. $35^{\circ} 40'$, i.e., East of the Jordan among the hills of Northern Gilead. The Demetrius referred to was Demetrius II who had just succeeded to the Syrian throne. It is clear that the Zabadicans were playing the immemorial two-faced game played by the Bedouins of Trans-Jordania throughout the chequered history of the district from the time of Abraham to that of Lawrence.

A short note on their town or Zebid may not be out of place. It is still one of the most considerable towns of Yemen and is famous for its university. It has the finest bazaar in Yemen, but has lost its weaving and dyeing industries, for which it was once renowned. Its importance in medieval times may be gauged from its prominence on the ancient maps. On Jacob van Meur's map of 1668 we find "Zibit" marked as a large district between "Aden Regnum" and "Theama" (the Tihama) with a capital town of the same name. Curiously enough on the same map we find a "Zibid" marked on the Western coast of the Red Sea on the same latitude as Assuan in the "Desertum Buge" or Beja desert. In Edward Wells' map of N.E. Africa, 1709, and again in d'Anville's famous map of 1749 Zibit or Zebid figures prominently, being the only large city marked in Western Arabia besides Mecca and Medina. In d'Anville's map it is shown about 50 miles N.E. of Hodeida.

The roving of the Zebaydia in the last 2,000 years would therefore appear to cover the Yemen, north trans-Jordania, the desert East of Assuan, the Eastern Sudan, Wadai and Bornu. It is no wonder that their camels have an unrivalled reputation for stamina.

D. NEWBOLD.

THE ETHIOPIAN ANT-LION.

The Antiquaries Journal for October, 1923 contains a very interesting article by G. C. Druce, F.S.A., on the Ethiopian Ant-Lion, or *μυρμηκολέων*. This creature, which is found in great numbers in the sandy parts of the Sudan, is the *Palpares Libelluloides* of Linnaeus. In its larval form it is upwards of $\frac{3}{4}$ inch in length with a big repulsive head and jaws. It develops into a beautiful lacewinged dragonfly between 4 and 5 inches across the wings. Its method of capturing ants must be familiar to many readers of this Journal. It hollows out a saucerlike depression in which it buries itself. The ants fall over the edge and as they try to climb up the loose sand it flings spurts of sand on them to exhaust them and finally seizes them with its pincer-like horns.

The literary references to this curious creature are legion. It figures in many of the medieval Bestiaries, and Mr. Druce has traced its path through Latin, early French, Greek, Arabic, Syrian, Armenian and Ethiopian texts. The Western M.S.S. (Latin and French), e.g., the rhymed Bestiaries of Philip de Thaun and Guillaume le clerc, 12 and 13 cents., describe the ant-lion as a very little animal but of a surpassing ferocity, whence its name. Its first appearance is in the Old Testament, Job. iv, 11, but only in the Greek text, *μυρμηκολέων ὄλετο παρὰ τὸ μὴ εἶναι βορρὴν*. In the vulgate it reads as: "Tigris perit, eo quod non haberet praedam": while the Authorised and Revised Versions have, "The old lion perisheth for lack of prey." Gregory in his *Moralia* on Job employs the Ant-Lion as a peg whereon to hang sundry obscure and tenuous moralisations, even using it to signify the Apostate Angel who ensnares the righteous, as the ant-lion lies in ambush for the ants.

The Eastern Bestiaries, however, true to their environment, sacrificed accuracy to imagination and between them evolved a hybrid beast that deserves to rank with the phoenix and the hippogriff. They followed Gregory's example in making a didactic use of it. One Greek text, for instance, runs:—

"Heading: about the Ant-Lion

"Eliphaz the Themanite says: 'The Ant-Lion perisheth for lack of prey.' It has the fore-parts of a lion and the hind-parts of an ant: so that it cannot eat flesh, because of the nature of its mother, or herbs because of the nature of its father, and thus it perisheth for lack of food. Thus every man who is double-minded is unstable in all his ways."

These Eastern MSS. are no earlier than the Western Texts of 12th and 13th centuries which describe the animal properly, but they undoubtedly reflect a very much earlier legend, which first found expression in Herodotus 5th century B.C.). Herodotus describes Indian ants larger than foxes, living

in the desert, and making sandheaps out of a sand which contains gold. The Indians, he says, carry off this valuable sand in sacks on swift camels in the noontide heat, when the gigantic ants have relaxed their vigilance and are taking their siesta underground.

This story was repeated by Nearchus (4th century B.C.) and Megasthenes (3rd century B.C.) and their versions are given by Strabo (1st century B.C.) Book xv, ch. i, 44. Pliny, Aelian, Arrian, Dion Chrystostom, etc. all mention these ants, giving them horns, skins like leopards, etc. Solinus (A.D. 80) changes their habitat to Ethiopia, and to the confusion of the reader this fabulous ant reappears in the medieval Bestiaries alongside the little ant-lion of the West. Philip de Thaun (c. 1121) for example has the heading "Et est quedam manieres formicarum in "Ethiopia in modum canum" and the second line of the poem runs :—

"En Ethiopie en sunt ki del gran deceu sunt"

"del gran deceu" — de la grandeur de chien. Manuscripts of Guillaume le Clerc (13th century) have illustrations of the fable which mostly show the Ethiopian Ants like terriers or "pi-dogs" attacking men. In these illustrations they are shown as yellow, while in those of the two Anglo-Saxon MSS. known as Cotton Tiberius Bv and Cotton Vitellius A xv, dating from the latter part of the 10th century, the ants are portrayed as red and black, with feet like locusts, devouring orange-red camels. Sir John de Maundeville was, as might be expected, greatly attracted by the Munchausen-like story of titanic ants guarding sandhills of gold and reproduces the fable in his "Voyage and Travail" of 1568, laying the scene in Ceylon. "In the yle is a great hyll of golde that pismyres kepe, and the pismyres are as great as houndes."

The explanation of the whole story is not easy. There probably was in India a burrowing four-footed animal resembling a lion, which may have acquired the name of "ant-lion," and have been the original of the Murmecoelon of the Septuagint, and eventually become confused with the insect proper of the same name. How it became transferred to Ethiopia by Solinus we cannot tell, but he must have heard stories of some Sudanese animal, possibly the aardvark, which justified his so doing.

D. NEWBOLD.

[Mr. H. H. King sends the following note on the Ant-Lion :—

The Ant-Lions (sub-form *Mymreleonides*, Nat. Order *Neuroptera*) are distinct from the dragon flies. The latter are aquatic in their larval stages and diurnal and rapid strong fliers, when adult. The Ant-lions in the adult stage are mainly crepuscular and have a weak fluttering flight. There are a number

of species in the Sudan, but none of the specimens in the Sudan Government collection have been determined. The largest species here has a wing expanse of over 5 inches.

The food of the larvæ does not consist entirely of ants, but includes any small insect which falls into the pits. The victim is seized in the long, curved mandibles, and its body juices sucked out and conveyed along the grooves in the mandibles to the oesophagus of the larval ant-lion. The dry carcass of the insect is then jerked out of the pit. The habit formed by the larval ant-lion of jerking sand on to an insect endeavouring to climb up the sides of the pit would appear to be for the purpose of bringing it to the bottom of the pit and into the ant-lion's jaws, rather than exhausting it.]

MORE NOTES ON TEBELDIS.

The article on *Tebeldis* (Baobab Trees) by Mr. H. S. Blunt on p. 114 of the July 1923 issue of *Notes and Records* interested me as it contained much that was taken almost verbatim from a paper on *Tebeldis*, which I wrote for him in October, 1921. To his use of this paper I would have had no objection had he not made various alterations, with some of which I have no quarrel, but others of which have so altered the sense, that I feel impelled to give my own version. I also add a few extra notes which may be of interest. It is, incidentally, curious that more has not been written concerning the *tebelidi*. It is a tree unique in many respects, and as I noted in my paper quoted by Mr. Blunt, it is of interest to the geologist and archaeologist as well as to the forester.

Distribution.—The *tebelidi* zone mentioned by Mr. Blunt is inaccurate. If it is meant to describe the Kordofan zone alone, it is too narrow, as *tebeldis* are found as far North as Lat. $15^{\circ} 15'$. They are numerous, for instance North East of Abu Busma in Dar el Kababish and finally fade out near Jebel el Tulubba. If this belt is meant, however, to indicate their African distribution, as appears from the context, it is ludicrous, as they occur up to North Latitude 18° , e.g., in the El Hodh depression of the Western Sahara—Ibn Batuta also relates how water was stored in them in the 14th century on the journey from Morocco to the Niger—and South of the Equator at Mombassa, apart from the South African specimens. The real axis of their belt may be said to run between Lats. 5° N. and 15° N. They are found in Gambia, where, it is believed, they gave their local name, "sita," to the Stachir, Ptolemy's name for the river Gambia in the 2nd century A.D.: in Sierra Leone, where their fibre is used for native medicine and for paper pulp: the Gold Coast territories where the

North Western Ashanti use the fruit to flavour soup, and where it grows on open rocky ground as in Dar el Kababish, and the wood fibre realises from £9-£10 a ton : in Togoland, where it is called *Adido* in the Ewe tongue and *Kuka* in Hausa : in the Cameroons : in Nigeria, where it has a wide distribution, viz. :—(i) Onitsha and Abeokuta provinces, in which, while not reaching a height of more than 40-60 feet, it achieves a girth of 30-40 feet ; (ii) Southern Bornu, where it is found in great numbers and of vast size, and its bark used for string and its leaves are cooked to season soup ; (iii) Kano ; and (iv) Yola, where poultices of its leaves crushed in hot water are used for healing circumcision wounds.

History.—I disagree with Mr. Blunt as to the age of individual trees, for various reasons. I cannot believe that a tree which soon becomes a hollow shell and is admittedly shallow-rooted could stand 2,000 Kordofan *kharifs* with their gales and storms. The desiccation argument is inconclusive, as it yet remains to be proved that the country is really drying up or that there has been any appreciable climatic change in the last 5,000 years. I hope shortly to treat this subject of desiccation fully as far as it concerns the early history of the Northern Sudan. At the same time, I admit that the fact that there are no self-sown young *tebeldis* in Kordofan is awkward to get over, and that there are analogies for such longevity in the giant sequoias of California, for which a fairly accurate graph of growth has been evolved from correlation of the rings with rainfall statistics, and for some of which an age of 4,000 years is claimed on really credible evidence. Climatic and soil conditions are, however, different there, and I consider that the age of the *tebeldis* must be left "adhuc sub judice." Local traditions are too nebulous to be helpful, (1) and the Hamar yarns about their antiquity really crystallise into nothing more than that no germination of seeds has been noticed for several generations.

Nomenclature.—The only tangible data we have locally, i.e., the names given to the waterholding trees by the Arabs, a list of which I gave to Mr. Blunt, tend to disprove a hoary past as far as individual trees are concerned, as there is no non-Arabic name in all the long roll of titles. I cannot guarantee this beyond refutation as the village lists contain in all some 30,000 names usually written in the vile calligraphy of a myopic fiki, but I have checked a goodly percentage and did not find a single name that could not be assigned to

(1) Except one quoted by F. Migeod in J.R.A.I., Vol. 52, 1922, p. 255, that a baobab tree at the ruined palace of the Mai of Ngala (Mai — Sultan, and Ngala are a people South of Lake Chad) is grown out of the head of one Kamata, said to be buried there. It is known that Kamata died about A.D. 1600, and the tree is now about 4 feet in diameter. No conclusive arguments, however, can be drawn from this, as it may be a stunted specimen, like many of those growing on the hillsides in Northern Kordofan.

an Arabic derivative. Were any of the bigger or more famous trees 1,000 years old as is suggested it is likely that at least a few Birged or other "rotana" names would have survived, especially as there is a fair sprinkling of pre-Arabic place-names in North-Central Kordofan.

The derivation of the word "tebeli" itself is doubtful, but in default of secure evidence, I am inclined to place it as a Berber word. It certainly is not Arabic and the "te-" prefix looks Hamitic. I have no idea what the second half of the word means, but it may be connected with Belbelday, a place name at Jebel Haraza in Northern Kordofan. The derivation of the word "Laqai", which denotes that type of tree which is self-filling by reason of its upper branches tilting the rain into its hollow interior, may also be from one of the Berber dialects, as the Berber root LGH means "well" or water-supply, and appears in several North African place names, both ancient, *e.g.*, Telgae, and modern, *e.g.*, Laghouat.

It would be of interest to trace the origin of the place-name "Tibeldera" which appears on Jacob van Meurs' map of Africa, 1668, South of "Borno Lacus" which is presumably Lake Chad, and reappears on d'Anville's map of 1749 as M. Tubeldeira in the Kingdom of Kauga, S.W. of Lacus Chelonides, which has been identified with Nekheila Oasis, near Bir Natrun in Dongola, and East of "Karneh, capital of Bornu." This makes it probable that the name was brought to Kordofan from Bornu during one of the early Berber invasions from the west, either by the Garamantes or their medieval successors the later Tibbu races. A search through the Arabian geographers and the Bornu and Wadaian MSS. would probably throw light on the darkness and it would also be profitable to know the native word for tebeli in the various Tuareg dialects and in Kanuri. Just as the yew has set its mark on early English history, from the trees that flanked the Roman roads to the bows that won the battle of Crecy, so the tebeli guards within its hoary growth the chequered history of Libyan, Berber, Nuba and Arab as they passed and re-passed over the rolling parklands of Kordofan and Darfur.

D. NEWBOLD.

TWO NOTES ON IRON IMPLEMENTS WITH MAGIC PROPERTIES.

[The amount of superstition associated with iron all over the world is enormous. Readers of the two notes below are reminded of Mr. MacMichael's remarks on iron implements in the Northern Hills of Kordofan (*v. Tribes of Northern and Central Kordofan*, p. 91, n. 3).—Ed.]

I.—WESTERN BAHR EL GHAZAL.

Mr. A. P. Thomson of the Nile Congo Divide Syndicate has sent photographs which we regret we are unable to reproduce of two spear heads and a hoe found at Jebel Sombo in Western Bahr-el-Ghazal.

The position of this Jebel on the maps is shown inaccurately ; it should be approximately $8^{\circ} 45' \text{ N. } 24^{\circ} 50' \text{ E.}$

The instruments were found under a stone in the mouth of a cave at the foot of the hill. There was a number of other spearheads and hoes but the natives showed great agitation at the removal of them all and therefore Mr. Thomson merely took samples. The natives declared their belief that these tools had been placed there by Divine intervention as a guide to them to show where iron ore was to be found, so that they could smelt it and make their weapons of offence and implements of agriculture.

The hoe is of a size and shape which as far as we know are not used in the Sudan. It is 49 cm. long and 15 cm. broad from a point a little lower than the middle curves slightly forward.

The spears are 36 cm. long $\times$ 2.5 cm. broad at the broadest part and appear to have slight ornamentation at the neck as if an attempt had been made to reproduce the whipped cord binding which is used to fasten the head of the more primitive spear to the haft

II.—NORTHERN DARFUR.

At Gella on the Northern edge of the Furnung hills in Northern Darfur, about 500 yards North of the village, and near the only dom palm that I know of in the district, there are two large rocks each about 6 feet long. Between the rocks and covered with dead grass is a solid iron spear of rough workmanship.

It is regarded by the Tunjur-Fur of those parts with some fear ; and only the " owner " is in the habit of approaching it. The present " owner " Suliman Abd el nebhi says it has descended in his family from father to son since time immemorial.

The villagers of Gella gave me the following information with regard to the spear :—

Unauthorised people, and especially children, who rashly approach too near, are liable to be struck by it with various ills, such as fever and inability to pass water. These ills can only be removed by the " owner," who goes and appeases it by saying " O my fathers and ancestors, rest quiet and do not make trouble."

Its most valuable property is that it can ensure good rains. Towards the end of summer, when the rains are due, it will be found one morning stuck in the ground with the head pointing obliquely upwards in an Easterly direction. Then is the time for the "owner" to sacrifice a sheep to it, the villagers standing at a respectful distance. If this sacrifice is neglected, the ancestors will be insulted and withhold the rains.

It is said that at unpropitious times it is impossible to get the spear out of its hiding-place between the rocks.

I have been told by Musa Um Ruddus the Fur shartai of Jebel Si also in Northern Darfur, that there is an exactly similar spear with the same powers at the base of Jebel Si itself, but I have not yet had an opportunity to go and see it.

A. J. A.

THE TRUTH DIVINER (AMONGST THE AGAR DINKAS).

When I first arrived in the Agar country and began to hear their numerous disputes about their cattle I decided that it would never be possible, on my own, to get to the truth of matters. To seek advice from the locals I soon learnt was most inadvisable, as they were nearly all interested, or concerned, in every case, in one way or another, and I therefore lent a somewhat ready ear to the suggestion, made by my Dinka interpreter, that the "WATER TEST" should be tried. When we went further into details I was very averse to embarking upon it, as it appeared to me to be pandering to the already highly developed fondness of the Dinka for all things magical and tending to witchcraft. Matters however came to such a pass at times when "A" would swear WHITE and "B" would swear BLACK (witnesses for both sides being equal) that, having been driven almost frantic, I decided that we would see what water would do. In any event water is well worth applying to most Dinkas. Both litigants appeared to welcome the idea and each breathed defiance at the other, at the same time making sweeping boasts as to what would happen at the coming contest. The basis of the lawsuit might have been that Malwal Majok's father, when Malwal was yet a boy, married the daughter of Ual Kojang and paid as dowry 8 cows and 2 bulls. These cattle have now increased to 50 head and as yet Ual has not paid any "AROWAK" (which is a percentage of the increase), back to Malwal, as is customary when the cattle are fruitful and multiply. Ual's son disputes this (the son's name being Aketch—Ual having died), and swears that all Malwal's father's dowry died from cattle disease

during the first year of the marriage. No daylight at all can be seen as both sides lie in the most approved and orthodox style, even the party which I imagine is in the right beating all previously known records in its efforts to keep well ahead. So the case is adjourned for the "Water Test," the two principals to go without food until they take their places in the arena the next day. This is very necessary owing to the peculiar nature of the contest. I have known occasions on which, having warned the two litigants for the "Water Test," one or other of them (usually an important man with due respect for the working of his digestive organs) has at once produced a substitute whom he declares is the very man for the job, being well up in the details of the case and, as far as I could make out, "trained to a hair." I rather suspected at times that there existed professionals for this manly sport. Sometimes, if the man to be substituted was old or feeble, I accepted the substitute.

At perhaps 4 p.m. on the following day, the two principals, very literally stripped for the fray, complete with seconds and backers, turn up in company with the referee who is known locally as "THIEPP ATIEDA" or medicine man. A ring is formed, there being a large assembly of the local nobility and gentry to see the bout. Each principal hands over a goat as his fee to the referee and then the warriors take up their positions in the "ring." Unlike the ordinary "RING," here we have each principal seconded by an old woman and the usual small sponging basin in the corner is supplanted by a large pannikin prepared with many small holes in its bottom, which is placed in front of each of the combatants. The bottles of water used to slake the throats of the perspiring boxers are displaced by large-sized sanitary buckets brimfull of water, standing alongside the two principals. The usual sponges are small gourds to be employed as cups, and the gloves take the form of a seed of a tree, about the size of a ground nut, named "THIEPP," and with that seed they "fight." One "THIEPP" is placed in the mouth of each of the principals by the medicine man and is swallowed at once. In giving them the seed the medicine man adjures the seed as follows:—"Now Thiapp, I put you in in this man's stomach. If he is a liar you must remain there. If he is in the right you must come out."

"Time" is called, and the two seconds, instead of leaving the ring, at once start to pour water into their respective principals as fast as possible. It is a disgusting sight as may well be imagined when it is understood that the whole idea lies in the winner being the first man who can bring up the seed. Their stomachs distend to a perfectly alarming extent (I have seen them polish off six sanitary buckets of water between them in the short space of one hour) and they do almost everything they can to get rid of the seed without producing it through their ears. Each time one of them gets in a straight left, in the shape

of a regular cascade of water from his mouth into his pannikin, there are gasps of excitement from the audience. They (the onlookers) obviously expect his opponent to "take the count" right away. The referee walks round stirring about in the pannikin in case one of them is "counted out" by his adversary bringing up the seed. And so the contest goes on.

It may last for over two hours before one of them produces his seed or before one or both of them, by mutual consent "throws in the sponge."

In the latter case they are both declared to be liars and the contest is a draw, but in the case of the seed being produced, the partisans of the victor give vent to much noise and mutual congratulations and at once proceed to tackle the District Commissioner regarding the prize money, in the shape of the cattle involved. The result of the contest is entered up in the native case book.

It is very extraordinary and uncanny (but may perhaps be attributed to this being a conscience trial) that in nearly every case the man who was considered by the less unreliable of the locals to have right on his side, has won at the "water test." On some occasions such a man has lost, but the Agars have never been known to dispute the award of "THIEPP." It is apparently all in the day's work, if the Agars can be said to know much about such a futile way of killing time.

One man in whom I placed considerable trust lost at the "water test" and afterwards told me "I thought that I was right but I must have been wrong."

This mode of trial was in vogue amongst other neighbouring tribes, including the Niam Niam peoples, before the coming of the government, but with them of late years it has fallen into disuse, and despite its being at present of very real assistance to a District Commissioner among the Agars, it is, I hope, a practice which will be superseded before long by more normal and cleaner methods of establishing the truth.

M. GLASBROOK RICHARDS,

(Bimbashi),

late District Commissioner Rumbek District.

CORRESPONDENCE.

In a footnote on p. 205 of the last number of *Sudan Notes and Records* it is stated that the date 917 A.H. (A.D. 1511) given in the "Tabagat Wad Dayf Allah" for the death of Sk. Ajib el Mangaluk is not correct.

The name Ajib was a genuine one and Wad Ajib became the family name.

Cadabrene, who had access to an unpublished history of Kordofan which was compiled by Dr. Koenig in El Obeid about 1921, states that Ajib el Kafouti who had ruled Kordofan previously, died and was buried at Jebel Gerri in A. D. 1474 (circa 880 A.H.) or prior to the destruction of Soba.

This date does not appear to be correct, but 1511 is more accurate than 1604-1611.

If the Sennar History is correct Abdalla Gumaa was an old man in 1563.

I suggest that the Sk. Amara wad Ajib who is given in the tribal lists as the successor of Abdalla Gumaa was a grandson and not a son.

The Othman wad Agib alluded to may have been an uncle of Agib wad Arabi wad Agib, and the ancestor of the Amara Arabs who was Fung resident at Suakin prior to 1520.

A. E. ROBINSON.

In your December number of 1923 I notice that Herr Skovgaard would be glad of information regarding the White and Black Stork. I hope the following may be of interest to that gentleman.

During the months of February and March of 1912 and 1913 I was travelling along the western margin of the Nile swamps between Shambe and the Bahr el Ghazal and saw quite a number of breeding colonies of these birds, principally of the white stork, and incidentally of the Marabout and Pelican.

None of these birds as far as I observed appear to nest in the Forest country and it was not until I reached the rather treeless country to the north of Hillet Nuer that I came across any colonies or even isolated nests. Both storks, marabouts and pelicans occupy the same tree or clump of trees usually tall Kuk trees, though occasionally I noticed marabout nesting on small trees, quite close to and even in the villages, quite unmolested by the natives (Nuers).

The nests are built generally in the topmost branches and are closely crowded together. The young birds hopping around apparently from nest to nest in seeming confusion. I saw a few nests of the saddle-billed stork but these were solitary nests and quite isolated from the others.

During the four years preceeding the war which I spent in almost constant travelling on and in the neighbourhood of the Bahr el Jebel, Bahr el Zaraf, Bahr el Ghazal, Baro and Pibor, the above mentioned were the only colonies I saw of either storks, marabouts or pelicans. I enclose a few photographs which may be of interest to Herr Skovgaard should you care to send them to him.

R. H. WILLAN,
Late Sudan Irrigation Service.

SUDAN NOTES AND RECORDS.

Volume VII.

No. 2.

EDITORIAL.

Many tributes have been paid here and elsewhere to the memory of Sir Lee Stack, and many more will doubtless be paid hereafter. In the Sudan, as we are well aware, there was no institution or cause deserving his support which looked for it in vain. But little of the good he did will ever be made public, and he would prefer it so. In these pages we will confine ourselves to reminding our readers of the very intimate part which he played in the first inception of this publication.

It was, if we remember rightly, in the beginning of 1917 and shortly after Sir Lee had become responsible for the Government of this country, that the idea of such a publication was mooted by Sir Edgar Bonham-Carter. It was felt that year by year much valuable information was lost or buried in inaccessible files because there was no convenient medium for recording it in the country, and it was hoped that the institution of a magazine would not only preserve what had been already collected but would stimulate readers to explore the field before them more deeply and more systematically, and so aid in the understanding of the people of the country.

These ideas appealed to Sir Lee Stack, and he gave practical proof of his sympathy by presiding in the Palace over a general meeting to which all were invited who took any interest in the project. At this meeting a Committee was appointed to arrange for the proposed publication and Sir Lee Stack consented to become our Patron.

The writer can bear witness that the interest thus shown in the start of our magazine never flagged, and that on many occasions the late Governor-General encouraged us by his generous appreciation of the character and contents of successive numbers.

In a word, the assistance which he gave us was of a piece with all else that he gave the country.

We are glad to be able to announce that Sir Geoffrey Archer has consented to become Patron of "Sudan Notes and Records" in succession to the late Sir Lee Stack.

We quote overleaf his letter of acceptance. It speaks for itself and we hope that the principles laid down therein will be appreciated by our readers and that the wish contained in the last paragraph may be duly realised.

The Chairman,
General Committee,

GOVERNOR GENERAL'S OFFICE,
KHARTOUM.

"Sudan Notes and Records."

27th February, 1925.

I am greatly honoured by your request that I should become Patron of "Sudan Notes and Records" and I accept with pleasure.

I should like to associate myself entirely with the remarks of Sir Reginald Wingate in his admirable foreword to the first publication, and I wish "Sudan Notes and Records" continued success in the future.

I need not enlarge on the value of recording in this manner the customs and beliefs of the people of the country. A sympathetic understanding of their social systems, a knowledge of local dialects, an ability to lead through tact and patience rather than to rule through the sanction of power are first essentials of successful native administration; and I appreciate that they will be encouraged and fostered by your publication.

At present, owing to the vast extent of the country and in the absence of any collective and systematic research it rests with the individual official to supply and record in so far as possible the valuable information which his experience gives him.

I would urge therefore on all officials of the Government in spite of the calls on their time which I realize are many to contribute to "Sudan Notes and Records" and so to sustain its interest and value.

G. F. ARCHER,
Governor General.

The present number completes the seventh volume of "Sudan Notes and Records," and the event justifies a few words of retrospect. We began life in 1918 as a quarterly magazine printed in Cairo at the French Institute of Oriental Archaeology. In 1920 we found the inconvenience and cost of printing in Cairo so great that we decided to print in Khartoum at the Sudan Printing Press. Three years later we moved from the Sudan Printing Press to the Hadara, which was acquired in 1924 by Messrs. McCorquodale & Co., Ltd. The transfer of the whole of the printing business of the Sudan Press to Messrs. McCorquodale's inevitably interfered with normal rates of production and this followed by the recent political incidents deferred the appearance of the July number to December, and of this (the December number) to now. An even further delay has been occasioned at the last moment by the fact that press of Government work has prevented Messrs. McCorquodale from printing this number for over two months from the date on which they received it. For this we offer our apologies to and claim the indulgence of our subscribers.

Even this catalogue does not exhaust the tale of our changes: we began with quarterly issues, but finding the business of bringing out quarterly numbers especially in the leave season too heavy, decided on a half-yearly issue in 1922.

The changes which have been mentioned have concerned external matters only. The objects with which we started forth, we have continued to pursue to the best of our ability. Sir Reginald Wingate contributed a Foreword to the first number of "Sudan Notes and Records," and a glance at the contents of our last number in the light of his exhortation will show how consistent we have been. He drew special attention to one corner in the wide field of research in the following words: "The creeds, the superstitions and the folk-lore of primitive tribesmen are subjects of the deepest interest in themselves and, apart from their anthropological and ethnological values, are of importance as contributing to that sympathetic comprehension of the people and their mentality which is so essential to a successful administrator. There are, I think, few branches of research requiring more time and patience, more tact and conscientious application, than this: nor in view of the rapid spread of new ideas, with changed conditions and material advancement, is it a branch of study which can safely be deferred indefinitely."

Since these words were written, a goodly number of the articles contributed to this paper have been devoted to this particular field. We are duly grateful for these contributions, but we would point out that "the rapid spread of new ideas, with changed conditions and material advancement," to which Sir Reginald Wingate referred, has increased at such a rate that there are few provinces which are not involved in some scheme of development, and we know only too well that new ideas are spreading ever wider and wider afield. The pre-war conditions in the Sudan which lingered on throughout the war, when this paper was first started, are rapidly becoming things of the past. The need for intensive work is all the greater, and at the same time the writers who contributed most to the early numbers have either left the country or reached positions which render it increasingly difficult for them to carry out any inquiries which lie outside the scope of immediate duties. The Committee, therefore, decides to reiterate upon the younger generation of officials the gospel as they received it from Sir Reginald Wingate.

Not only are things disappearing day by day, but the process of their disappearance will be easy or difficult, safe or dangerous, in proportion as those who have to watch over it possess tact and sympathy. The response which has been made to us in the past has been so ready that we are confident our appeal will not be in vain.

We should like to quote in this connection some very cogent sentences from the prologue of the first number of the *Indian Forester*, which is just completing its fiftieth anniversary. In this number of July, 1875 the founders, Sir William Schlich (then Conservator of Forests Bengal) and the late B. H. Baden-Powell (Officiating Inspector-General of Forests) wrote :—

“ Our object is to supply a medium for the inter-communication of ideas and the record of observations and experiments, as well as to catch all stray fragments of information all facts and data. . . . We are suppliants at the threshold of every temple of Government. . . . Above all we want steady contributors. . . . Many forest officers feel, and naturally so, that they have no time for writing. Others feel that they have no facility with the pen, and perhaps too modestly imagine they can do nothing to help. . . . While every number ought to contain a fair proportion of leisurely written and detailed matter, that share of the work must necessarily be handed over to those who have the gift for writing, and who have the necessary literary machinery in the shape of books of reference to assist them. But the only value of a periodical of this sort will not consist in its containing elaborate essays. A large portion of it should be devoted to “ Scraps ” and to brief “ Notes and Queries. ” Every forest officer who is worthy of the name keeps a note-book, and as some new fact or some new experience comes to his notice, or some ‘ happy thought ’ tending to the facilitation of some portion of his work, flashes across his mind, he will make a rough note of it. . . . And here is the line for the forest officer who loves not the desk and blotting-paper. Send us on, then, rough and artificial, from your note-book jottings. A diamond, even uncut, is a diamond still, and even if we cannot always have a diamond, we can have a crystal, and that is a very good thing in its way. . . . ”

These words, though addressed to forest officers in India, apply *mutatis mutandis*, to readers of “ Sudan Notes and Records ” equally well, and we hope they will be digested by all those officials, of the political and departmental services alike, who, by virtue of their appointment or experience, have been able or are in a position to garner fresh knowledge from the wayside, whether it be on birds, beasts or fishes, stones, plants or trees, weapons, crafts or language, custom, history or tradition, and to fulfil anew the ancient Greek proverb which was preserved by Aristotle “ ἀπὸ γέγονε τὸ Λιβύῃ καὶ νῦν ” and which reappears in Roman times as “ Ex Africa semper aliquid novi.”

NOTE ON FRAZER'S FOLK LORE IN THE OLD TESTAMENT.

By SIR EDGAR BONHAM-CARTER.

This work which was published in 1919 cannot fail to be of enthralling interest to residents in the Sudan who are in touch with tribal customs or folklore. The three volumes each of 500 pages contain a mass of examples of primitive customs and folklore from all parts of the world, and a large proportion of these examples are drawn from Africa. Yet the references to the Sudan are rare, and are drawn for the most part from works published before the Mahdi's rebellion. It could not be otherwise, seeing that serious students of the anthropology of the Sudan have been few in number, and little of the results of their studies has been published. The reader of these volumes, who has even a slight acquaintance with the customs of some of the Sudan tribes will be struck with the wideness of the field of research which presents itself to any resident amongst the more primitive races who cares to devote some portion of his time to it. A selection has been made in this *Note* of passages in the work which contain references to the Sudan or which describe customs or folklore, parallels to which exist or are likely to exist in the Sudan. The selection is not exhaustive, and indeed could be added to almost indefinitely. A few illustrations of such customs and folk lore which came to the notice of the writer of this *Note*, while he was resident in the Sudan have been added. It will be interesting if any of your readers will furnish other illustrations of the extremely interesting customs and folklore so graphically described in this monumental work.

PART I.

CHAPTER I.

THE CREATION OF MAN.

Sir J. G. Frazer has collected a large number of examples of the traditions of primitive tribes as to the creation of man. He points out that they illustrate two very different views which primitive man has taken of his own origin, and which may be distinguished as the theory of creation and the theory of evolution.

"According to the one, the human race was fashioned in its present form by a great artificer, whether a God, or a hero: according to the other, it was evolved by a natural process out of lower forms of animal or even vegetable life."

African Tribes do not seem to have felt the same interest in the origin of the human race as tribes in some other parts of the world, such as the American Indians or the Australians, but the author gives the following account of the tradition existing amongst the Shilluk of the White Nile as to their origin. (Vol. I, p. 22, 23.)

Turning now to Africa, we find the legend of the creation of mankind out of clay among the Shilluk of the White Nile, who ingeniously explain the different complexion of the various races by the differently coloured clays out of which they were fashioned. They say that the creator Juok moulded all men out of earth, and that while he was engaged in the work of creation he wandered about the world. In the land of the whites he found a pure white earth or sand, and out of it he shaped white men. Then he came to the land of Egypt and out of the mud of the Nile he made red or brown men. Lastly, he came to the land of the Shilluk, and finding there black earth he created black men out of it. The way in which he modelled men was this. He took a lump of earth and said to himself, "I will make man, but he must be able to walk and to run and to go out into the fields, so I will give him two long legs like the flamingo." Having done so, he thought again: "The man must be able to cultivate his millet, so I will give him two arms, one to hold the hoe, and the other to tear up weeds," so he gave him two arms. Then he thought again, "The man must be able to see his millet, so I will give him two eyes." He did so accordingly. Next he thought to himself, "The man must be able to eat his millet, so I will give him a mouth," and a mouth he gave him accordingly. Lastly, the deity said to himself, "The man must be able to hear the noise of the dance and the speech of great men, and for that he needs two ears," so two ears he gave him and sent him out into the world a perfect man.

So also the Fans and the Ewe-speaking tribes of Togoland in West Africa, think that God created man out of clay.

On the other hand, some African tribes have traditions that the human race was produced by evolution from animals. Thus the Wanika of East Africa look upon the hyaena as one of their ancestors, or as associated in some way with their origin and destiny. While amongst the Tshi-speaking tribes of the Gold Coast, the Horse Mackerel family traces its descent from a real horse mackerel whom an ancestor of theirs once took to wife.

PART I.

CHAPTER II.

THE ORIGIN OF DEATH.

Sir J. G. Frazer classifies traditions held by primitive tribes as to the origin of death under two heads, named by him, "The Story of the Perverted Message" and "The Story of the Cast Skin."

The Story of the Perverted Message seems to be an exclusively African tradition and is found in various forms in most parts of Africa, but the author gives no instances of it as occurring amongst the tribes of the Sudan. Thus the Hottentots say that once on a time the Moon wished to send to

mankind a message of immortality and the hare undertook to act as messenger; so the Moon charged him to go down to men and say, "As I die and rise to life again so shall you die, and rise to life again." Accordingly the hare went to men, but either out of forgetfulness or malice, he reversed the message and said "As I die and do not rise to life again, so you also shall die and not rise to life again."

According to another form of the story which is widely current amongst the Bantu tribes, death was caused not by the fault of the messenger, but by the vacillation of God himself, who after deciding to make men immortal, changed his mind and resolved to leave them or make them mortal; and unluckily for man the second messenger who bore the message of death over-ran the first messenger who bore the message of immortality. In this form of the tales, the chameleon figures as the messenger of life, and the lizard as the messenger of death.

The Story of the Cast Skin is found both in Africa and in other parts of the world.

"Many Savages," Sir J. G. Frazer writes, "believe that in virtue of the power of periodically casting their skins, certain animals and in particular serpents renew their youth and never die. Holding this belief, they tell stories to explain how it came about that these creatures obtained and men missed, the boon of immortality."

After giving a large number of examples of the story, Sir J. G. Frazer continues (Vol. I, p. 74-75):—

"In some stories of the origin of death the incidents of the perverted message and the cast skin are combined.

"Thus the Galla of East Africa attribute the mortality of man and the immortality of serpents to the mistake or malice of a certain bird which falsified the message of eternal life entrusted him by God. The creature which did this great wrong to our species is a black or dark blue bird, with a white patch on each wing and a crest on its head. It perches on the tops of trees and utters a wailing note like the bleating of a sheep; hence the Gallas call it 'holawaka' or 'the sheep of God' and explain its apparent anguish by the following tale.

"Once upon a time God sent that bird to tell men that they should not die, but that when they grew old and weak they should slip off their skins and so renew their youth. In order to authenticate the message God gave the bird a crest to serve as a badge of his high office. Well, off the bird set to deliver the glad tidings of immortality to man, but he had not gone far when he met with a snake devouring carrion in the path. The bird looked longingly at the carrion and said to the snake 'Give me some of the meat and blood, and I will tell you God's message'; 'I don't want to hear it,' said the snake tartly, and continued his meal.

" But the bird pressed him so to hear his message that the snake rather reluctantly consented. 'The message,' then said the bird, 'is this. When men grow old they will die, but when you grow old you will cast your skin and renew your youth.' That is why people grow old and die, but snakes crawl out of their old skins and renew their youth. But for this gross perversion of the message God punished the heedless or wicked bird with a painful internal malady, from which he suffers to this day; that is why he sits wailing on the tops of trees."

THE GREAT FLOOD.

After giving a very large number of instances from many parts of the world of a tradition of a universal flood, Sir J. G. Frazer writes :—

" It is curious that, while legends of a universal flood are widely spread over many parts of the world, they are hardly to be found at all in Africa. Indeed it may be doubted if throughout that vast continent a single genuine native tradition of a great flood has been recorded."

PART II.

CHAPTER I.

THE COVENANT OF ABRAHAM.

This chapter contains a large number of examples, many of them drawn from Africa, of the ceremonies of sacrifice at the making of a covenant or the swearing of an oath, in which the parties to the covenant or oath ratify it by killing an animal, cutting it in pieces, standing on the pieces, or passing between them and smearing the blood on their persons. The author explains these ceremonies on two different theories, the one of which he calls "the retributive theory" and the other "the sacramental or purificatory theory."

According to the retributive theory, the killing and cutting-up of the victim is symbolic of the retribution which will overtake the man who breaks the covenant or violates the oath; he, like the animal, will perish by a violent death.

According to the sacramental or purificatory theory, the parties to the agreement or oath obtain protection because the ceremony symbolizes that they are taken within the mystical life of the victim and thus become united to the animal and one another by the bond of a common blood. On this theory, the custom is a variant of the widespread practice known as the blood covenant.

CHAPTER II.

ULTIMOGENITURE.

The custom of ultimogeniture, that is to say, the right of the youngest son to succeed to his father's property or at least to the family residence

is to be found in many parts of the world. It still exists in certain parts of England under the name of Borough English, and is also found in other parts of Europe. The author has collected many examples of the custom from Asia. He gives few instances from Africa but amongst them mentions the usage amongst the Bogo of Abyssinia that the youngest son has the right to the empty house, and states that amongst the Nuer when the King dies he is succeeded by his youngest son. I recollect being informed that the custom is to be found in Kordofan, the youngest son having the right to succeed to the land cultivated by his father, but do not recollect the exact locality.

Sir J. G. Frazer gives the following explanation of the custom :—

" Surveying the instances of ultimogeniture as they meet us among the tribes of Asia and Africa, we may conclude that the custom is compatible with an agricultural as well as a pastoral life. Indeed the great majority of peoples who are known to observe ultimogeniture at the present day subsist mainly by agriculture. But the migratory system of agriculture which many of them follow is wasteful, and requires an extent of territory large out of all proportion to the population which it supports. As the sons of a family grow up, they successfully quit the parental abode and clear for themselves fresh fields in the forest or jungle, till only the youngest is left at home with his parents; he is therefore the natural support and guardian of his parents in their old age. This seems to be the simplest and most probable explanation of ultimogeniture, so far at least as it relates to the rights of the youngest sons."

This explanation was the one given of the right as observed in Kordofan. The eldest sons have left the family home and own their own land. The youngest son has been working on his father's land and very possibly may have assisted to clear it, or at least to re-clear it after its period of fallow, and being in possession remains in possession.

The so-called *jus primæ noctis* has been alleged by various writers to be the explanation of ultimogeniture. They suppose that preference is given to the youngest son owing to a doubt as to the legitimacy of the eldest. Sir J. G. Frazer examines the evidence for the existence of the *jus primæ noctis* and comes to the following conclusion :—

" The notion that the *jus primæ noctis* in Europe was a right which a feudal lord or ecclesiastical dignitary claimed of sleeping with the wives of his tenants or subordinates on their marriage night appears to be destitute alike of historical proof and of intrinsic probability. It is a monstrous fable born of ignorance, prejudice and confusion of ideas."

Sir J. G. Frazer comes to a similar conclusion with regard to the alleged connection between ultimogeniture and a supposed *jus primæ noctis* in countries other than Europe. He states that there is no positive proof that such a right has ever been recognized in any of the tribes which practise ultimogeniture.

"It is true," he continues (Vol. I, p. 534), "that a custom of entrusting the defloration of brides at marriage to men other than their husbands has undoubtedly been observed among not a few peoples, and that wherever such a usage prevails, it must necessarily throw doubt on the legitimacy of the eldest child born after marriage. But this custom cannot be accepted as the true or probable explanation of ultimogeniture, and that for two reasons: First, because the custom is not known to be observed by any of the peoples who practise ultimogeniture, and, second, because such a custom, though it might supply a plausible reason for preferring the second child to the first-born, could not explain the preference of the youngest to all his elder brothers and sisters, which is the characteristic feature of ultimogeniture."

In this connection it may be remarked that traces of the custom of entrusting the defloration of brides at marriage to men other than their husbands exist in Western Kordofan. The writer of this note recollects that in a trial on a charge of rape of a Mohammedan Arab from Nahud district it was proved that the accused was entrusted by his friend who had recently married with the defloration of the bride, and it was stated that this was in accordance with a prevailing custom.

CHAPTER VI.

JACOB'S MARRIAGE.

In this chapter the author shows that many races, while they strictly forbid the marriage of cousins, who are the children of two brothers or of two sisters (called by the author ortho-cousins), allow or even recommend marriage between cousins who are children of a brother and a sister respectively (cross-cousins), and gives reasons in explanation of this apparently illogical distinction.

The author shows that in many primitive tribes when a man wished to marry, it was the custom for him to exchange his daughters or sisters for the daughter or sister of another man, the custom originating in a low state of savagery where women had a high economic value as labourers, but where private property was yet at so rudimentary a stage that a man had practically no equivalent to give for a wife except another woman. He suggests that the same economic motive might lead the offspring of such unions, who would be cross-cousins, to marry each other, and thus in the easiest and most natural manner the custom of cross-cousin marriage would arise and be perpetuated.

The author also shows that in some primitive tribes the prohibition of the marriage of ortho-cousins is associated with the dual organization of the tribe into two exogamous classes, and that where a community is so organized, ortho-cousins, the children of two brothers or of two sisters, necessarily belong to the same exogamous class and are therefore prohibited

from marrying one another. And he gives strong reasons for the conclusion that where a tribe encourages marriages between cross-cousins and prohibits marriages between ortho-cousins, the reason for the prohibition of marriage between ortho-cousins is to be traced to the former dual organization of the tribe into two exogamous classes.

A section of the same chapter deals with the custom of cousin marriages amongst Arabs. According to the common custom which has been described above, marriage between ortho-cousins (the children of two brothers or two sisters) is prohibited, while marriage between cross-cousins (the children of a brother and sister respectively) is enjoined or favoured. Amongst Arabs, however, a different custom prevails. It is said to be one of the most widespread of Arab customs that a man has the first claim to the hand of his father's brother's daughter. The author gives examples of the custom amongst the Bedouins of El Hejaz, the Arabs of Sinai, the Egyptians, the Bisharin, the Arabs and Berbers of Morocco and the Mohammedans of Hausa. Amongst some Arabs a man also has a prior claim to the hand of his father's sister's daughter, but this does not seem to be general.

The custom that an Arab has the right to marry his first cousin is widely prevalent throughout the Sudan, but I am not aware whether the right is limited to the daughters of a man's father's brother or extends to the daughters of a man's father's sisters. Your readers can, no doubt, furnish information on this point.

One of the most striking cases in which I recollect coming across the custom was in the proceedings of a trial held by Burges Pasha many years ago when Inspector of Berber Province. Certain Ababdeh Arabs were charged with murder. The murder arose out of a blood feud between two sections of the tribe, which had been going on for several years, and in the course of which several men had been killed on each side. The origin of the feud had been a dispute as to the right to marry a girl, the owner of several camels. Her father had died and her mother had married again. Her father's brother's son claimed her in marriage, but her stepfather arranged that she should be promised in marriage to a man of his family. The dispute raged so fiercely that the girl was kept unmarried for many years. To establish his claim, the girl's cousin presented himself at the encampment where she was living with her mother and stepfather and performed a symbolical ceremony with a camel, which was described in the proceedings as a forced betrothal. Sir J. G. Frazer quotes from Burckhardt *Notes on the Bedouins and Wahabys*, Vol. I, p. 272, a somewhat similar ceremony as practised amongst the Arabs of Moab, when a man claims to marry his cousin and the father and girl refuse. Eventually the girl's cousin carried her off by force, but was pursued and compelled to hand over the girl as *amaneh* to a religious sheikh. As already stated,

the dispute led to fighting, in the course of which a man was killed. A blood feud was started, and several men were killed on both sides before the feud was settled. It is not without interest that the reason given why the dispute for the hand of the girl was so fierce, was not that she possessed special charm, as might be supposed by persons unfamiliar with Arab characteristics, but that she was a lady of wealth owning several camels.

I recollect also coming across the custom that a man has the right according to tribal custom to marry his first cousin amongst the Arabs of Eliri. A stalwart young Arab complained to me, while I was passing through Eliri, that he was entitled according to Arab custom to marry his cousin but that the girl's mother and the girl herself refused. The girl and her mother were brought before me, but both refused the suit of the young man.

In Mesopotamia the right according to tribal law of a man to marry his first cousin is well-established and is strongly maintained. It frequently happens, if a man's claim to his cousin's hand is ignored, and she marries someone else, that he kills her. The right is also recognized amongst the Kurds.

Father Anastase of Baghdad, the well-known Arabic scholar, informed me that the rule amongst the Arabs of Mesopotamia is that a man has the right to the hand of his ortho-cousin, *i.e.*, the daughter of his father's brother, but if he has no ortho-cousin, then he has the right to the hand of his cross-cousin, *i.e.*, his father's sister's daughter.

Considering how widely observed amongst Arabs is the custom that a man has the right to marry his ortho-cousin, it is somewhat remarkable that no similar rule is known to Mohammedan Religious Law.

Another interesting section of the same chapter (Chapter VI) deals with what the author describes as the customs of sororate and levirate, that is to say the custom which has been observed in many parts of the world of a man being allowed to marry all his wife's sisters, or even of being given a prior claim to their hands, and the custom which enjoins or allows a man to marry the widow of a deceased brother. The author gives reasons for supposing that these two customs are in origin connected and suggests that they are off-shoots from one common root, a system of group marriages in which all the husbands of each group were brothers and all the wives of the same group were sisters to each other but not to their husbands.

The author also suggests that the two customs may be connected with "a system of age grades, such as still exists in some savage tribes, notably in a group of East African tribes of which the Masai may be regarded as typical. Under such a system the whole community is divided into a series of groups according to age, and the transition from one group to another is commonly marked by certain ceremonies, which at the transition

from youth to adult years often take the form of severe and painful ordeals borne by the young people of both sexes before they are admitted to the full rights of manhood and womanhood, above all to the right of marriage." It appears that both in New Guinea and amongst the wilder tribes of Africa the institution is associated with a form of sexual communism, all the members of an age group exercising or claiming marital rights over the women of their own age grade, with the exception of such women as are barred to them by the laws of consanguinity or of exogamy.

PART III.

CHAPTER IX.

THE SIN OF A CENSUS.

Under the title "The Sin of a Census" Sir J. G. Frazer writes as follows: "From two well-known narratives in the Books of Samuel and Chronicles we learn that at one period of his career Jehovah cherished a singular antipathy to the taking of a census, which he appears to have regarded as a crime of even deeper dye than boiling milk or jumping on a threshold. The objection which Jehovah, or rather the Jews, entertained to the taking of a census appears to be simply a particular case of the general aversion which many ignorant people feel to allowing themselves, their cattle or possessions to be counted. This curious superstition—for such it is—seems to be common among the black races of Africa."

The author proceeds to give instances from the Bahongo of the Lower Congo, the Masai, Galla and other tribes of East Africa and from races in other parts of the world, including the Highlands of Scotland and Lincolnshire. The existence of the superstition in the Sudan has been described in past numbers of this Journal. To the writer of this note the superstition appears to be a very natural one and to be based on the feeling which exists both amongst primitive men and amongst many civilized men that it is unsafe to draw attention to possessions or qualities which the owner especially values for fear that it will cause the envy of some supernatural power or even of other men. If this is the correct explanation, the superstition has the same basis as that which is so widely held in Egypt and the Sudan that it is dangerous to praise any valuable possession such as the beauty of a child.

CHAPTER XV.

SACRED OAKS AND TEREBINTHS.

In Palestine and Syria oaks and terebinths are still often regarded with superstitious veneration by the peasantry, these sacred trees often standing in the vicinity of mosques or of the tombs or reputed tombs of Saints, but sometimes standing by themselves unconnected with any building or

burial place, in places which are supposed to have been visited by, or to be the existing dwelling place of the spirit of a *wely* (Saint). Sir J. G. Frazer concludes that the worship at the high places and green trees which pious Hebrew Kings forbade and prophets thundered against thousands of years ago, persists apparently in the same places to this day. He further suggests that in case of trees which are unconnected with any sanctuary, the veneration shown for such trees may in some cases be the survival of the worship, the Saint in such trees being neither more or less than an old heathen tree spirit.

There are many places in the Sudan in which trees or groves of trees are still regarded with superstitious veneration.

The writer of this note would expect to find that in Mohammedan regions such trees are always connected with Mosques or the tombs or reputed tombs of Saints, or to be supposed to have been visited by the Spirit of some well-known Saint, so that the tree is not in itself an object of worship, but derives its sanctity from the mosque or saint with which it is connected. It is not always realised that *koubbehs* in the Sudan are not always the burial places or supposed burial places of Saints, but are places which some devotee believes, or states that he believes to have been revealed to him as having been visited by the spirit of some Saint. Such a shrine existed and probably still exists on the outside of the garden of the house occupied by the writer of this note at Khartoum. The shrine which was much resorted to on the occasion of circumcisions was established since the re-occupation of Khartoum, and must have been a considerable source of profit to its attendants. It was situated on a mound of sand, under the shade of two or three wretched bushes. The writer of this note questioned the woman attendant as to its origin and was informed that it had been revealed to her or to some member of her family, the writer forgets which, as having been visited by the Saint. A few bricks, a *sir* of water and the burning of some candles had added verisimilitude to what might otherwise have been an unconvincing narrative. One of the writer's servants who had been cured of an illness by the Saint, described to him how one dark night he had seen the place a blaze of supernatural light.

The existence of tree worship amongst the Bedayat of Darfur, or of something very like it is described in a well-known passage of Slatin's "Fire and Sword in the Sudan," Popular Edition, p. 38.

"Under the widespread branches of an enormous *heglik* tree and on a spot kept beautifully clean and sprinkled with sand, the Bedayat beseech an unknown God to direct them in their undertakings, and to protect them from danger. They have also religious feasts at uncertain dates, when they ascend the hills and on the extreme summits, which are whitewashed they offer sacrifices of animals."

PART IV.

CHAPTER II.

NOT TO SEETHE A KID IN ITS MOTHER'S MILK.

It is suggested by Sir J. G. Frazer that the explanation of this command and of other restrictions amongst pastoral people is to be looked for in a belief in sympathetic magic, resulting in a fear that boiling a kid in its mother's milk or ignoring the restriction in question would cause injury to the cow. Reference is made to the practice of many African tribes, from which it appears that amongst pastoral tribes of Africa at the present day there is "a widely spread and deeply rooted aversion to boil the milk of their cattle, the aversion being founded on the belief that a cow whose milk has been boiled will yield no more milk, and that the animal may even die of the injury done to it."

The conception of a sympathetic bond between an animal and the milk which has been drawn from it is also advanced as explaining other rules observed by varying pastoral people such as the prohibition of washing out milk with vessels of water: the abstinence of certain pastoral tribes from washing themselves with water: the prohibition of milking cows into vessels made of certain materials such as metal or earthenware: the prohibition of menstruous women from drinking milk or approaching cattle: the prohibition of wounded men or women in childbirth from drinking milk, the prohibition of women from milking cows: the prohibition of mourners for a death from drinking milk: the prohibition against eating flesh and milk at the same time: the prohibition against eating the flesh of certain kinds of animals which it is considered might be injurious to the cattle. The author suggests that the Hebrew distinction of clean and unclean animals may be based on a classification of animals as they resemble or differ from domestic cattle, it being thought that the eating of animals different from domestic cattle and the consequent mixture in the stomachs of the eaters of the flesh of such animals with the flesh or milk of domestic cattle might be injurious to the latter.

The author also suggests that the custom amongst certain tribes in East Africa which prohibits sexual intercourse amongst the people remaining in the kraal while the cattle are at pasture and the custom amongst other tribes enjoining strict chastity on the part of the herdsmen are dictated primarily by a regard for the health of the cows which might be thought to suffer in themselves and in their milk from any breach of these rules.

Reference is made in this chapter to C. G. Seligman's researches amongst the Hadendoa and the Dinka (Vol. III, pp. 122, 135, 142).

CHAPTER V.

THE BITTER WATER.

This chapter contains a full account of the ordeal by poison as it is practised in Africa, Madagascar and India. The custom is widely spread in Africa. Sir J. G. Frazer writes :—

"In many parts of Africa it has been, and perhaps still is, customary to submit criminal charges, particularly accusations of witchcraft to the test of poison: the accused and sometimes the accusers also, are compelled to swallow a poisoned draught, and according to the result a verdict of guilty or not guilty is returned. As a rule, a man is declared innocent if he vomits up the poison, but guilty if he retains it or evacuates it by purging. Death from the effect of the poison is regarded as a sure sign of guilt, but often it is not awaited by the crowd of spectators, who as soon as it appears that the accused person cannot eject the poison in the approved fashion, rush on him and dispatch him with every symptom of rage and every refinement of cruelty."

Reference is made to the milder form of the ordeal as it is practised amongst the Azande.

"In the country of the Azande the ordeal assumes a milder form. The poison is usually administered in the first instance to fowls in order to discover the criminal, who, on being detected, must undergo the ordeal in his own person or pay the forfeit. Among the Abarambo, for example, the poison is given by the chief to three fowls, and a ritual dance follows, until the effect of the drug upon the birds becomes apparent. If only one of the fowls succumbs, there has been no witchcraft: but if two or three perish it is a clear case of sorcery." (Vol. III, p. 355.)

In a later passage (Vol. III, p. 361) it is stated that among the Nyam-nyam or Azande, to the north of Ababua, the poison ordeal appears to be practised only upon fowls, which act as proxies for the human parties. An oily fluid, extracted from a red wood called bengye, is administered to a hen, which represents the suspected criminal or witch, and the innocence or guilt of the accused is determined according as the bird survives the ordeal or perishes under it. Omens of victory or defeat are drawn from the fate of fowls in like manner."

Ordeal by poison administered to fowls is a common practice amongst the Azande of the Bahr-El-Ghazal. A description of the practice was given by Major Brock in his Notes on the Zande Tribe in this Journal, Vol. I, No. 4, p. 258.

The ordeal of the bitter water, after which the chapter is named, was employed amongst the Jews to put to the proof the suspected infidelity of a wife (Numbers V, 11-28). The writer of this Note was informed by the Sheikh of one of the Arab Tribes on the White Nile that in his tribe the

custom formerly existed of testing the fidelity of a wife by ordeal. The ordeal consisted of the woman being required to plunge her hand into a cauldron of boiling lard and pick out a needle. If her hand was not scalded her innocence was established: if her hand was scalded her guilt was proved. The Sheikh stated that he recollected in his youth a woman being put to this ordeal and establishing her innocence.

Sir J. G. Frazer concludes the chapter with examples of the practice which is common in Mohammedan countries as well as in some other countries of writing a charm or a curse, washing off the characters with water, and giving the water to a person to drink, with the object of benefiting him or harming him. A somewhat remarkable instance of this well-known practice came to my notice some years ago in the proceedings of a Police Investigation from Dongola. Two Dongolawis were in partnership as butchers, and each accused the other of embezzlement. They decided to consult a Fallata Fiki. He wrote appropriate texts on a writing-board, washed off the characters into a bowl of water and soaked a piece of bread in the water. He then made each of the disputants eat half the bread and drink half the water, informing them that the guilty one would be taken violently ill. They departed: but within a short time one of them returned complaining of violent pains and bringing with him money which he confessed he had stolen from his partner. Notwithstanding his confession and his making of amends, he died a few hours later. The Fiki was arrested on a charge of murder by poison. His defence was that the death was not his act, but God's. The ink which the Fiki had used was analysed and found innocuous, and the proceedings were dropped.



NUBA POTS IN THE GORDON COLLEGE.

(NOTE.—The first draft of this paper was made by me in 1923 and sent to Mr. Bentley who is now living in Kenya Colony. Mr. Bentley re-wrote a large part of this draft and the present paper is therefore published under both names: Sections 2, 3 and 4 are really the work of Mr. Bentley, for Sections 1, 5 and 6 I am responsible. Since this paper assumed its present shape I have been able to re-visit the Nuba Mountains and to pass rapidly through Tagalle, Rashad, Gedir, Talodi and Eliri, that is, the Eastern and Southern parts. In the course of this journey I was able to see something of the pot fabrics in Tagalle, Rashad and Eliri, and to discover varieties in technique and in tools which are not mentioned in Mr. Bentley's notes (Section 3). Mr. Bentley's notes therefore, it should be remembered, are descriptions of processes in the Western Hills and in Talodi, and are not now, at any rate, true of the Eastern hills.

For all the photographs except the first we are indebted to Mr. G. W. Grabham.— J. W. C.)

I. INTRODUCTION.

A collection of some eighty pots from the Nuba Mountains Province exhibited in the Museum in the Gordon College, provides the material on which this paper is based. The majority of the pots were collected and presented by Mr. Oswald Bentley, late Deputy-Governor of the Province: others by Major R. S. Wilson, Major C. S. Northcote, Major E. Gibbon, R.A.M.C., O.B.E., and Mr. G. E. Pennington.

The Nuba Mountains, as is well-known, are inhabited by a number of heterogeneous tribes, speaking a diversity of languages and dialects, varying very much in physical type, and practising different religious rites and customs. The following hills are represented in our collection: from Dilling District, Dilling itself, Nyima, Salara, Ghulfan and Kadero: from Kadugli District the Dagu hills, Debri, Kanga, Keiga, Shwai, Laguri, Semma and Lima: and from Talodi District, Talodi, Tosomi, Krongo, Moro, Kinderma, Mandi (Shawobna) and Eliri (Lafofa). The hills which are not represented in our collection are chiefly those in the centre and East of the Province. Of these hills the pottery of Shekan, Niero and Fun-gor, south-east of Rashad, like that of Heiban and Alura in the centre, is said to be very crude and coarse: the absence of specimens from these hills is probably little to be regretted. The pottery of Tagale, Gedir and Tikaim, on the other hand, would well repay study, and any account of Nuba pottery will be incomplete until more material from these hills is available.

Furthermore, the number of pots from the separate hills which are represented in our collection is in many cases tantalisingly small, and our readers must recognise the fragmentary nature of our material and the tentative character of conclusions based upon it.

With a single exception our pots are of recent manufacture, and any theories as to the origin and history of the craft must be based for the present upon analogy and comparison. Happily there is not, as in so many collections of modern African pottery, the magnificent collection from the Belgian Congo in the Museum of Tervuren for example, any trace here of recent European contamination.

2. THE POTTERS.

The making of pots among the Nuba is the work mainly of the elder women. Women are specially busy with the carrying of water, cooking and the brewing of the local beer, *merisa*, so it is natural that they should have to make the vessels necessary for these operations. In the Nile Valley also many of the cooking pots and water jars are made by women, the manufacture of the coffee-pot, *Gebana*, and the ablution pot, *Ibriq*, on the other hand is the business of men, they are both recent introductions.

Among the Nuba a man never uses a pot for washing himself, he does this with a calabash or a *bukhsa* (*). He waters his tobacco plants similarly with a *bukhsa*, never with a pot.

On certain hills—Krongo, Talodi, Tosomi, Masakin, Miri—no woman is allowed to approach a food vessel during her periods: a particular house and particular vessels are set apart for her use at this time. But this is not the case on other hills.

Some magical elements therefore still linger about the potter's craft in this part of the world.

3. THE MAKING OF THE POTS.

For reasons which will be obvious later, pots are made only when the rainy season is over. The earth is collected either dry or wet: if it is dry, water is mixed with it. Then it is beaten up with a stone on a clean rock surface: great attention is paid to this because if a small pebble gets into the mud, the pot may crack when heated. Next some dry horse or donkey dung (†) is brought, and this is powdered separately into a very fine powder, any pieces of grass or straw being carefully picked out of it. Three parts of the mud and one part of the dung are then well mixed together, and the mixture put aside in an old pot or a hole in the ground. It is left thus for about two days until it is thoroughly mixed.

(*) A *bukhsa* is a vessel made of gourd, to which leather strips and coiled basket work with a lid, are often added.

(†) In Omdurman camel dung is preferred.

A round hole is next made in the ground, about six inches deep, and a peg is fixed in it and a circle described with a piece of string fastened to the peg, just in the same way as the circumference of a hut is plotted. Sufficient of the mixture to make whatever vessel is intended is then put in the hole, and is pounded with a round polished stone about the size of a cricket-ball: the lump of mud is hollowed out in this way, and twisted and turned until it has grown into the desired shape. The upper part or neck of the pot, if there is one, is made by adding sausage-like strips of the same mixture and working them in with the fingers.

The vessel has now assumed something like its final shape, and the next operation is the smoothing of it, *tamlis*. This is done with a well-polished piece of ebony wood about six inches long, which is dabbed in water from time to time. All roughnesses are removed in this way and the surface made quite smooth. Any patterns with which the maker wishes to decorate the pot are added at this stage: a sharp pointed smoothing stick or a splinter of gourd is used for this purpose. The pot is then set to dry under a tree or a shelter of some kind, away from the sun, and left there for about three days.

Then follows the colouring of the pot. If a red colour is desired, some red earth(*) called *maghr* is ground up and mixed with water into a paste: if black, the soot scraped off an old cooking-pot, or, occasionally, charcoal is collected and mixed with simsim oil. The paste, whichever it is, is then smeared over the bowl with the fingers and a pebble is used to rub it well in.

After it has been thus shaped, smoothed, decorated and coloured, only the firing remains. For the firing a hole about one and a half feet deep is dug in the ground, wide enough to contain all the pots which are ready. Dry cow-dung is spread over the bottom of the hole, and the pots laid upon the dung, and more dung added between and over the pots. The fire is lit with grass in the late afternoon, and the pots left over night until the dung is all burnt.

In the morning the pots are taken out, the women testing each by snapping a finger on it to see if it rings true: if there is no ring, the pot is returned for further burning.

Illustration No. 1, which is from a photograph taken by Dr. Seligman at Tosomi, shows a woman shaping with a round stone a lump of mud in a hole of the kind described. In many parts of the country the hole is covered with a bit of coarse woollen matting or sacking and the impression of the textile fabric can often be seen on the finished pot. The two pots from the Dagu hills (illustrations 3 and 4), and a pot in our collection from

(*) Mr. Graham describes this as ferrous mud, and says that it could not rightly be called haematite. It would be interesting to know what is the authority for the use of the word haematite to describe the well-known ancient red wares.



Kanga, Kadugli District, show that this procedure is sometimes followed also in the Nuba Mountains. At Omdurman it is regularly adopted by the women who make big pots for water and *merisa*: most of the women now working in Omdurman come from Dar Tama in Darfur, but as we shall see later this process has been practised for many centuries in the Sudan. In Omdurman a mushroom-shaped earthenware beater, called a *mudagg*, is used in place of a stone(*).

4. CLASSIFICATION OF NUBA POTS.

It is suggested that pots may best be classified according to their main uses or functions, though it must be remembered that the same pot may serve several purposes. We distinguish ten classes of Nuba pots:—

(a) *Teibar*, *Towabir*. This is a large vessel, permanently in the same position in the house like a *Zir*. It may be used for holding either water or *merisa*, but the same vessel is never used for both.

(b) *Burma*, *Buram*. This is properly the pot in which *merisa* is mixed, but it is used for other purposes also. *Merisa* is watered in a *burma* and then after being taken out in a gourd cup is strained into another *burma*: it is drunk out of a gourd cup which is dipped in to a calabash round which the drinkers sit. A Nuba going to work carries his *merisa* in a *bukhsa*.

(c) *Warrad*. This is the pot or *burma* used for carrying water from the river or well, and the word is never used for a pot containing *merisa* or for a cooking-pot.

(d) *Kalol*, *Kalolat*. The *Kalol* has many uses: it is put on the fire, it is used for *dihn*, *mulah*, or *kisra*. In shape it is like the pot No. 1 shown in the illustration following, but smaller and with a more contracted neck.

(e) *Doraiya*. This is an open cooking-pot, used especially for cooking meat or vegetables over a fire.

(f) *Sakhhhan*. This is used specially for boiling milk.

(g) *Dullag*, colloquial *Dullang*, *Dulaling*. This is a long-necked pot for keeping *merisa* and *asaliya*. It is only found among the Shawobna and the more advanced Nuba, such as those of Kadero, Dago, Tagale and the northern hills: on Tagale two-necked *Dullangs* are made. It is common on the river.

(h) *Qadah*, *Qudah*. Dishes used for serving food, especially *kisra*.

(i) *Mibkhar*, *Mibakhir*. Censers used for burning sandal wood and frankincense (*liban*) the wood burned being pleasantly called by the Nuba *Abu Laila*.

(k) *Tafar*, *Towafir*. Small open pots or saucers which are used for the unguents with which women anoint themselves.

(*) See Also "Sudan Notes and Records," Vol. V, 1922, pp. 33 for a description of pot-making on the Blue Nile by H. A. MacMichael and *Report of the British Association for 1910* for an account of Nubian Pottery Methods by G. W. Grabham.

It will be noted that the different classes of pots enumerated above are directly connected with women's occupations.

5. DESCRIPTION OF POTS ILLUSTRATED.

(1) From Nyima, height 24 cm. A beautiful water jar with a well-polished even black surface. The decoration consists of the following elements (the top row being mentioned first). A band of cross-hatching contained in broken lines, a row of triangles filled with small punctured circles and contained in hatched bands, a second band of cross-hatching similar to the first and a row of plain triangular spaces contained by double-hatched bands ending in a sort of fringe.

Patterns of this kind with dependent triangles or irregular shaped figures occur on several other pots from this district.

(2) From Tosomi. H. 27 cm. A brilliant brick-red water jar: a fracture of the clay which is rather coarse shows red with a narrow black line in the centre. The decoration consists of two bands of very lightly impressed herringbone pattern with lines of dots along the centre and both extremities of the herringbones. On the inside of the mouth there is a band of cross-hatching, also so lightly impressed, that it looks at first sight as if it had been painted rather than impressed: it must have been done after the colouring matter had been laid on.

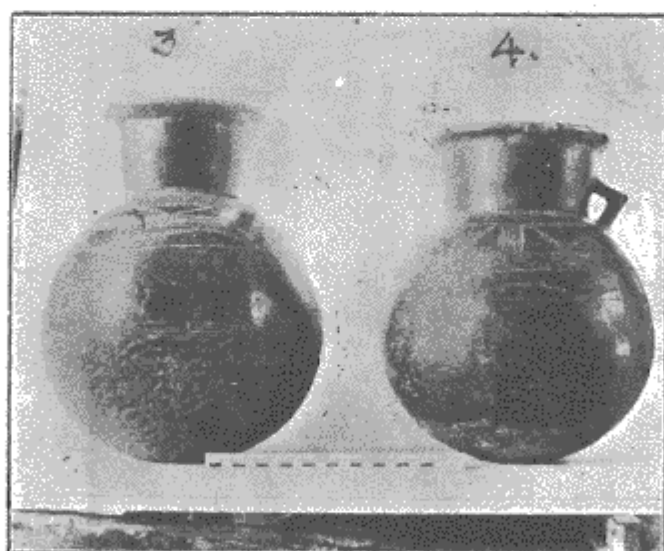
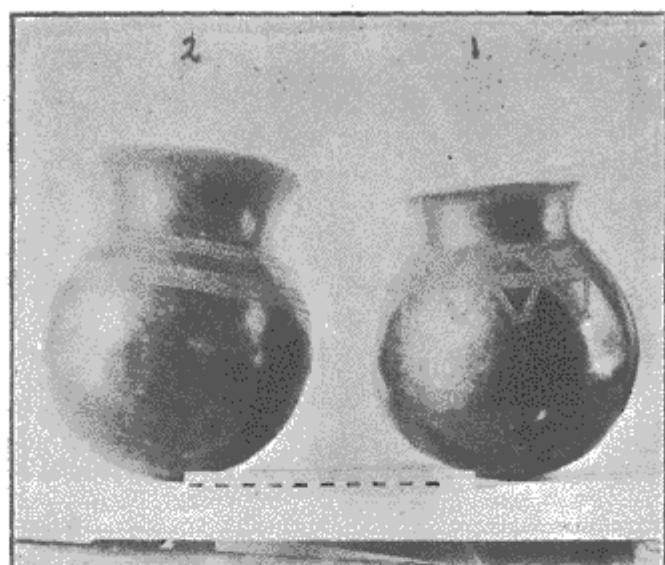
Both these jars like most of the water jars used in the Nile Valley are globular in shape, and are made to be carried on the head resting in a grass or rag ring which gives the pot a steady stance and should keep it from touching the hair of the head of the carrier. If the ring is not thick enough, however, the pot rests directly on the head and on the heads of some Nuba women you see resultant protuberances about an inch above the normal level of the skull.

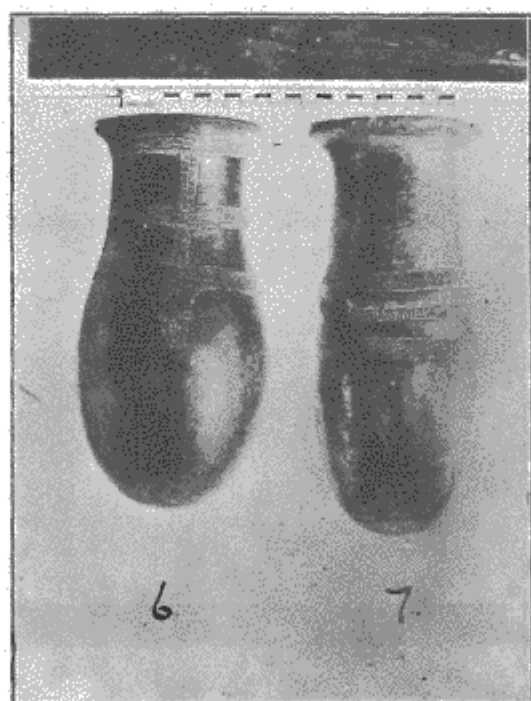
(3) Dagu work. H. 33 cm. A large jar probably made for carrying *merisa*. The lower half of the body of this jar bears the impression of the cloth or mat used in making it. The bottom is flattened and slightly concave so that the jar stands fairly steadily.

The upper part and the neck both inside and outside are smooth and well polished, of a fairly even black colour. There is a rudimentary stump on the shoulder of the jar a little below the spring of the neck: the top of this stump has been flattened and decorated with dots.

The other patterns consist of simple lines, a band of cross-hatching also contained in lines, a band of herringbone work and arrangements of sprawling lines rather like a spider's legs which may perhaps be a broken-down representation of a human figure. There is no decoration on the upper surface of the brim.

(4) Dagu work. H. 29 cm. A jar or jug probably made for carrying water, very similar to No. 1, but with a wider neck. The bottom is





like that in No. 1, but the surface covered with the cloth impression is much reduced. The colour is black and the clay where fractured shows gray. A small angular handle just large enough to admit a normal sized finger joins the neck with the body of the jar.

The decoration also is very similar to that on No. 3 and may be the work of the same potter. The dots on No. 3 are replaced by wedge-shaped marks, and the spider-leg design is rather more elaborate: the upper surface of the brim is decorated with linear patterns of the same type.

Handles are rare, but a similar one occurs on a photograph taken by Dr. C. G. Seligman of a *Dullang* at Kaja, one of the north-western Nuba hills in Nahud district.

(5) From Keiga, Kadugli District. A dish or basin of reddish ware with fine black polished surface. The bottom is slightly concave and rough. Elsewhere the smooth black polish covers the whole surface inside and out.

The outside of the dish and the upper surface of the flat brim only are decorated. The decorations, which consist mostly of hatchings and of rows of dots contained by lines, are very similar to those on the jugs from the Dagu hills, the same spider-legged arrangement of lines, for example, recurs here.

There are three other dishes or basins of the same type in the collection from Ghulfan in Dilling district, and two more from Keiga.

In shape and use these dishes resemble the wooden *gudah* which the Arabs in Western Kordofan make out of *hemeid* wood. In Kordofan these wooden bowls are used with a bucket-shaped basket, the *mandola* and a peaked basketry lid, the *tabag*: the broad brim of the wooden *gadah* rests on the top of the *mandola* which takes the place of a table, and the bottom of the bowl is rounded so that it will not, like our example, stand upright. Except at Tagale the *mandola*, which may come from Darfur, is said to be unknown among the Nuba, and the flat brim of the earthenware dishes may be explained like the similar brim to our soup plates as a substitute for a handle to prevent the server's thumb from getting into the dish. It may be noticed in this connection that several Nuba think that poison emanates from the finger nails and refuse to drink from a gourd if anyone's finger has touched the contents. The flat brim recurs on other pots also (see Nos. 3, 4, 6 and 7) and it may be further noted that in the Eastern Sudan, where wooden food dishes are made of *haraz* and *farfa* wood, there are no such brims. On the other hand, fragments of painted pottery from various medieval sites in the Dongola Province show that dishes of the same shape and with similar brims were once made there, but the Dongola examples are of much more advanced workmanship.

(6) and (7) From Debry in Kadugli district. H. 29 and 30 cm. Two jars originally used for holding *semm*, of reddish ware with black polished surface, both inside and out. Both have rounded bottoms.

The taller of the two is of the less skilful workmanship, the surface showing the longitudinal marks of the smoother: it has a flat brim decorated with groups of lines. The decoration on the other pot, which is of better shape and finish, is different from those we have hitherto been studying, as there are no containing lines round the groups of dots and dashes punctured on it, and there is an irregular shaped tongue hanging from the lowest of the three bands. Similar irregular figures occur on several Nyima pots.

There is another smaller jar of the same shape also from Debry in the Museum. In shape these jars, which appear to be a speciality of Debry resemble the *Karoya*, a vessel of basket work, used for the same purpose by the nomad Arabs (*), and an ancient pot almost identical in shape was found by Griffith(†), in the cemetery at Sanam in Dongola province. Griffith rightly classes it among the local fabrics: an interesting feature about the Sanam jar is the incised decoration which is an obvious imitation of textile work; it lends further significance to our comparison of the type with the *Karoya* and may be taken to establish the antiquity in the country of this typical nomad article.

(8) Shawobna work from Mandi in Talodi district. H. 14 cm. A bowl of reddish ware with a very fine lustrous black polish, inside and out: the bottom is flattened and the bowl stands quite firmly.

The upper surface of the rim which is not widened at all is decorated with incised lines: on the outside beneath the rim is a wavy band in raised relief on which wedge-shaped impressions have been punctured: below this are two bands of the usual linear decoration, rows of dots enclosed by lines and so forth.

Although apart from the band in relief the decorations are similar to those we have already studied, this band and the excellent surface of the pot produce a very different impression from the other Nuba pots, which will be discussed when we have described the next pot on our list.

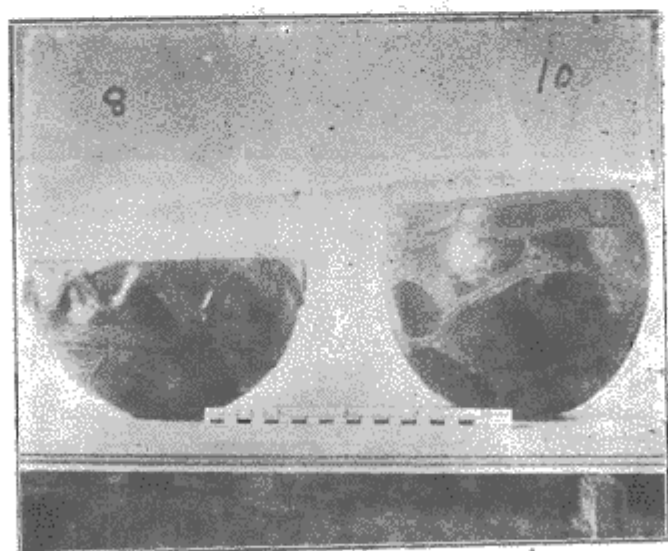
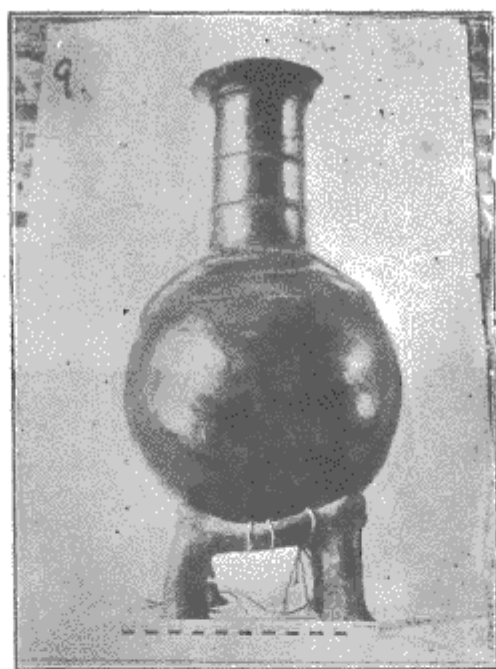
(9) Shawobna work from Semma in Kadugli district. H. 43 cm. A jar for holding water or *merisa*, of red ware, with the same fine black polish as the previous pot: the stand is also of earthenware.

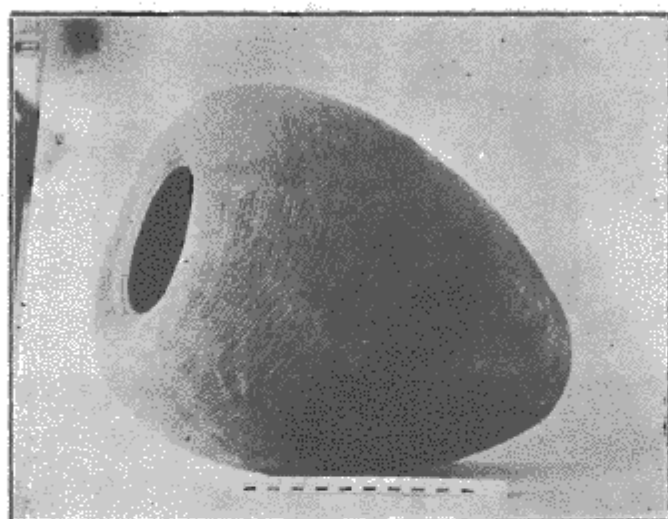
The decoration is similar in character to that on the bowl: it consists, partly, of the usual linear elements with rows of wedge-shaped impressions enclosed between lines, and partly of ridges raised in relief. The shape is clearly an elegant variation of the common *dullang* with a more elongated neck.

The Shawobna are comparatively recent immigrants to the Nuba Mountains: their name is derived from Jebel Sheibun where several

(*) Meinhof, Eine Studien-fahrt nach Kordofan, Hamburg, 1916, Plate 18.

(†) Annals of Archaeology and Anthropology, Liverpool, Vol. X, Plate XXXIV and pp. 103, 104, 125.





of them settled about eighty years ago to work the gold mines. Like so many other "tribes" in the Sudan, they include a number of different elements, sections of them claiming connection with the Mesellamia, the Biriab, the Bedeiria and the Dubab, and some of them being blacks from Tagale, perhaps of Fung origin. The potters are black and are settled in large numbers at Semma in Kadugli district. The decorative ridges raised in relief on the two pots remind one of similar decorations on the ordinary Nilotic coffee pots, and represent an element which we must describe as Non-Nuba.

(10) From Lafofa, Jebel Eliri. H. 18 cm. This pot differs both in shape and decoration from the pots previously described.

It is made of a drab-coloured ware, and the black surface in pots of this fabric is less shiny and varies more often to a greyish or brownish tint than is the case elsewhere. (*) The bottom is neatly flattened, there is no spreading brim and the curved wall of the vase is contracted towards the top. In shape it resembles a pot of local fabric found by Griffith at Sanam (l.c. *supra*).

The decoration appears to represent a loose wide-meshed braid net such as pots are often swung in from the roof. The containing lines of the "braiding" of the "net" are incised in the usual way but the spaces between these lines are filled with grouped rows of dots which are rolled on with a finely-toothed wooden instrument the other end of which is used as a smoother. A similar instrument called by Griffith a comb seems to have been used in decorating the pot from Sanam just mentioned.

The Lafofa are comparatively recent immigrants to the Eliri range which they share with the original Eliri, the two groups speaking different languages but making the same kind of pottery: the special characteristics of their pottery cannot be connected with any other pottery in, or outside, the Province with which we are acquainted, and are considered as original inventions of the Lafofa section. Another feature peculiar to the Lafofa is the use they make of broken potsherds in flooring their huts: the shreds are wedged into the ground with the smooth surface upwards, very small pieces are used and laid with some ceremony: when well oiled they have a pleasant tessellated effect. They differ also from other Nuba in some of their beer-making and beer-drinking customs.

(11) An ancient jar from Talodi. This pot, which is hand-made, is of hard pinkish ware. The bottom is flattened but the convexity is so great that the pot does not stand steadily: the shape of the sides and the mouth can best be seen from the illustration. The pot measures 42 and a half centimetres high and 34 centimetres at its greatest width. The surface has been picked all over with an empty corn-cob or something similar.

(*) It is produced by quite a different method from that described in Section 3.

In ware, shape and decoration, this pot differs completely from any that we have hitherto studied. It was used, no doubt, as a *jaibar*, a jar for storing water or beer, but the jars now used for this purpose by the Nuba are globular or ovoid in shape, and the form of this jar is more like forms which we find in old cemeteries in the Nile Valley of the Meroitic and earlier periods, though these are generally wheel-made and the mouth of the Talodi jar is to the best of our knowledge unique.

The pot was found on the east of the Talodi range, a few miles south of the present town, at a site now occupied by Husain Rahma, and was brought to Khartoum by Mr. G.E. Pennington some years ago. On the same site traces of other things are said to have been found which are not in accordance with modern Nuba ideas, such as the burial of dogs with the human corpses and long earthenware pipes for smoking.

6. GENERAL CONCLUSIONS.

As we have seen, the pots from the Lafofa and the Shawobna stand rather by themselves: they form two semi-independent groups. but the other pots, even from hills so far apart and so different in most respects as the Dago hills and Nyima in the west and Kronga and Talodi in the south, are curiously homogeneous in general character, though one or two shapes and minor decorative elements may be confined to particular hills.

The principal characteristics are the following:—

The pots are hand made: there is no trace of the wheel.

Black and red smooth polished surfaces predominate.

There is a little cloth-impressed ware similar to that still made in the Nile Valley, but it is rare, owing perhaps to the rarer use of woven cloths of any kind.

The commoner shapes resemble either gourd forms or the forms of other vessels in local use which are made of wood or basket work. Globular and semi-globular forms predominate.

The decorations are mostly simple linear and geometrical forms impressed or incised on the ware before burning: there is no trace of filling or coloured effects.

Now, as is not unnatural, many of these characteristics are to be found together on the local hand-made wares in use in other provinces of the Northern Sudan. Polished black ware is comparatively rare outside the Nuba Mountains; but many of the shapes in vogue elsewhere are the same, and the decoration is rougher but of the same general character. As we have already said, most of the women potters in Omdurman to-day come from Darfur: we have seen others from Darfur on the Blue Nile and in the Gedaref District. There is so much coming and going over the northern Sudan, that localized processes of production are the exception

rather than the rule. The Nuba ware is superior in workmanship and variety, but it belongs originally to the same family, a family moreover which has been long established in the country.

The ancient ware which stands closest to the modern pottery is best seen in finds made at Meroe by John Garstang in 1909-10 and published by him in his *Meroe* (Oxford, 1911). The finds to which we refer come from the southern and middle cemeteries excavated by him, but the date of the cemeteries was unfortunately misunderstood by the discoverer who was led astray by the ruder character of his finds. It is now quite clear, both from the negative evidence of Dr. Reisner's excavations at Meroe, and from positive features of Garstang's finds, such as the re-use of Meroitic offering tables to close up grave entrances in these cemeteries, that the groups in question are post-Meroitic in date, that is to say, some time after 300 A.D. In these graves there were vast numbers of hand-made *dullangs* decorated with textile impressions, shallow saucers (*towafir*) and dishes (*gudah*) with a highly-polished black surface, red polished bowls and stands and censers, the last identical in form with the modern *mibakhir*. The whole group is obviously related in form, function and process of manufacture, with the modern pottery of the country, though it is very much superior to it in most respects, the textile impressions are much sharper and finer, for example, and their decorative possibilities more fully explored, and the polish, whether red or black more brilliant and harder. The differences between this ware and its modern descendants are only such as would naturally arise in the lapse of so many centuries. On the other hand, this ware is entirely different from the common Meroitic ware, with its tall wheel-made jars and jugs, its painted or stamped cups and beakers, all of which were clearly made under foreign, Mediterranean, influence, and even the hand-made wares which have been found in Meroitic and earlier cemeteries do not seem to us so close to the group published by Garstang as the latter is to the modern wares.

Finds of pottery resembling that found by Garstang at Meroe have been made at three other sites. About 1902 the late Major G. J. Ryan opened a grave at Abu Haraz, opposite Berber, which contained similar objects: a much richer find of the same type was made accidentally at Shendi in 1923 and reported to the Antiquities Service by Colonel Cobden. Thirdly, several *dullangs* of a rather different type with some black polished dishes and bowls were found by the Irrigation Department at Wad El Haddad on the Blue Nile, in 1908. Specimens of all these finds may be seen at the Antiquities Museum in the Gordon College.

The area over which pots of this type have been found up to date extends therefore from Berber in the North to Wad El Haddad in the South. The date is certainly post-Meroitic. In view of these two facts I suggest that we should name this work Aloa ware after the name of the Southern kingdom of medieval Nubia. This name will further serve to

point the contrast between conditions in the south and those in the Northern Kingdom of Dongola. On medieval sites in the northern kingdom, in the modern provinces of Dongola and Halfa, the commonest pottery is wheel-made and painted: in some places, notably in Wadi Ghazali near modern Merowi, we have picked up medieval fragments which are as fine in quality as any ware we know of in the Nile Valley at any period. The northern kingdom naturally remained in much closer touch with the Byzantine world, and the pottery bears clear evidence of this.

The Nuba pots with which this paper deals are less closely related to the hand-made Aloa pottery than some of the hand-made pots still produced in the Nile Valley, but they are probably more closely related to it than any other hand-made wares elsewhere, with the possible exception of some modern Uganda fabrics. More than this it does not seem safe to say with the material at our disposal.



THE WHITE NUBA OF JEBEL HARAZA, AND WHITE RACES OF NORTH AFRICA.

By D. NEWBOLD.

I. INTRODUCTORY—EARLY NOTICES OF WHITE AFRICANS.

The following paper is an attempt to deal with various historical notices and native traditions concerning the existence of "white" races or tribes in North Africa, with especial reference to certain white types recurring among the Nuba inhabitants of Jebel Haraza in Northern Kordofan.

In all references, whether ancient or modern, to "white" tribes alleged to exist among negro, Indian, Arab, or other coloured races, it is always essential to discover at the outset whether the reference in question is to individual albinos (or an albinotic group) in a particular tribe, or to an entire community which is a distinct racial or tribal entity.

In the case of classical and early medieval notices it is not always easy to differentiate, as the study of albinism is even to-day in its infancy, and the majority of these notices merely refer vaguely to native traditions of "white" tribes, existing in *e.g.*, Central Africa, Albania, Ceylon, Brazil, etc. Later reports from more accurate or more credible travellers have usually been confined to the description of isolated albinos, and in spite of periodical announcements of the discovery of a new white race,^(*) it is categorically stated in the standard "Monograph on Albinism in Man" by Karl Pearson, E. Nettleship and C. H. Usher that "So far we have not been able to discover any reliable evidence for there now existing or there ever having existed a pure tribe or clan much less a race, of human albinos" ^(†). It should be noted that the use of the word albino only dates from the Portuguese colonisation of West Africa, and that popular interest in Albinos was not very marked before the end of the eighteenth century, when it received a stimulus from the bringing to Europe of albinotic and pied negroes.

(*) *E.g.*, the discovery of "white" Indians in Panama on Mr. R.O. Marsh's expedition to the Chilcunague river. Although frequently described in newspapers and journals in the autumn of 1924 as a new white race, it was discovered that "the so-called white characters are due to albinism and are of no racial significance." (*v. Man*, Nov. 1924 p. 162, giving a note by three members of Section H of the British Assoc. who actually examined three of the "white" children.)

(†) This monograph in four parts is a publication of the Dept. of Applied Maths. University College, London (Drapers Company Research Memoirs, Biometric Series) and for parts of this paper I have drawn on Chap. 2 "Early Notices of the Occurrence of Albinism," and Chap. 3 "Geographical Distribution of Albinism," but only as far as facts are concerned. Inferences and speculations are my own.

I should like to point out here that I have no medical knowledge whatever and have pursued the subject from a purely ethnographical standpoint as distinct from a pathological. The latter aspect, however, cannot, of course be ignored, and it is to be hoped that research will soon bring some measure of agreement among experts on the aetiology of the affection. Until it does the ethnologist is more or less thrown on his own resources.

The early classical notices chiefly refer to Africa. The most noteworthy are those describing the *LEUCAETHIOPE*s who are located in that vague Sub-Saharan region of wild beasts and deformed men, whence the Greek and Roman geographers drew a large part of their legendary marvels. This tribe of "White Ethiopians" appears in the elder Pliny, Pomponius Mela, Agathemerus, and Ptolemy.

Pliny, who was born about A.D. 23, writes in his *Naturalis Historia* (Bk. v, c. 8) "*Interiori autem ambitu Africae ad meridiem versus superque Gaetulos, interuenientibus desertis, primi omnium Libyaegyptii, deinde Leucaethiopes habitant.*"

Mela, who was a contemporary of Pliny, writes (*de situ orbis* Bk. i, ch. 4) "*At super ea quae Libyco mari abluuntur Libyes Aegyptii sunt et Leucaethiopes et natio frequens multiplexque Gaetuli.*"

Ptolemy (floruit 150 A.D.) in Bk. iv, ch. 16 of his *Geography* mentions the *Leucaethiopes* under the *Mons Ryssadius*. This hill is, according to the map in the Nurnberg edition of Ptolemy, on the Equator near the West Coast of Africa.

Agathemerus, a geographer later than Ptolemy, but whose exact date is not known, merely states in his *de Geographia* (Bk. II, Ch. 5) that the *Leucaethiopes* are situated West of Egypt.

Now, although none of the above writers is very precise in his ethnography, with the possible exception of Ptolemy, it is clear from the context of the above-quoted passages, that they all, again excepting Ptolemy, located this race of White Ethiopians somewhere in the Northern Sudan west of the Nile, in that very belt, in fact, stretching west from Jebel Haraza to Wadai, which belt is still the home of what Berber or Libyan ethnic elements yet survive in the Sudan. This fact, coupled with evidence of archaeology and of native oral and written traditions, proves that by the first century A.D., a blond race, who must have been one of the Libyan peoples, the ancestors of the present Berbers, had pushed their way as far South as, say, Northern Kordofan and Northern Darfur, and had either established a "white" ethnic island in the sea of blacks inhabiting these latitudes, or had inter-married to such an extent as to modify conspicuously the colouring of the negro tribes with whom they mingled. All this, of course, took place at least seven or eight centuries before the arrival of the Arab.

We cannot entirely rule out of court the theory that there may have been some negro tribe, which included a sufficient number of albinos for the legend of White Ethiopians to have arisen, but this is extremely unlikely, as, although the ancients had no real knowledge of albinism, Pliny himself elsewhere discriminates between individual albinos and light-coloured races. (*)

(*) *Hist. Nat. Bk. vii, Ch. 2*, about certain Albanians born "*glauca oculorum acie, ex pueritia statim canos, qui noctu plusquam interdiu cernunt.*"

Another point that lends colour to the conclusion that the Leucaethiopes were simply a Berber wedge into Negroland is that they are placed by Pliny and Mela next the Libyaegyptii. It is generally agreed that these latter occupied the great oases of the Libyan Desert, Dakhla, Kharga, etc., and were, as their name denotes, a blend of invading Libyans, the Tehenu and Tamahu of the Egyptian monuments, with the Nile dwellers. The Tamahu, who, we know, had relations with the Northern Sudan as far back as B.C. 2500, obviously supplied the light pigment of the Leucaethiopes.

It may be argued that neither the ancient Libyans nor the medieval Berbers, their descendants, were white in the true sense of the word, but we must remember that the word white was used by olive-complexioned Greeks and Romans, and in contrast to the real black of the Sudanese negroes. It is widely held now that there were two waves of Libyans in ancient times, the first brun, and the second blond, and Oric Bates states(*) that the earlier representations of Libyans on the Egyptian monuments show men of darker complexions than the later, which portray blond men with red hair and blue eyes. This is corroborated by classical descriptions of "fair" Libyans.

As regards the Berbers of the present day, fair types with blue eyes and fair hair are frequent among the inhabitants of the Aures massif in Algeria, where MacIver and Wilkin found boys who were stated to be indistinguishable in features and colouring from ordinary English school-boys.(†)

This blond xanthochroid element has undoubtedly persisted in the Libyan race from the dawn of history to the present day, and we need not have recourse as many distinguished archaeologists have felt impelled, to

(*) The Eastern Libyans, p. 40. He also quotes authorities who hold that the word Tehenu itself means "fair."

(†) Libyan Notes (1901) p. 29. Hilton-Simpson more recently has borne witness to the number of light-skinned fair-haired blue-eyed types among these hill-communities. Roland Dixon in the Racial History of Man "(1923) estimates the blond element in Tunis and Algeria as forming 10 per cent. to 12 per cent. of the total Berber population. For full anthropometrical details the curious are referred to the large monograph "Recherches anthropologiques dans la Berberie Orientale" Bertholon and Chantre (1913) Vol. I, p. 932.

Pelasgians, Greeks, Northmen, Vandals, etc., to explain its origin. (*) For our present purpose it is sufficient to acknowledge the existence of this white element in North Africa as immemorial, and to realise that it pushed south in sporadic and spasmodic streams from very early times, leaving its mark on the Southern fringe of the Sahara and Libyan Desert from the West Coast of Africa to the Nile with outlying pockets as far south as the Herero and Ovambo. (†)

(*) Sir H. H. Johnston (*Geogr. Journ.*, July, 1919) states that in Neolithic times there were recurring migrations of Mediterranean white men from Algeria and Morocco to Senegambia. This is probably true, but these "white" were the blond Libyans mentioned above and not as he asserts "Pelasgians" from Crete and Tripoli. He quotes (*Opening up of Africa*, p. 97 and G. J. above) the discoveries of German archaeologists in the Cameroons in 1914, and adduces linguistic arguments re the origin of the Bantu and semi-Bantu speech-forms. The Greeks and Romans have been repeatedly made responsible for the fair colouring of some of the Berber types, and this fallacy, though long exploded, still persists (cf. statement by Scudamore Jarvis in *Blackwood's*, Jan. 1918—"By Light Car to Mt. Iskander"—that the Siwans are descended from Romans and Greeks.) The Vandal theory, though demolished by Broca as far back as 1856, is also still adduced by reputable anthropologists. It is to the effect that the "fair-skins" of N. Africa are due to the Vandals, who to the number of 80,000 males, sailed in May A.D. 428 to Africa from Andalusia under the leadership of the limping bastard Genseric, who took Rome 20 years later. The Vandals only remained in Africa 100 years and were concentrated round Carthage, whence they sent Viking expeditions along the Mediterranean coast. They were decimated by wars, vice and malaria, and disappear entirely from history after their defeat by Justinian's general Belisarius at the battle of Tricamarum in 533 A.D. It is highly unlikely that the short occupation of a strip of North Africa by these Teutonic corsairs made any tangible impression on the ethnology of Barbary. In fact the historian Procopius, who accompanied the victorious Belisarius, and wrote the "*de Bello Vandalico*" tells us that there were fair-skinned Libyans existing at the time of the Vandal invasion. Seylax, incidentally, writing in 508 B.C., mentions "blond and beautiful Libyans."

It is unnecessary to comment on the speculation that the Berber blue-eyes and fair hair owe their existence to the marauding expeditions of the Scandinavian Vikings to the Barbary coast.

A good and brief summary of the theories respecting the origin of these Berbers will be found in pp. 242 seq. of G. F. Scott Elliott's "*Pre-historic Man and His Story*" (1915). His surmise that they were allied to the original Aurignacians of late Palaeolithic times suggests a viewpoint worth elaboration.

It is discussed more fully in Note XI of the Appendix to Prof. H. F. Osborn's "*Men of the Old Stone Age*" (3rd Ed., 1918). The note is entitled "*Palaeolithic History of North Western Africa and Southern Spain*" and gives a good account of the Capsian flint industry and Art. Note V of the same Appendix gives interesting facts about the light pigmentation of the medieval Berber or "Guanche" inhabitants of the Canary Islands.

(†) v. Prof. E. H. L. Schwarz' paper "The origin of the Hereros and Ovambo" in *Geogr. Journ.* for July 1919. The Professor states that they are partially of Berber origin and that their light types come from Vandal admixture, as does their custom of wearing a helmet-coiffure and of painting their skins pink. Sir Harry Johnston in a following note refutes the Vandal theory and ascribes the white types to three centuries of Portuguese infiltration. This may be true, but if Dr. Schwarz' theory of Berber origin is correct—as his theory of Vandal admixture is certainly incorrect—then this would be sufficient to account for the white types.

2. EXISTING TRIBE-NAMES, ETC., AND TRIBAL TRADITIONS. (*)

When we turn to the native traditions, spoken and written, of North-central Africa, we find a mass of tribe-names containing the connotation of "white," and a good many legends of the white ancestry of various tribes. In studying these traditions there are two stumbling-blocks of which we must beware. The first is that in many cases the tribal appellative probably does not apply to complexion at all. For example, two sections of the great Arab tribe of Kababish are known as Awaida Beidha and Awaida Zurrug, *i.e.*, the "white" and "dark" Awaida, from the original colour of their camels. Again we have the White and Black Esa in Somaliland: here there is certainly no difference in the complexion of the two tribes, although it is not clear to what the adjectives refer. (†) In Egypt we have Gawazi Beid and Gawazi Homr, Fayum bedouin. In Europe the classic historical example is the differentiation by the medieval Irish chroniclers between the Danish and Norwegian invaders, the "Blue Norsemen" and the "White Norsemen." (‡) It may be to the colour of their armour that the epithets applied, but it was obviously not to their skins.

The second stumbling-block is that many of the native words, which are translated "red" or "white," referring to complexions, connote colours very different from those understood by the English terms. For instance H. R. Palmer states (§) that *Kimi* and *Ja* which denote "red" in Kanuri and Hausa respectively, are used to describe a skin colour lighter than *Bul* and *Fari* the corresponding words for "white." To anyone versed in the bewildering language of colours applied by the present Arab inhabitants of the Northern Sudan to the colour range of the human skin or animals' coats (*e.g.*, *azraq*, *akhdar*, *akhrash*, *aghbash*, *adbas*, etc.), this warning will hardly be necessary.

On the whole, however, it is safe to assume that the great majority of descriptive colour epithets applied by the tribes in question to each other are intended to imply either an unusually light-coloured skin and complexion, or, alternatively, a "white" ancestry.

(*) In writing this Section I am indebted for several points, especially the BUL theory, to Mr. H.R. Palmer's article "The Fulas and their Language," in the *Journal of the African Society*, Jan. 1923. Many, however of the examples, and the majority of the conclusions are my own.

(†) See Drake-Brockmann "British Somaliland" p. 77. He here states that it may be a geographical division, the Black Esa being called so from the basalt outcrops of their habitat, and the White Esa from the light sandy surface of theirs. This seems to me very improbable, but the point is immaterial.

(‡) The actual terms used by the annalists are Finn-gaill and Dubh-gaill, *i.e.* White and Black Foreigners. The latter survives as the second element in the names MacDougall and MacDowell.

(§) *Op. cit.*, p. 124.

Now there are many names in the Chad Basin beginning with BUL-, as has been noticed by Mr. Palmer. He contends that this is the same root as PUL-, to which, in the words PEILH, POUL, etc. (all variants of the tribal name of the congeries known as *Fulas* or *Fellata*), popular idea ascribes the meaning "white" or "red." BUL itself is the Kanuri word for "white." Kanuri is the language of Bornu in Northern Nigeria, and Bornu is probably the key-region of Africa with regard to the age-long southward movements of the Berber peoples. The people of Bornu are called *Berberi* by the Hausa, which is a striking corroboration of their northern origin.^(*) Among tribes of northern Wadai are BULTAWA, BULGADA and BULALA,^(†) and there is also a Tibbu tribe of Southern Borku called BULZEDA. The BULALA are particularly interesting as we can trace their history back for 750 years. They now inhabit the region round the Fitri lagoon,^(‡) between Lake Chad and Abeshr, about the latitude of El Obeid. They went to war with the Mais (chiefs) of Kanem in A.D. 1176. They are identical with the old tribe known as *Kai* or *Kiyi*, spoken of in the Bornu M.S.S. as *اعل درق* — "the people with the shields of oryx skin." H. R. Palmer quotes a Bornu MS. as follows:—"Abdullahi Bikur, nephew of Umme Jilme, first Moslem Mai of Kanem, defeated the Kai-Bulala in their country of Kabila" and states that the present Kanuri say that Kabila was a town near a well called Kabar on the Abeshr-Dongola road. A Wadaian told Mr. Palmer that the site is a rock East of Ennedi, and five days' camel journey north of Mazrub.^(§) The only possible site in this barren desert, which can be identified with it is Teigo waterhole (not to be confounded with Teiga plateau) (Long. 25° 30'; Lat. 17° 30'). About 130 miles due North of Teigo lies Ain el Kiyeh, hitherto unvisited by a European. Though not mentioned by Mr. Palmer, it is obvious that this remote oasis takes its name from the Kiyeh or Bulala. The importance of this connection cannot be over-estimated when we remember that the whole of these deserts are the traditional home of the "Anag," (=) the name given by the Kordofan Arabs to the Berber aborigines, and that native tradition holds that the "Anag" were a white race.

We have now brought the chain of evidence to within the borders of the Sudan, but before we consider the actual names and traditions in the Sudan itself, the westward extension of the BUL- prefix should be noticed

(*) F. W. H. Migeod "Thro' Nigeria to Lake Chad" (1924) p. 106.

(†) H. R. Palmer op. cit., p. 123 also see in M. Bruneau de Laborie's account of his journey across the Libyan Desert in *La Géographie* of May, 1924 mention of a tribe in Kufra Oasis called "Boulaba." Whether these are confused with Bulala or are a separate tribe, I do not know.

(‡) Migeod op. cit. p. 101.

(§) Palmer "A Bornu Mahram and the pre-Tunjur rulers of Wadai" "Sudan Notes and Records," Dec., 1922.

(=) See my "A Desert Odyssey of 1,000 miles," Sudan Notes and Records," July 1924, p. 82.

in the history of the BOLAWA tribe. These people now live between Lake Chad and the Benue river. Their facial marks are allied to those of the Kanuri, and an old chronicle of the tribes states that their ancestors were troglodytes and that they came from the North. (*) This would seem to point to the Libyo-Berber builders of the underground dwellings in Jebel Gharian, Tripoli. In any case it is an interesting case of a negroid race with Berber affinities and the BUL- prefix.

In the Sudan itself, we find no lack either of names or of legends, enshrining the "white" tradition. In Northern Darfur Mr. A. J. Arkell, Assistant District Commissioner, Kuttum, was told by Musa Um Ruddus the Fur Shartai (Chief) of Jebel Si that the red-brick palace of Shau Dorshid, N.E. of Kuttum, whose ruins have been described in this journal (†) by Mr. MacMichael, was built by a white race "the ancestors of the English." Although this last comment was probably due to the desire to please, the "white" tradition remains. The pre-historic legendary predecessors of the Fur in these parts are the *To-Ra*, a mythical giant race, called after the monitor lizard (= To in Fur). (‡) It would be interesting to know if these aborigines were supposed to be white like their giant contemporaries the Anag.

Jebel Meidob in Northern Darfur is the centre of the key-region of early Berber immigrations into the Sudan as its myriads of stone cairns show, and it is interesting to note that the Meidobis call themselves *Tiddi*, which is "white" in the Berti language. (§) The district in which Jebel Meidob stands is full of names prefixed by BUL-, e.g. (=)

Bulger, near Duani Well, Northern Meidob.

Bulgi, a jebel, one of the two main peaks of Jebel Si.

Bildanga Well, 10 miles S.W. of Kuttum.

Buldung

Bulgero, a sub-section of the Gimr tribe, who lie S.W.

of the Zaghawa.

Bulongo, S.W. of Kuttum.

Bulda, a jebel south of Kuttum, etc., etc.

The two names Bildanga and Buldung are especially interesting as

(*) Hanns Vischer "Across the Sahara" (1910), p. 39.

(†) "The Tungur-Fur of Dar Furnung" "Sudan Notes and Records," Jan., 1920.

(‡) MacMichael "History of the Arabs of the Sudan," Vol. I, p. 93.

(§) Ditto., V 1. I, p. 64. This may, of course, be a coincidence, as may be the likeness to the tribal name "Teda" (or Tibbu).

(=) I am indebted to Mr. A. J. Arkell for the majority of these place-names.

Danga is the Sudan-Arabic word in these parts for a brick or stone building.^(*) Mr. Arkell tells me that he has heard it used of the stone sangars built by the Camel Corps at Bir Natrun and also of the Senussi houses at Kufra Oasis.

It is also noteworthy that this region of Northern Darfur shows many place-names which perpetuate the ethnic root BERBER. There is a Jebel Berberi west of Kutum (Sheet 53 H, 1,250,000), another of same name more to the south, Long. 22°, 33'. Lat. 13° 37', a hill called Berberi between Fasher and Mellit, a section of the Bedayat tribe called Birriabra (cf. Bera-bra—Berber), etc.^(†) I cannot here go into the question of the origin or distribution of the root BERBER but there is certainly evidence of its existence in the Nile Valley from early times and there is no cause for surprise at its appearance in Darfur. If, as I hope I am proving, the Berbers left evidence of their colour there and in Kordofan, and certainly relics of their language,^(‡) and of their art,^(§) then it is not unreasonable to suppose that they left some trace of their name.

3. THE ALBINOS OF JEBEL HARAZA.

We have now cleared the ground to a certain extent as regards evidence of dilution of the colour, language, place-names, etc., of the northern fringe of the negro belt in pre-Arab times by Berber immigration. Let us now examine the actual occurrence of albinism at Jebel Haraza, a historic and attractive mountain mass in Northern Kordofan, now inhabited by Arabized Nubas.(=) Here there are two boys of a pure pink and white colour, and there are rumours of a third, a spotted man. The strain is said to be an old one, and most of the older inhabitants of the mountain, when questioned, will say that the boys are throw-backs to the aboriginal Anag race, who, as mentioned above, are credited with a white skin. This legend is not confined to Jebel Haraza. At Jebel Katul, another hill-community of Nuba, under 100 miles to the south-west, there is a belief, retailed graphically to me by the aged omda, Sheikh Tamaragha Doka, who is over 100 years old, and whose fame as a genealogist and repository of tribal lore is widespread, that when the first Nuba came from the Nile in their westward migration, they found on the top of Jebel Katul three large, venerable, white-skinned, and bearded old ladies who were in the last stages of collapse and were just able to indicate to the thirsty newcomers where the water-holes in the rocks were before they died. It is believed that they were the last survivors of the Anag inhabitants of Katul, the remainder having died of famine or migrated.

(*) I do not know the derivation.

(†) These also come from Mr. Arkell.

(‡) See my "Some Links with the Anag at Jebel Haraza" "Sudan Notes and Records," July, 1924.

(§) e.g., rock-pictures discovered in Kordofan and Dongola.

(=) See my "Some links, etc.," and MacMichael's "Tribes . . . Kordofan," Chap. 6.

The story at Jebel Haraza also mentions three white women as being the last of the Anag there, and their ruined houses are pointed out in the old stone village that lies under Jebel el Azib, one of the spurs of the mountain. These women were the ancestresses of the white strain which has appeared periodically in the ruling clan of the Doalib since time immemorial, as it is said. Sheikh Derdeiri Mohammed Khalifa, the aged fiki of the Tigania tarika or sect, whose learning and religious influence are undisputed in Northern Kordofan and who is himself a member of the Doalib family, told me that when he was a boy 60 years ago, he saw several old men with white skins at Jebel Haraza and that there have always been one or more white people in the mountain for a very long time.

The existence of the two white boys is mentioned in MacMichael's "Tribes of Northern and Central Kordofan," (p. 90), and it might be worth while to supplement his short reference. The elder boy is Mohammed Ghabush son of Taha Dolib, the brother of the old omda, Ibrahim Dolib, lord of the jebel, and reputed to be even older than the Sheikh Tamaragha Doka mentioned above. Taha is a good deal younger than Ibrahim. The boy's mother was Um Aina, a Nubawia woman and sister of Sheikh Belal Muqariba, sheikh of one of the Haraza villages. The boy was born in 1895 or 1896. After the re-conquest of Omdurman, Egyptian soldiers saw the mother there carrying the white baby in the crook of her arm and accused her of having been the concubine of a Turkish Officer. The boy is now pink-skinned and flaxen-haired. He has brown-grey eyes of a faded colour and looked unhealthy. He obviously suffered from photophobia and stated that in the hot weather his skin peeled in the sun. It was even then (February) rather corrugated and rough. The circumstances of my first meeting with him were unfavourable to examination as he was brought to me for trial in an affray case where he and his brothers had caught a boy attempting to commit adultery with their sister, and had beaten him badly. Mohammed Ghabush, the albino, had tried to knife him, and after I had delivered sentence on him he turned sulky and it was impossible to ask him to strip or get him to submit to examination. I photographed him but the result is not worth reproducing. Unfortunately I had not read Karl Pearson's work on Albinism at that time and did not know for what points to look, but there should be no difficulty in getting the youth in to El Obeid Hospital for a scientific examination. Mohammed Ghabush's father and mother are both quite dark, his father being much darker than the average Dolabi. There was a younger sister, of normal dark colour, who died in childhood.

The other albino boy was not seen by me. He is said to be pink-skinned and yellow-haired like Mohammed Ghabush. His name is Ali Hammad and his father is Hammad wad Dolib, a member of the same family as

Taha Dolib, father of Mohammed Ghabush, and his mother is called El Radiya, a woman of the Asadab clan of the Haraza Nuba. His age is probably about 14 (1924). He lives at Khor el Tundub village on the East side of Jebel Haraza, and it is said that his skin is also apt to "gall" in the hot sun.

With the exception of a spotted or piebald man said also to be at Jebel Haraza, I heard of no other albinos, but diligent questioning would probably either reveal more or at least elicit some more interesting facts.

These albinos are called locally *hur*—a name used for the Turks, as Mr. MacMichael points out, in Asia as well as here. Hur is, of course, the same word as Houri, the name for the beautiful damsels of the Mohammedan paradise (*), and is from the Arabic *أبيض* (= to be shining white, to have eyes of intense white and black). (†)

It is probably not fortuitous that these two boys are both sons of Doalib fathers. In fact, I was told by credible informants from among the Haraza villagers that no albino had been known who had not either a mother or father from this clan. It is necessary, in order to appreciate the full significance of this, to understand something of the divisions and origin of the Northern Nuba of Kordofan. Fairly full details can be found in Chapter VI of MacMichael's "Tribes of Northern and Central Kordofan," but the Northern connections of the clans are not sufficiently stressed. It must be understood that the Nuba of Jebels Haraza, Um Durraq, Abu Hadid, Katul and the Kaja hills are, as a racial group, now quite distinct from the Southern Nuba of Kordofan and the Nuba Mountains Province. The past affinities of these two groups are obscure and the whole question of relationship of the present Nuba and the ancient Nubians (viz., the riparian inhabitants in dynastic and classical times of the Nile lands between Assuan and Khartum) is exceedingly difficult. But we can be assured of one thing, that the Libyan invasion and occupation of ancient Nubia left a Hamitic strain in the negroid inhabitants of those regions which has persisted down to the present day, both in the present tribes of Halfa and Dongola, *e.g.*, the Berabra, and in the various groups of emigrants from the river to the West, among whom the villagers of

(*) "Banat El Hur" is the usual expression for "Mermaids" who are said to be small and white. See J. W. Crowfoot "Angels of the Nile," "Sudan Notes and Records," July, 1919.

(†) Eyes of white and black were considered the acme of Arabian beauty: of the Arabic description of Balkis "The Queen of Sheba" (Eng. tr. by E. Powys Matheris p. 8):—"This Queen was the flower of all Arabian flowers. Her face was sorcery . . . and there were two long eyes upon it of black and white, sorceries also, diamond and golden: antelope eyes where the black pastured upon the white, in the shadow of the curved swords of the lashes."

Jebel Haraza are to be counted. This is confirmed by linguistic evidence. (*)

The clans of the Nuba at present inhabiting Jebel Haraza and its attendant jebels Um Durraq and Abu Hadid are *Doalib*, *Shabergo*, *Malara*, *Buqqara*, *Duggaga*, *Beringirri*, *Udunia*, *Dagaros*, *Asadab*, *Derham* and *Kerrak*. The *Doalib* are the ruling clan. They are traditionally alleged to have migrated from the river at the beginning of the XVIIIth century but it is obvious that there were Westward migrations of riverain peoples long before this. The genealogy of the clan is shown on pages 92-94 of MacMichael's "Tribes . . . of Kordofan." Browne in Appendix II to his "Travels in Africa, etc." (1799) says: "The inhabitants of Harraza are idolaters of mixed complexion, but mostly of a reddish hue . . . neither Arabs nor Mohammedans." Even now the clan of the *Doalib* are easily distinguishable from the other clans by their lighter complexion.

The *Shabergo* are found chiefly at Jebel Katul and the Kaja jebels to the West of Haraza but they too came from the river and in fact their descendants are still living there and ceremonial visits are still kept up, I was told, between the two colonies. Their sub-clans are interesting. They are *Um Shaiulungul*, *Um Degeilum*, *El Humr*, and *Um Beraia*. The names of the first two are etymologically akin to several Birged place-names in Darfur and to many names of rocks, rock-wells, hamlets, etc., in Haraza itself and the other Northern hills. *El Humr*, "the red men" is interesting in view of the subject of this paper and especially when we learn that they are the "ahl naqqara" or ruling family of the *Shabergo*, just as the "reddish" *Doalib* are the ruling clan of the whole group. This seems to confirm the theory of Libyo-Berber colour and Libyo-Berber predominance going hand-in-hand. As though to clinch the Berber origin of the *Shabergo* beyond a doubt, we find that in Tripoli one section of the Hassa tribe is called *Awlad Shabergta*. (†) This looks remarkably like *Shabergo* with the Berber -ta suffix. It might, however, be nothing more than coincidence were it not for other facts relating to the Hassa tribe which lend colour to the connection. One is that the name of the tribe recalls the HES of the Egyptian monuments, a small Libyan tribe, who appear temp. Rameses III as occupying much the same position in Cyrenaica as the Hassa do now. (‡) Such a long survival of place-names is not unknown in North Africa and it is noteworthy that another of the three chief sections

(*) See "Some links with the Anag at Jebel Haraza" "Sudan Notes and Records," July, 1924; "Nubian Elements in Darfur" by H. A. MacMichael, "Sudan Notes and Records," January, 1918; "A History of Arabs of the Sudan," by H. A. MacMichael, "Sudan Notes and Records," Vol. I, Chap. 4; "The Nilotic Languages" G. W. Murray, J.B.A.L., Vol. L, 1920, p. 327.

(†) Admiralty Handbook of Libya, p. 48.

(‡) Oric Butes "The Eastern Libyans," p. 47.

of the tribe is called Awlad Bakayet. This name recalls the BEKEN of the hieroglyphics, another Cyrenaican tribe which joined in the Libyan attack on the Delta in circa 1200 B.C. The BEKEN are supposed by Oric Bates (*) to be the ancestors of the Βάκαλες of Herodotus and Ptolemy. Ptolemy places a Βακαλίτις in the Sudan deserts West of the Nile, and MacMichael suggests that Jebel Bakalai near Soderi in Northern Kordofan may possibly be a survival of this name.(†) It seems more than likely. Another significant fact, connected with the Hassa tribe, in favour of the above speculations is that a sub-division, the Aial Ferjani, is marked by fair hair and blue eyes.(‡) We thus have geographical, historical, and colour connections between the Shabergo of Jebel Haraza and the Awlad Shabergta of Tripoli fairly strongly established. Individually the threads may be weak, but collectively they are, I think, sufficiently strong to hold together the argument.

Most of the other Nuba clans can boast some sort of Berber connection. The Buqqara, who form a large proportion of J. Haraza have a section named after the Fezara the great Arabo-Berber tribe of medieval Africa, and another the Nefa'ab, which recall the same sections of the Ja'alin and Shaigia riverain tribes. The Fezara section has the Rigl el Ghorab (Crow's foot) brand on their camels, which recalls the brand of the Tunjur tribe of Darfur and Wadai and the tribal marks of the Orfella tribe of Tripoli. The Derham clan also has this brand in two of its sections, Salim and Hammad, and it should be noted that the Derham figure in the Haraza genealogy sent me by the Fiki Abd el Hadi,(§) as being descended from the aboriginal "Anag." The Udungia can claim a wadi of their name in Ennedi. The Matara have the selukab or hoe-shaped camel brand, which like the rigl el ghorab has parallels among the tribal marks found by the Becchey brothers in Tripoli. For the Dugaga, Dagaros, Asadab, Beringirri, and Kerrak clans I have not yet found any Berber connections, but the last-named has the Berber -ak termination and may be derived from Kur, which is the Birged word for a mountain and which occurs as part of many non-Arab place-names in North Kordofan and Darfur.

In any case I think that there is sufficient evidence to show that these Nuba clans betray the Libyo-Berber elements in their origin, and that in the case of the Doalib these elements preponderate to the extent of throwing-up an actual "white" type every few generations.

(*) Op cit., p. 48.

(†) "History of the Arabs of the Sudan," Vol. I, p. 33. There are precedents for the transfer of tribal names from Cyrenaica to the Sudan, marking tribal migrations, e.g., the Minaces of Ptolemy (= modern Mima) and the Astacuri, and several others.

(‡) Admiralty Handbook of Libya, p. 48. It does, not I think, invalidate the argument that the Hassa are described therein as an Arab tribe. Most of the Cyrenaican Arab tribes have a strong infusion of Berber, though the Arab tends to predominate.

(§) See "Sudan Notes and Records," July, 1924, p. 127.

There are, however, two other theories which could account for the persistent albinism at Jebel Haraza, and which deserve notice before we accept the argument of Berber origin. One is that the white types are merely the product of in-breeding in an isolated mountain community. Sergi, in the "*Mediterranean Race*" (1901) was one of the first to ascribe an African origin to the xanthochrooid Berbers, claiming that their light pigment was due to their mountain environment, *e.g.*, the Atlas communities. Sergi quoted statistical evidence from an Italian military anthropometrist in support. The theory is conclusively, to my mind, refuted by Oric Bates.* But it is only fair to bear it in mind, especially when we remember the frequency of blondness noted by Hilton Simpson among the Shawia Berbers of the Aurés massif in Algeria. The most natural conclusion is that the white types both at Haraza and in the Atlas are due to the blond element in the Berber race originally, and that their particular persistence in these particular places may be due to the "insularising" influence of a mountain environment.

The second theory is that the succession of white types is simply an example of hereditary albinism due to the same causes that produce the affection in other races Chinese, Indians, etc., and not to any Berber ancestry. It would be easier to decide this question if we knew anything about the causes which actually produce albinism, but unfortunately we know very little. It is probably a structural defect, which we know to be hereditary, but its origin is unknown. At the same time while we are consequently free to attribute its presence at Jebel Haraza to white ethnic elements there are other cases in Africa where this would not apply. The classic instance of chronic albinism in Africa is the albinotic group among the Loango in the French Congo. These white negroes were first mentioned by Battet in 1589 and have since been noticed by half-a-dozen travellers ranging from Isaac Vossius in 1666 and Ludolf, who in his *Hist. Aethiop. Commentarium* of 1691 describes them as retainers at the court of the King of the Loango, to Leighton Wilson (1856) and E. Pechuel-Loesche (1907). Vossius gives a full and interesting account of them in his "*De Leucoaethiopibus ultra Nili Fontes versus Austrum habitantibus*." He is noteworthy as being the first writer to discard the "White Moor" tradition, and to show some conception of true albinism. He is, however, wrong in treating it as an endemic disease.

Although not entirely inconceivable, it is highly improbable that the albino negroes of the Loango have any admixture of Berber blood, and we can only attribute their occurrence to the same unknown causes that produce a similar lack of pigment in other parts of the world. The Loango

(*) *The Eastern Libyans*, p. 11.

group, however, is peculiarly interesting as having persisted continuously for at least 350 years. It is, therefore, analogous in this respect to the Haraza group, which it has always apparently exceeded in numbers.

I know of no other district in the Northern Sudan, which has an albinotic history like Haraza, (*) but just over the Southern border we have cases of albinism in the Belgian Congo mentioned by Alexander Boyd and Schweinfurth. The latter in his "Heart of Africa" states (†) that the albinos among the Monbuttos, who live near the Sudan Frontier, number 5 per cent. of the population, and that fair hair is common in the tribe.

Assuming then that neither the Loango nor Monbutto albinotic groups have any Berber history, why should not the Haraza albinos owe their origin to whatever other causes brought about these two cases? The answer, I think, lies partly in the traditions of Northern Kordofan Northern Darfur, and Bornu, quoted above, and partly in the specific evidence mentioned by Gerhard Rohlfs and others (and quoted by Karl Pearson, op. cit.) of remarkable skin results due to Berber and negro crosses in North Africa. Rohlfs especially mentions the Sheikh of Tamagrut who had a spotted skin, the ground being white, with smaller and larger black spots scattered about like islands. He saw others with dark skins and white spots. "It is clear" says Karl Pearson "that these inter-racial crosses lead to marked pigmentational or other segregational effects." In a further footnote he remarks that the interest of Rohlfs' views lies in the stress that, like Burton and Schweinfurth, he lays on the appearance of blonde and albinotic varieties from the crossing of "der weissen Berber Nord-Afrikas mit den schwarzen Aethiopiern des mittlern Afrika," and states that "on the whole there is rather a singular absence of reports as to albinism among the Berbers. It is not till we get to the Southern limit of the Berber tribes, to the edge where they meet the Sudanese negroes that the references to Albinism become frequent." This distribution is very noteworthy and it seems undoubted that all cases of albinism in the Berber-negro belt, of which Lake Chad can perhaps be said to be the centre, can be referred aetiologically to the racial miscegenation of the individuals concerned. Thus also can we possibly account for the reports of albinism from Senegal, the Gold Coast, and Liberia.

In Egypt itself, if the above conclusions are correct, albinism should be rare, and we find that this is so. In spite of the medley of ethnic elements

(*) I have, however, been told by Dr. Footner, Sudan Medical Service, that he came across some albino cases in Dongola. This exactly where we should expect to find them, as it was in the northern riverain provinces of the Sudan that the Libyan and negroid Nubian mixed. I have also been told of individual albinos seen at Abu Ushar in the Blue Nile Province, and Mikhailab, while Mr. Hillelson tells me that in 1918 he saw an albino near Rufaa at the village of Tambul, who was a Shukri, and had an albino sister, though the other members of the family were normal.

(†) Chapter X, p. 47 of Vol. I.

there from early times, Libyan, Syrian, Arabian, etc., that were infused into the original stock, the pigments of the intrusive races were never so conflicting with those of the resident Nile-dwellers that any striking effects were set up. We have no statistics of albinos in Egypt, as far as I know, beyond the percentage of 1/20,000 that was revealed in medical examination of male adult recruits in the Great War. A few cases of leucoderma have been reported by travellers, *e.g.*, by Sonnini at Assiut at the end of the XVIIIth century, but some difficulty has arisen in knowing exactly what is meant by the various Arabic terms for such skin affections. Sonnini states that the natives call leucoderma "behag" or "bokak" if partial, but "barras" if complete. (*)

We might have expected some cases from the Oases, especially Kharga and Dakhla, where there was a blend of Libyans and "Nubians" in the time of the Emperor Diocletian, but Hrdlička in his "Natives of Kharga Oasis" says "the presence of albinism is not certain." He saw two cases of brown-skinned children with blue eyes, and a case of leucoderma or patch-albinism in a man of 55. With this inconclusive evidence relating to one of the most interesting areas of Libyo-Berber infiltration we must for the moment rest content.

CONCLUSIONS.

What conclusions then can we draw from the whole matter? It is a question wherein the glamour of finding white skins in a dark continent has often obscured the scientific considerations wherein fact has been buried under fancy, wherein the cautious physician has often humbled the ardent ethnologist. And yet a solid residuum of fantastic fact remains. The pink skins and flaxen curls of the Haraza boys are no myth. The tales of white ancestors are still handed seriously down from father to son over widespread areas. What more natural than these should have a common origin in the intrusion of the "white" races of North Africa into the brown and black belts which lay to the south and furnished a never-ending supply of slaves and ivory, and, not least, adventure? The vast green spaces, the rivers, lakes, and verdant wadis of this belt tempted the light-skinned conquerors, merchants, and marauders to stay and escape the arduous return journey across the barren deserts to their fertile littoral.

(*) I find in Steingass بوق = leprosy, white scab. بطف = white spotted with black or vice versa. بقع = to be spotted white and black. ابرق = piebald. برص = white leprosy.

Monsieur M. Delafosse, the veteran administrator-ethnologist of French North Africa, delivered in February, 1922, a stirring lecture(*) to the Société de Géographie de France on "Les populations noires de l'Afrique" in which he remarked "Une zone de transition s'intercale entre le Soudan et le Sahara : c'est cette zone que nous appelons le Sahel, d'un mot arabe signifiant 'rivage.' Bien entendu, il s'agit du rivage du désert. Le Sahel est habité par des Noirs, mais ceux-ci s'y soudent, par degrés, successifs ou brusques, avec les populations de race blanche de l'Afrique du Nord, arabes et arabo-berbères. On y trouve aussi des peuplades qui tiennent de l'une et de l'autre race, comme les Toubou du Tibesti et du Borku . . . La région sahélienne est, par excellence, le pays des pasteurs. Les Maures et les Touareg y viennent . . . et accentuent ainsi les occasions de contact entre Blancs et Noirs. Ce contact a existé depuis des siècles et sans doute des milliers d'années, tant par suite des nécessités de la vie pastorale que par l'effet de l'attraction que l'or et les esclaves du Soudan ont exercée, dès la plus haute antiquité, sur les populations entreprenantes de l'Afrique méditerranéenne . . ."

To the vivid description of the Berber-Negro mosaic contained in this lecture one has only to add as a natural corollary the "white" skins, the "white" traditions, the "white" tribal names enumerated in this paper and the tale is complete.

Major R. G. Archibald, Director of the Wellcome Tropical Research Laboratories, writes the following note on Mr. Newbold's paper :—

SOME REMARKS ON THE MEDICAL ASPECTS OF
ALBINISM AND LEUCODERMA.

In the foregoing paper the Writer has marshalled many facts supporting the hypothesis that Albinism, among the negroid races of the Berber belt of Africa, is consequent on the intrusion of the white races of North Africa, and if this be admitted, additional proof is furnished as to the part played by heredity in the occurrence of Albinism in the negroid races.

Albinism, correctly defined, is a congenital absence, either partial or complete, of the pigment normally present in the skin, hair, or eyes ; it is a clinical entity distinct from, and often confused with, the more common condition known as Vitiligo or Leucoderma where milky white patches with margins of hyper-pigmentation appear on the skin after birth.

Beyond the influence of heredity, no cause of Albinism has been discovered ; its existence in successive generations of certain families has been

(*) *La Géographie*, Avril 1922, Tome XXXVII, No. 4.

noted ; transmission and distribution taking place according to Mendelian principles.

Sym(*) has recorded the case of a family of seven children in which every alternate child, commencing with the first, was an albino.

In the celebrated Cape May cases reported by Marcy,(†) the mother and father were full-fledged negroes "fair emblems of the African race." Of their children the first two were black males, then came two albino females, then another black female child, and the last and sixth child a male albino. The albinos had all the attributes of Albinism creamed coloured skin with silky hair, and pink eyes.

In Folker's(‡) cases (Caucasians), the father and mother were free from the deformity, one albino girl had red hair, two other children had the white hair and pink eyes of the pure albino, the other five in number showed no evidence of the condition.

It is evidently rare for the parents to be affected and it is exceptional to find a single case in any family.

Further examples could be cited to show that heredity is in some way concerned with the existence of Albinism, suffice it to say, however, that even this etiologic factor is not always obtainable: other influences have been suggested especially fright or shock during pregnancy. In Marcy's cases, quoted above, the mother attributed the birth of her albino children to the fact that, when pregnant, she obtained a fright by the fall of an old white mare she was driving; and in a case reported by Jefferies(§) in an only child with no family history of the malady, the mother ascribed it to the strong impression made on her mind by seeing an albino during her early months of pregnancy.

The occurrence of Albinism in animals has suggested the theory that marriage of blood relations is concerned in the production of Albinism of man, a theory, untenable in view of the comparative rarity of the malady in man.

In complete Albinism the skin is preternaturally white, or it may even be rose tinted; the hair fine and silky and of a whitish or yellow colour. The irides may be colourless or with a pink tinge, and the pupils, owing to absence of pigment in the choroid, are reddish in colour. As a result of the absence of the protective pigment, photophobia, nystagmus, and nictitation occur, while not infrequently, the individuals exhibit physical and mental inferiority.

(*) Sym. "A curious Family History." Trans. London Ophthalmological Society, 1891.

(†) Marcy. American Journal Medical Science, 1839.

(‡) Folker. Lancet, May 31st, 1879.

(§) Jefferies. Lancet, 1872.

Apart from the absence of pigment in the deeper layers of the skin, little or no structural alterations have been recorded, but it must be admitted that our knowledge of the pathology of the condition is singularly deficient. Some definite idea as to the origin of skin pigment might assist in elucidating what factor was concerned in the production of Albinism, but the whole subject is still confined to the realms of speculation.

As little is known of the etiological factors of Albinism, it may readily be inferred that the condition cannot be influenced by treatment; it is, in fact, irremediable.

In the more commonly-seen Vitiligo or Leucoderma, depigmentation of the skin occurs after birth, producing as a result, strikingly disfiguring effects on the negroid skin, so much so that the unfortunate individual affected is often ostracised by both friends and relatives.

The condition is not infrequently met with in the Sudan. It is usually characterised by a slow course and chronicity, the discolouration becoming more noticeable, however, during the hot summer months by virtue of the increased hyperpigmentation of the skin at the margins of the white patches. There is usually little or no impairment of the health. In one severe case, which came under the observation of the writer, the depigmented areas had reached an extensive distribution in a period of three years(*).

Little or nothing is known regarding the direct cause of Vitiligo; it rarely occurs before the tenth year, being most frequently seen in the second or third decades of life appearing more commonly among the dark races than in the white. It has been reported as occurring, with considerable frequency, among the negroes, Indians and Spaniards frequenting the North Coast of Columbia. In some instances heredity appears to be a pre-disposing factor. Sex certainly exerts no influence on its incidence. Its etiology is obscure although there is much to be said in favour of the condition being the result of a neurosis. That syphilis has any etiologic relationship, as stated by some French observers, appears without any foundation as judged by the results of blood tests carried out by the writer in cases met with in the Sudan. For a long time it was confused with leprosy but the white patches in lepers are invariably associated with skin anaesthesia of the area affected which does not occur in Vitiligo.

Very definite structural changes, chiefly of an atrophic type, have been noted by the writer in sections of the affected skin, but in no instance, has any causal germ been located.

From what has been said as regards the obscure etiology of the disease, it is evident that its treatment is highly unsatisfactory, a fact supported

(*) Archibald. An unusual case of Vitiligo in a native of the Sudan. *Journal of Tropical Medicine and Hygiene*, December, 1923.

by the number of remedies recommended. The white patches may be masked by repeated painting with weak silver nitrate solution or staining with henna or walnut juice. Internal remedies are, as a rule, valueless though thyroid extract has apparently proved beneficial in some instances.

In the severe case recorded by the writer, arsenic was administered internally for several months, followed by thyroid extract, and the patient when last seen, showed considerable improvement, patches of dark pigment appearing and coalescing in what were previously depigmented areas.

R. G. ARCHIBALD



THE MASALIT SULTANATE.

By R. DAVIES.

The history of the Masalit Sultanate, as an independent political entity, lies within the forty years or so preceding 1922. Its phases are a sudden rise, in the troublous times which succeeded the outbreak of the Mahdia, a war of independence against the Sultan of Darfur, followed by a still more bitter war of defence against the French, and a final absorption, under a form of indirect rule, in the Anglo-Egyptian Sudan. The archives of Darfur Province and of the Chad Colony furnish authorities for these last two phases and, of course, the whole story is in the memory of many men now living.

In the account which follows I have relied for the most part on one man who was an eye-witness of all the important events in Masalit history during the present century. He was attached to the persons of successive Sultans, but was without responsibility for the incidents which he recounts, and he tells of them with phlegmatic impartiality, neither exulting in victory, nor lamenting defeat.

In saying that I believe his account to be substantially correct, I do not mean to question the accuracy of the French version of the same events. A good deal must be allowed, however, for the difference in the points of view of the narrators, as also for the mutual misunderstandings of motive between French Officer and native Sultan. Thus the killing of Capitaine FIEGENSHUH and his force, which the French regard as an act of the foulest treachery, wears quite another aspect when recounted by a Masalati.

The songs which accompany the story are the work of various anonymous damsels of the GERNYANG section of the Masalit tribe. Their poetical level is perhaps not high, but they are interesting, as typical of the only records, in a more or less permanent form, possessed by the tribe.

THE MASALIT AND THEIR DAR.

Dar Masalit lies in the middle of the Western border of Darfur. It comprises Dar Masalit proper, in the South, Dar Erenga, to the North of it, and Dar Jebel, to the North of Dar Erenga. The accompanying sketch shows the main geographical features of this region and its relation to French Posts and those of Darfur.

The origin of the Masalit is obscure. Their language is fundamentally the same as that of their neighbours the Wadai, although neither tribe can now understand the other's speech. Such divergences of dialect between neighbouring and related tribes are not uncommon, but a curious feature

of this instance of the phenomenon is that there are other Masalit, also neighbours of the Wadai, on their South-Western border, speaking approximately the same language as that of their relatives in Darfur.

The fashionable thing, in both tribes, is to claim an Arab origin in the Hedjaz and to explain their languages as acquired from the aborigines of the regions where the wandering Arabs came to rest. On these lines, the Masalit Sultan even claims descent from the KOREISH, a theory to which his appearance lends no support. Unkind neighbours, of true Arab origin, say that the Masalit are descended from a slave of Abu Jahal el Koreishi, and that this is their sole connection with the Hedjaz. It is probably true to say that the Masalit are of non-Arab origin but that in fairly recent times there has been a certain amount of inter-marriage with Arabs.

When the tribe nominally adopted Islam is not certain, but pagan customs persisted until very recent times and are probably still to be found in the remoter parts of the Dar. It is said that cannibalism was only finally suppressed in about 1890. The Northern Masalit are rapidly becoming arabicised. Their language, as spoken to-day, contains a very large proportion of Arabic roots.

Before the rise of the Masalit Sultanate, Dar Masalit, Dar Erenga and Dar Jebel had no independent existence, but were split up among the three Fur administrative divisions of Madi, Fia and Kerne, Dar Masalit proper being divided between the last two. Two or three years before the outbreak of the Mahdia, however, the Government seems to have contemplated separating the Masalit from the Fur, for the Administrator of the Fia division, whose Headquarters were at Kulkul, appointed one Hajjâm as "Bey" of the Masalit. Hajjâm was of the Mistereng section, but the Gernyang claim that even then they were recognised as the senior section of the tribe. Their chief man, Ismail Abdel Nebi, who was a religious teacher, was possibly regarded by the authorities as unsuitable for an administrative post. For the time being, at any rate, he allowed Hajjâm's appointment to pass without protest.

RISE OF THE MASALIT SULTANATE.

Hajjâm took advantage of the removal of control resulting from the outbreak of the Mahdia to become oppressive, so Ismail Abdel Nebi went to El Obeid and got himself appointed by the Mahdi as Emir of the Masalit. Returning he raised a force and drove out Hajjâm, establishing himself at Derjeil, which remained the Headquarters of the Sultanate until 1914.

Hajjâm fled to Darfur, whence he made three attempts, with Fur aid, to regain his lost position. His first two raids were successful to the point of burning down Derjeil, Ismail saving himself, in each instance, by sudden flights on horseback, but the advantage could not be pressed home, and

the third expedition was so badly defeated that Hajjām retired from the struggle to Omdurman.

It may be inferred that Ismail was the popular choice, for the local method of waging this kind of warfare is for the leaders to tour their constituencies collecting forces (the *ḥarḥ*) as they go: and Hajjām failed even with Fur support.

A few years later, Ismail and all his sons went with the Taaisha to Omdurman. Permission was subsequently granted to all the sons but two to return to Dar Masalit, whose Government was entrusted by Ismail to the eldest of them, Abukr. Ismail himself remained at Omdurman and died there some little time after.

SULTANATE OF ABUKR ISMAIL, CIRCA 1889-1905.

During this long reign, Dar Masalit had a period of comparative peace and prosperity.

Before the assumption by Ali Dinar of the Sultanate, there were two or three small wars with the Fur, but Darfur contained no one strong enough to challenge Abukr, who consolidated his position as Sultan of Dar Masalit, Dar Erenga and Dar Jebel, appointing a Viceroy over the last two regions. He established a central Government, with Kadi and Vizier, and instituted taxes based on the Koranic system. Cannibalism and other pagan habits were suppressed.

Among his reforms is mentioned the fixing of a woman's dowry at two cows. Formerly the high prices set on girls by their parents had led to raiding and stealing on the part of suitors hard put to it to find the necessary cattle. He enforced this decree by the simple expedient of confiscating all the property of parents shown to have demanded or received more than the legal dowry.

Sultan Abukr maintained excellent relations with his brother Taj El Din, on whose advice he greatly relied. Altogether, it was something of a "golden age," to which the older Masalit look back with regret.

When Ali Dinar assumed the Sultanate of Darfur, he naturally wished his authority to run as far as the boundaries of the old province, to which ambition the independent Masalit Sultanate was a well-established and formidable obstacle.

It was not, in fact, until 1905 that he felt himself in a position to undertake the subjugation of the Masalit. In April of that year, he sent two forces simultaneously. One, under ADAM ALI, came in from the North through Dar Gimr, while the other, under MAHMUD DEDINGAWI, came from the East along Wadi Barei. Fiki SENNIN, of Kabkabia, sent a warning of this danger to Abukr and advised him to await the Fur at Derjeil.

The Sultan disliked the idea of allowing the outlying portions of his Dar to be laid waste and decided to meet the Fur. TAJ EL DIN made what appears to be a sound suggestion to the effect that there was time to fall on Mahmud and defeat him first, thus setting all the Masalit forces free to deal with Adam Ali. The Vizier HASSAN TUNJI, however, persuaded Abukr to divide his forces, going himself against Mahmud and sending Taj el Din to oppose Adam. The "forces" in question would consist of a nucleus of "jehadia" or "regulars"—horsemen and riflemen—plus as many footmen with spears as could be collected from the villages in the time available.

This advice was not accepted without vigorous opposition from Taj el Din and, as he had anticipated, it proved disastrous.

SININ BAREIWO KILINAN TIREI
WAZIR NGO BIO KHAFAL KENDEINA
KAMBASKANDU TENEINDEI
NYORI NGO BIO KINDINYANA

"Says Sennin, 'Do not cross Barei'"
"How evilly the Vizier has confounded you!"
"He has no manliness."
"How evilly has the force eaten you up!"

Sultan Abukr, with whom were his sons MOHAMEED BAHR EL DIN ("ENDOKA") and BEDAWI and many other notables, met Mahmud at Shawai, on Wadi Barei where the Fur had made a zariba, with a staked trench around it. Thinking that the Fur were not intending to fight that day, Abukr sent his horses off to water and dispersed many of his footmen to collect firewood and prepare a camp. These movements were observed by a Fur sentinel, posted up a tree, and immediately Mahmud's force issued from its zariba and made for the spot where the Sultan, Endoka, Bedawi and other notables were almost unattended. These scattered and fled on horseback in different directions.

Among Mahmud's force were some who knew Sultan Abukr well by sight and they led a party which overtook and captured him, towards sunset. Leaderless, the Masalit army was dispersed by the Fur and remnants of it were driven into the western district of Misterei, where they were joined by Taj El Din and his force, who had received news of the Shawai disaster while on their way to meet Adam Ali.

Sultan Ali Dinar announced this victory to the Governor of Kerdofan Province in a long letter, from which the following are extracts:—

"After offering you many salaams and my best compliments, I write this to inform you that Dar Masalit belongs to our kingdom from olden times. The Sultan of that country is Sultan Abukr El Masalati. He has displayed disobedience and pride and has committed evil and dangerous actions which are contrary to Mohammedan Law. He has, further,

murdered poor people and plundered them. When we wrote to him to abstain from such doings he would not listen to our orders and showed signs of rebellion.

" We resolved to proceed to him personally with the necessary forces, but before our start we were prevented by all the Mohammedans here, as they, being our subjects, offered themselves to carry out this important duty and would lose their lives rather than allow me to go against that man myself. I agreed, for their sake, and furnished them with our army, horses, arms, spears, etc.

" The horsemen were 1,500, with 4,000 riflemen, and they set off under the blessing of God. The Army was under the command of the Kings of our kingdoms, such as El Melik Mahmud Ali Abu Dadinga, El Melik Gamar El Din Abdel Jabbar, El Melik Ali El Nur Datil . . . On their arrival in Dar Masalit they built the necessary zariba and harboured the army in it.

.

" He (Sultan Abukr) . . . came to our Army in the zariba and the fight began for some time and then he retired. After a while he returned with all his army and camped near our army until the next day had shown its dawn, when the great battle took place and all his men fell dead from the bullets of our firing. The number of their killed is so many that none could know, save God alone. Their Sultan Abukr escaped to seek for safety, but our men were so brave that they endeavoured their utmost and went after him. He did not get very far thence before he was caught, but only after the killing of three horses under him. He was sent here to El Fasher, where he arrived to-day, Friday, the 13th of Rabi El Awal 1323 A.H. (19.5.05).

" As it is our custom and the custom of Kings and Sultans to pardon and forgive, I have therefore forgiven him and covered him with our favours and he is now at El Fasher, free and well-treated.

" We have captured from him 1,800 horses, besides their armour and trappings. His arms were few, 500 rifles only, which we have duly received. Our victorious army has conquered his countries and confiscated all that he possessed.

" Knowing well that you will certainly be glad and pleased to hear of our victory, I have accordingly informed you herein of this pleasing affair, and, also, because it should be reported and announced to Your Excellency. With Salaams."

Meanwhile, the situation was discussed among the defeated Masalit at Jebel TURMUNUNG. Taj El Din disclaimed all desire to take the Sultanate and suggested that Endoka should assume it, he himself promising to support him as he had supported his father Abukr. Again the Vizier,

Hassan Tunji, intervened with evil counsel, telling Endoka and Bedawi that Taj El Din was merely cheating them with fair words, intending to eat up their inheritance later. The result was that each of these three notables kept himself, with his following, apart from the others.

While the Masalit leaders were thus at odds, the Fur of Mahmud Dedingawi and Adam Ali, now united, fell on them and routed them completely. Endoka, with a few followers, fled to Abeshsha, Bedawi, with others, to Dar Sila, where the Dagu relieved them of everything they had. Taj El Din went to Tumtuma, in the extreme north-west of Dar Masalit.

Two songs denounce the Vizier's behaviour on this occasion. One opens "At Turmunung the Vizier's people bellow like a cow" and goes on to celebrate his son Mahdi, who, rather than follow his father, preferred to die with Taj El Din. The other runs:—

WAZIRKINI AGURA TUKA

• DAR BEREIM NIO NGO TUNDONGA

GERNYANG KIMING SAWIJEI LUDON

"Your Vizier has become a crow.

"How has he set his heart on Dar Sila,

"Having poured out as orphans the children of the Gernyang!"

SULTANATE OF MOHAMMED TAJ EL DIN ISMAIL 1905-1911.

Taj El Din summoned Endoka from Abeshsha to Tumtuma and told him that he proposed to assume the Sultanate and that he would look after his young nephew's interests. Allah, he said, did not appear to have approved his former proposal to remain in the background. Endoka perforce agreed.

In the meantime, the Fur leaders were still in the country, Mahmud at Mugurnei and Adam at Karrak, on Wadi Kaja. They had been appointing as "Meliks" of regions and villages certain Masalit who were willing to be subservient.

Towards the end of the rains, Taj El Din moved southwards from Tumtuma, to Gernyei, the ancestral land of his section, and thence through Misterei back to Gilani, on Wadi Asunga, collecting a following as he went.

On his way, he wrote deceiving letters to the Fur, saying that he was going to Fasher to join Abukr and that if they would not let him through he would make his way by force. They replied that they would not molest him and a date was arranged for him to come to Mugurnei.

Taj El Din then proceeded to capture or kill and despoil those Masalit who had accepted appointment as Meliks from the Fur, both his force and his prestige growing the while.

News of this soon reached Mahmud, who sent out mounted parties to reconnoitre. These were severely handled by the Masalit, who claim to have captured thirty horses and seventeen rifles from one of them.

This affair brought out all the Fur, under Adam Ali and Gamar El Din, the latter vice Mahmud, who was sick. They came to the Masalit at Gilani and were routed and driven eastwards out of the country. This was in the month of September.

After the defeat of his forces at Gilani, Sultan Ali Dinar vented his rage on Abukr and other Masalit prisoners, whom he put to death at El Fasher.

In the early days of the Ramadan (October 1905), Gamar El Din returned with another force, but was defeated and killed at Kaj-kajei and this was the end of Ali Dinar's attempt to subdue the Masalit.

Song against the retreating Fur :—

ABUNGA GUREI KIMSIEI
KUFURTA KANARKA KOMO KEIEI
FASHERI NYELLREI
SHEHADO LAMEI

" They of the Sultan's house are buffaloes in the fight.

" Overtake the unbelievers! Make heaps of them!

" Fasher is far away:

" Make your confession of faith!"

The last two lines are addressed to the Fur, who are exhorted to perform the last act before death, since Fasher is so far away that they cannot hope to avoid being overtaken and killed before they can reach it.

In the early rains of 1907, Ali Dinar sent an old man called Abdel Nebi El Hajj Ibrahim to Derjeil to negotiate with Taj El Din, who received him favourably and sent an envoy to make peace with the Fur Sultan.

Endoka and Bedawi were averse from coming to terms with the murderer of their father, so they plotted to wrest the Sultanate from their uncle who, however, obtained news of their intentions. Cheating them with the prospect of a raid into Dar Wadai, he got them away from Derjeil and into his power at Tadorna, in Misterei, where he seized them and kept them in irons for three months.

The following verse records the event laconically :—

ALI DINARMO KHASIMA MENEI-RU
GERNYANG KIMING SULUMENDIEI IRNEI
TAJ ED DINLO KINANGO NDOKATA KIBINU SEIREM TOLONA.

" 'We have enmity with Ali Dinar' they said:

" 'We will not make peace,' say the sons of Gernyang.

" But Taj El Din heard and seized Endoka and put him in irons."

So ended the war with the Fur, although unofficial raids and counter-raids continued to take place until much later.

In the meantime a far worse trouble for Dar Masalit was working up from the west.

In September, 1909, the French, led by ASIL, a disaffected member of the imperial family of Wadai, came to Abeshsha, whence Dud Murra, the Wadai Sultan, fled to Dar Senusi, afterwards, as will be seen, coming to Dar Masalit. His flight was derided by the Masalit, who had yet to experience warfare against Europeans.

ASIL WARAGO KULLUTANARA
KUNYUNGA IJABA KEI.
DUD MURRA TINDIRMO KOSU
INDEIHO NUCHUNU TOYORA

"Asil, also, brought a letter (saying)

" 'Sit still and prepare charms!'

"Dud Murra, firmly established as he was,

"Simply saddled up and went out."

The turn of Dar Masalit was soon to come. At the beginning of January, 1910, Capitaine FIEGENSHUH, with a column of French native troops, entered Dar Masalit and camped at Jebel Kandarei. Taj El Din sent two men to enquire whether he had come in peace or to treat him as the French had treated other sultans and take him away with a rope round his neck. Fiegenshuh tied up and detained the two envoys, a fact which was reported to the Sultan by other messengers whom he sent out to ascertain why no reply had been brought by the first.

He himself collected a force and awaited the French at a big Gemmeiza tree, called Kirinding, which stands on the east bank of Wadi Kaja, at Geneina, where the road branches off to Zalingei. His force had instructions not to attack.

As a precautionary measure, until the intentions of the French should become clear, Taj El Din kept apart and sent Endoka and others to meet the invader, when he reached Geneina. Fiegenshuh asked which was the Sultan and they pointed to Endoka. He next asked how it was customary to salute the Sultans of the Masalit and, being told, he dismounted from the horse and clapped his hands gently. He then offered to shake hands with Endoka, and took umbrage when the latter drew his hand away.

There were three rough shelters in the Wadi, which had been put up for the Sultan. Indicating these to the French Officer, Endoka informed him that some sheep and other entertainment would be brought to him if he would occupy them.

While this colloquy was proceeding, Taj El Din, with two or three hundred horsemen, was in full view under the Gemmeiza, and there were many footmen among the trees by the Wadi.

FIGENSHUH inspected the three shelters and did not appear pleased with them. On coming out of the third, for some reason unappreciated by the narrator of the event, he suddenly flung his helmet on the sand and shouted an order to his men, who immediately opened fire, killing many of the Masalit.

Taj El Din at once ordered his people to fall upon the French troops, most of whom died fighting where they were, though some ran away and were overtaken and killed. Capitaine Fiegenshuh himself was killed and a great booty of rifles, ammunition and equipment was captured by the Masalit. Endoka was wounded in the shoulder. The date of this battle was 4th January, 1910.

The following is one of the songs celebrating the victory :—

NASARI DANABO SHALNANG TENEI

ABO KINGINANG GUREI NGO TIREI

MUJALDU NGARAMTEI

KIRINDING ALBOIYA KENDEINA.

"The Christian has a tail like a shawl.

"How like a buffalo in the fight is the Sultan ! ' he says.

"Where is the trysting-place ?

"At Kirinding they have made you a screen."

In the first line, the tail is the "kanfus" worn by girls, the implication being that the Christian lacked manliness. In the last line, an "alboiya" is a big sheet of homespun cotton-cloth set up on poles to act as a shelter from the wind. The allusion is to the Masalit encompassing the French forces like a screen.

Perhaps it was this success which attracted the Wadai fugitives to Daroti, near Derjeil, for during 1910 Dud Murra arrived, preceded by his Vizier, Jatiniei, and followed by his anxious mother.

MABA GOINYI-INIM KEI WARKE

KAITA NGO TORI

JATINIE NASARO KURAN

"The hinder part of Wadai is astir, coming.

"How the Kaita calls !

"Jatiniei, fear the Christian !"

The "kaita" is a primitive bagpipe, of which the bladder is formed by the player's distended cheeks. It is a very popular instrument in Wadai.

DAROTI DULUNGO TIREINGA

KIMATA KURI TEINJI

DATA TINGER JO NDAMO TARA

DUDMURRA NYORU TUSURIINDEI

"Daroti remained a deserted site.

"Love of the child is compelling.

"His mother went forth and tracked him and came.

"Dudmurra does not fight the force."

The French did not leave the Fiegenshuh disaster unavenged. As in Wadai they were led to Abeshsha by Asil, who, it may be remarked, did not long retain the Sultanate which he earned by his treachery, so in Dar Masalit, the column under Col. Moll was guided by the equally treacherous Tuja, a notable of the Gernyang section who coveted the Sultanate.

DAROTI DULUNGO TIREINGA
TUJA KHATAIEI NGO LAMINA
ABUNGA SURO NYARIEI
NASARI JI TENEINDEI FID KIGEIAN

"Daroti is left a deserted site.

"O Tuja how great a guilt have you borne!

"O people of the Sultan run quickly!

"The Christian has no milk (of human kindness). Make no turning of the head!"

Col. Moll's main column arrived at Daroti, a mile and a half south-west of Derjeil, on the 9th November, 1910, a lieutenant, with a small force, being behind him at a place on what is now the main road from Geneina to Derjeil. His force, which included a couple of small guns, halted, in square, for the day, the baggage-camels being sent out under guard, to graze.

The French leader would appear to have been negligent in the matter of posting outlying picquets, for it was a complete surprise when, in the afternoon, the square was suddenly and impetuously attacked by the Masalit, who broke into it, killing Col. Moll, one other officer and many of his men, and scattering the remainder.

Instead of making victory complete, the Masalit turned to pillage the baggage, what time the scattered tirailleurs rallied to the lieutenant, who led them back to the attack. They fired four volleys, causing great slaughter among the Masalit and routing them. Taj El Din was killed and Dud Murra wounded.

Four days later, the Masalit again attacked the French force, between Daroti and Mugurnei, but were again defeated.

The battle of Daroti is sometimes incorrectly referred to as a victory of the Masalit over the French, but, although it began favourably to them, they clearly recognise it as a defeat and the songs about it are all in the nature of laments.

BUNDUG ET TEIRA HIJABA TENEINDEI
TEIRABU NDELEIYEI KA GERNYANG
NASARI DIRIO KONODAN
AMIN DA'UDTA NGARAEI

"No charm avails against the El Teira rifle.

"Leave their seed to the people of Gernyang!

"Christian, cut not off their posterity!

"The people of Amin Daud where are they?"

El Teira is the name given to the French rifle. Amin Daud was Taj El Din's Vizier, killed at Daroti.

Contempt for certain of the Masalit was not unexpressed by the Gernyang women.

BASINGA ANADEI LAMO
AMIN DAUDMBO NIENA NGAREI
NYERNENG INDANANG DANABANJ ENEI

"The leaders are vain talkers.

"Those who died with Amin Daud what are they?

"Nyerneng all of them have tails."

The allusion of the last line has already been explained. This time the taunt is levelled at the Nyerneng section of the tribe.

SULTANATE OF MOHAMMED BAHR EL DIN ABUKR,
NICKNAMED "ENDOKA," 1910 TO DATE.

Mohammed Bahr El Din, the eldest surviving son of Abukr Ismail, naturally succeeded to the Sultanate and his first act was very characteristic.

The traitor Tuja had been captured at Daroti by the Masalit and Endoka was minded to placate him by pardoning him and making him an *amin*, that is to say, one of his personal following, but public opinion was too strong for him, so Tuja was imprisoned.

A month or two after the battle of Daroti, the French sent another column from Abeshsha. The Sultan met them with a force at Habila, but his men ran away at the first volley and he had to fly.

Tuja was released by, and joined the French, but he did not enjoy the fruits of his treachery, for he was shortly recaptured by a guerilla force of Masalit, who put him to death.

The songs before the flight from Habila contain but a flicker of defiance; and after that event their tone is one of philosophical despair.

GANU NDELEI WAIEI
ABO TINDAM GAMANANG WAIA
BANADIGTA SABA URI
NASARU ARADMBO SAWU KEIEI

"They left the land to them coming.

"They came to the Sultan on their knees.

"In the east the rifles call.

"Make the Christian level with the ground.

TUKINDAN KELA LANIRI
ABO ENDOKAWO DING NYU KELA
NASARU GANU NDELEI

"If it may not be, leave it and return.

"You turned your backs on Sultan Endoka there.

"You have left the land to the Christian."

After this affair the French withdrew to Abeshsha and, shortly afterwards, Dud Murra set off with his people, accompanied by an escort provided by the Masalit Sultan. The French attacked and defeated them at Shekoiung, two days' journey from Abeshsha, and the ex-Sultan of the Wadai returned to Mugurnei, where Endoka was established. The latter refused him further assistance and he went back to Dar Wadai and surrendered to the French during the rains of 1911. He is now a political prisoner at large in Fort-Lamy, living on an adequate pension provided by the French Government.

The French next wrote to Endoka, proposing peace. The Sultan agreed and received them at Geneina, subsequently going with them to Tumtuma. By the terms arranged, he gave up to them that part of Dar Masalit which lies to the West of the Wadis Asunga and Kaja a region which includes Jebel Gernyei, the ancestral home of the Sultan's own section, the Gernyang.

From 1912 onwards the external relations of the Masalit were peaceful, though unofficial raids against the Fur took place. These, as usual, were encouraged by the women, who were equally ready to mock those who did not raid or those who raided unsuccessfully. Jebel Konyo, in Darfur, seems to have been a standing objective of the Masalit.

MBELIJEI ANODEI LAMO
MARTU NAKINDA GANO KURAKEI
FURTA ISIMBO KIMBIBINA
KONYO SAMAM DOLEI TIJIRI

"The youths are braggarts.
"You who did not raid feared the country.
"The Fur with sorcery have seized you.
"Konyo in the sky above appears".

MBELIJEI ANODEI LAMO
KUMA KONYA BILETU KENDEINA
GAMANANG KIEIEI

"The youths are braggarts.
"Jebel Konyo is a thunder-cloud over you.
"Crawl."

Sultan Endoka, at his accession, forsook Mahdism for the Tijani Tariqa, under the influence of a teacher from the West, and displayed more enthusiasm for religion than was popular with many of his relatives and notables, who referred to him contemptuously as a *fiki* or *jellabi*.

In the first four years of his reign, the internal peace of the country was four times disturbed by fanatical risings led by false prophets,

one of whom was instigated by the Sultan's uncle, Ali Sennan, who coveted the Sultanate. All these risings were energetically suppressed by forces under the leadership of the Sultan's brother Bedawi and his Wazir, Ahmed Ijeiber, nicknamed Abu Shulukh.

Endoka showed the same clemency towards these enemies as he had done to the traitor Tuja, and Ali Sennan was permitted to retire to Darfur, where he was given a military command by Ali Dinar.

The reconquest of Darfur by the Sudan Government, in 1916, again complicated the external relations of Dar Masalit. In the following year the French, who had established themselves at Tumtuma after their previous negotiations with Endoka, moved down and built a post at Adrei, only seventeen miles west of Geneina, which had become the Sultan's Capital in 1914, owing to failure of the water-supply at Derjeil.

Early in 1918 a British force came and established a post at Kereinik, on Wadi Barei, on the Eastern border of Dar Masalit, thirty miles East of Geneina. The Sultan felt himself hemmed in and did not conceal his distrust.

It was evident that some sort of suzerainty must be established over Dar Masalit by one or other of the two Great Powers, and the boundary agreement made between them in September, 1919, recognised all the country, except the part previously surrendered to the French by Endoka, as part of the Anglo Egyptian Sudan.

This agreement was not ratified until April 1921 and the proposed peaceful occupation of Geneina in the autumn of that year, to which the Sultan had wisely agreed, was delayed, and its character altered by the fanatical outbreak at Nyala, in Southern Darfur, in September of that year.

The Nyala rising was led by a fiki of Masalit origin and caused very serious unrest in Dar Masalit, whose notables saw in it the possibility of averting the impending occupation of their country, which they had always resented, though they had hitherto felt too weak to resist it.

Fortunately, the Nyala rising was suppressed before the Masalit unrest came to a head in actual hostilities, and it was found possible to occupy Geneina, in January 1922, with no more than a formidable display of force.

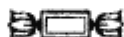
It had been decided to administer Dar Masalit indirectly, through its Sultan and its native institutions, and this decision was adhered to in spite of the inauspicious circumstances attending our occupation.

A resident was installed at Geneina for this purpose, with a small staff to enable him also to deal with matters in which non-Masalit are involved. These are numerous, owing to the proximity of the French

Chad Colony, the presence at Geneina of a garrison and foreign mercantile community and the fact that the pilgrim road from the west brings thousands of strangers through the country annually.

In some directions limits were set to the Sultan's powers, while certain functions, such as the custody of prisoners and money, were in the first instance assigned to the Government staff, but the result of the administrative experiment has been such as to encourage those who have taken part in it to look forward to further delegations of power and responsibility to the Sultan and his subordinates.

He, for his part, is intelligent enough to realize that the exchange of a troubled and precarious independence for the peace and security of British tutelage is not without its advantages. The hostility of 1918 has already given place to a considerable measure of friendly confidence in the good intentions of the Government and there is every reason to hope for a tranquil and prosperous future for the Masalit Sultanate.



SENIN AND ALI DINAR.

BY SAMUEL BEY ATIYA.

Note:

The chief interest in the history of Senin Hussein lies in the fact that he and his followers maintained in Darfur the tradition and spirit of fanaticism which had been in the past identified with the Dervishes. Cut off as he was from intercourse with the outside world, he had no means of knowing how his brother Dervishes in the Sudan were being merged into the normal population.

It is a curious coincidence that approximately ten years after the Battle of Omdurman there occurred the murder of Mr. Scott Moncrief and the Mamur of Kamlin, and approximately ten years after the defeat and death of Senin, the last representative of the fighting Dervishes, there occurred at Nyala the outbreak that caused the death of Mr. McNeill and Capt. Chown, and it may be that in each case it was the last flare of a dying fanaticism.

It is certainly worthy of record that the Dervish fighting spirit remained in Darfur to embarrass and weaken the Government of Sultan Ali Dinar for many years after it had ceased to be an effective issue in the Sudan and this fact must have its bearing on the progress and development of Darfur. C. A. W.

Senin Wad Hussein, is a fiki who traces descent to the old Arab tribe Khazraj. His grandfather came to Dar Tama as a stranger Sherifi. He established himself at a place called Jilme and intermarried with the people of Tama. Hence Senin was commonly known as a Tamawi although, apart from his mother's relatives, he had no relationship with the Tamawis.

Senin was religiously inclined and began to be respected by and have influence over the people of Tama. It was then that he began to hear of the reputation of the Mahdi, Mohammed Ahmed. Collecting a large number of Tamawis, he came to visit the Mahdi at Omdurman and to swear allegiance to him. The party arrived shortly after the fall of Khartoum. It so happened they reached Omdurman at the time of the noon-day prayer on a Friday. The Mahdi was leading the prayers. Believers in thousands were standing in rows before him. Senin and his party stood behind the last row of the Ansar. The Mahdi, who was praying from an elevated dais, saw them and sent a messenger to ask who they were. On being told, he raised his hand in the "Fatiha," which they acknowledged from their places. Word was sent to them that as "zeal in religion is more essential than anything else, you should leave Omdurman at once and join Tamawi Emir Abdel-Rahman, who is fighting in the Nuba Mountains under Hamdan Abu Anga." Thus without even shaking hands with the Mahdi, but immensely impressed by the

manner in which he singled them out of the crowd and prayed the "Fatiha" to them, Senin and party left to join Ibrahim at Dubab—converted to Mahdism and ready to do their utmost.

Whilst still engaged in the Nuba Mountains, news was received that the Mahdi had died at Omdurman. The Khalifa Abdullahi recalled many chiefs including Abdel-Rahman and his chief Tamawi to Omdurman to renew their oath of allegiance.

Senin accompanied Abdel-Rahman to Omdurman and after their interview with the Khalifa, they were both sent back to the operations in the Nuba Mountains. They returned to Omdurman about 1887.

Later, Senin and Abdel-Rahman were sent at the head of a Tamawi force to fight the Abyssinians under Abu Anga. On the death of Abu Anga and the defeat of the Abyssinians in the battle of Gallabat in 1889, Abdel-Rahman and Senin again returned to Omdurman.

Abdel-Rahman remained at Omdurman as the chief of Hillet Tama, close to Omdurman, and finally died fighting with the Khalifa at Kerreri.

Senin, who showed every sign of intelligence and loyalty, was selected to accompany Abdel-Gader Wad Dalil the Dervish Emir who was sent to govern Western Darfur under Osman Wad Adam. Abdel-Gader's headquarters were at Kebkebia, and Senin worked as his assistant travelling regularly with him between Fasher and Kebkebia.

When Osman Adam died after his invasion of Masalit in 1890 Abdel-Gader Wad Dalil as well as other Dervish Emirs under Osman Adam were all recalled to El Fasher where they were ordered to stay until the arrival of their new chief Emir Mahmud in 1891.

Senin was then left in charge of Kebkebia district.

When Mahmud invaded Dar Gimr and Tama in 1895 the whole force under Mahmud passed through Kebkebia where they were joined by Senin who accompanied them as guide and adviser. When Mahmud and all his Emirs were recalled in haste to Omdurman to proceed northward to meet the Anglo-Egyptian troops, the administration of the district was left in charge of Senin. Abdel-Gader Wad Dalil left with Senin a quantity of arms and equipment as deposit.

Senin began meanwhile to gain a reputation as a zealous Mahdist Fiki. After the defeat of the Khalifa at Omdurman and his death at Gedid, fugitives who remained staunch Mahdists began to filter in to Kebkebia and swell Senin's party.

When Ali Dinar established himself at Fasher, he heard of Senin's growing force and of the Mahdist fanaticism of his followers, who were estimated at about 4,000. Of these about a thousand were real Ansar ready to give up their lives for their beliefs with some three thousand other odds and ends whose thoughts were on war and pillage.

As a matter of fact the stubborn resistance of Senin at Kebkebia may be considered as the last organised Mahdist stand in the Sudan.

Ali Dinar was anxious to break down Senin's resistance and deal a final blow to a chief whose religious influence was increasing and might become at any time a menace to communications of the Western Province round Tama, Masalit, Gimir, etc., Ali Dinar also coveted the arms left with Senin by Abdel-Gader Wad Dalil, as well as a large quantity of firearms and ammunition which he believed Senin to have acquired from the army of Omar Adam in his retreat from Dar Tama in 1890 when the majority of the troops had perished from privation and disease leaving their arms hidden by the way. It was true that Senin had acquired a considerable quantity of these.

Ali Dinar sent a summons to Senin to submit, Senin refused to obey and addressed the following letter to the Government :—

“ In the name of God, the Merciful, the Compassionate; prayers be unto God.

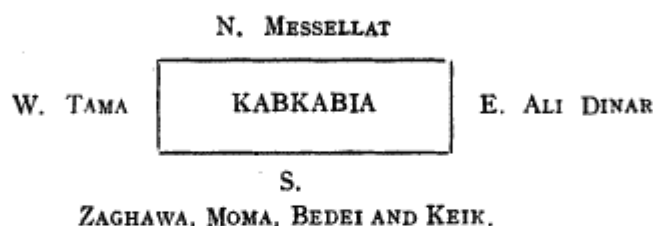
“ From the servant of God Senin Hussein, to the Sirdar of the Sudan. I have been informed by people who come hither that the victorious Government has conquered the Sudan. On Ali Dinar's return to El Fasher he sent demanding that I should submit to him, but I would not. Since then he cut all communications between me and him, and likewise all communications with the Government. I am loyal to the Government and have sent letters to the Government which were intercepted by Ali Dinar. My two messengers were killed. He himself then sent to inform me that he killed my messengers and orders me to give up to him the trust which Abdel-Gader Dalil had confided to me before he was killed at Atbara. This deposit of arms was taken by Abdel-Gader Dalil from Sultan Tama during the Tama fighting and was concealed with me lest it should be taken by the Emir Mahmud. I have written to you four times regarding this deposit which I hold as a servant of the Government. I am neither Sheikh nor Sultan, but simply a servant of the Government. On my refusal to give up the deposit, Ali Dinar sent against me the caitiff Kiran Rezeigi with a great army. He demanded that I should give up the deposit to him, but as I expected the Government to hold me responsible for it, I refused and fought them and by the help of God I conquered.

By God, by God and by God I am loyal to the Government and subject to any representative that the Government may send here. I beg to tell you that the deposit I possess is not the property of any Sultan at all.

"The Mesellati (Sultan of Mesellat),(*) who fought me because of the arms, came here himself at the head of 12,000 men, but owing to my loyalty to Government and goodwill I defeated them. All the Sultans of the West likewise ask me for the deposit and all of them have become my enemies because I do not give it up to them.

I have already sent four letters to the Government but have received no reply. I do not know any cause for this. I am impatiently expecting the Sirdar to come against Ali Dinar so that I may meet him from side with 500 men. Our arms include 8 remingtons, 20 double-barrelled and 8 Abu Left arms. But we have only 15 dozen rounds of ammunition.(†)

"Kabkabia, as you know very well, is situated according to following drawing :—



"All of the above-named tribes are my enemies. Therefore I beg that I may be permitted to proceed to you and have speech with you. I beg you to ask Ali Dinar to let me pass in peace.

The articles left by Abdel-Gader Dalil are as follows :—

- 100 shields.
- 100 swords.
- 25 kantars of ivory.
- 200 rhino horns (†).

which if the Government should send her representative, I shall be ready to hand over.

"I am obliged to write in my own hand because all my clerks are devils and would not keep my secret, and therefore beg your pardon for my bad writing.

(*) Sultan Abbekr of Dar Masalit, brother of Taj el Din.

(†) This estimate of his arms is much below the actual number he possessed. A reliable informant, who fought under Senin to the last, states that, apart from arms they looted from Ali Dinar's troops, they had some 1,000 firearms in good condition—but the ammunition was not plentiful.

(‡) It is significant that he made no mention of firearms and ammunition; which constituted the arms mentioned under (†).

"A certain animal has lately come to my country called Kik. He face is like the tiger, and is as big as a donkey, and has on the back six stripes. It has destroyed a third of our cattle, and eats men also. The Remington was used but without effect, therefore I beg that the Government may in its wisdom send us some means for destroying this animal.

"I beg of you also to send me a Government flag, so that the Sultan (Ali Dinar) may know that I am a Government subject.

"My horses are 15, the cattle which we gained from Ali Dinar were eaten by my men as everything is dear in this country. But all the arms are kept here and am waiting an early answer regarding my interview.

"By God, by God, and by God and His prophet I am neither Sheikh nor Sultan, but a mere loyal servant to Government.

Peace be with you."

1 Rabi Awal, 1317 H. Signed and sealed. SENIN HUSSEIN.
27th June, 1900.

P.S.—I am informed you have sent flags to these places; so please send me one also, and khoshkan (lead cartridge) to shoot the destructive animal.

(Sd.) SENIN HUSSEIN.

The Sudan Government who had just acknowledged Ali Dinar as a tributary Sultan in Darfur, did not wish to reply to this letter (the only one received from Senin). Any message to Senin might have been misinterpreted by Ali Dinar.

In reply, however, to Ali Dinar's summons to submit, Senin sent a verbal message, by the messenger who brought the letter to him from the Sultan, that he (Senin) refuses to surrender to a man who had "deserted the cause of the Mahdi and escaped from the field of battle," which added to the wrath of Ali Dinar.

Senin, in 1900, was about 53 years old, tall, full in body, impressive in looks and personality, intelligent and of a strong will.

Loyal to and assisting Senin were the following chiefs:—

Abboh Abu Kabayer, Tamawi
Gibril Wad Nigm, Hawari
Abdalla Wad Azrak, Tamawi.

The command of the army was left in the hands of Senin's nephew, a young man by name "Sheikha."

The first army sent by Ali Dinar was under a certain Kiran, a Rizeigi slave—it was estimated at 4000 fighting men. Within eight days two battles were fought in which Kiran was badly defeated. On his return to Fasher he was put to death by Ali Dinar for his failure. Abboh Wad Abu Kabayer was killed in the fight against Kiran.

In 1901, a year after Kiran's defeat, another army of about 6000 fighting men was sent under Adam Ali, of the royal family of Darfur. Two battles were fought within a fortnight, and in both battles Adam was defeated.

On hearing this Ali Dinar was disgusted and ordered Adam to Dar Zaghawa, and sent a 3rd army under Mahmud Dadingawi, estimated at 12000 men.

One battle only was fought (in 1902) which, within a few hours, ended in the defeat of Dadingawi.

In 1903 a cavalry force, some 550 in number, were sent under one Osman Abu Abyona, of the Fur royal family, with instructions to rush Senin's camp and destroy as much as he could. This force one day at daybreak succeeded in a surprise attack on Kebkebia. They looted much cattle and some women and killed the Emir Gibril, then got safely away. On the return journey, however, they were hampered in their escape by the Kadad trees in a place called Fagub at the foot of Jebel Si where they got in to a wood and could not pass through. Senin collected his force and overtook them in this forest. Four men were killed, but the majority of the horsemen finding themselves unable to move in the forest left their horses and escaped—520 of the horses were captured and all the loot recovered.

About a month later a force from Jebel Marra was sent to attack Senin by night under a certain Khalil Kasham. Senin's party defeated them and pursued them up to Jebel Isakha.

After this nearly 5 years passed without any further fighting. During this period Ali Dinar was making preparations. Raiding parties, however, of some 200 to 300 fighting men each, were continually sent to harass Senin. They used to loot anything found in the vicinity of Senin's zeriba, including women, children, and animals. When men were captured, their hands or feet were cut off and they were left to perish.

About the middle of 1907 the largest army that Ali Dinar could fit out was sent against Senin under the leadership of Adam Rigal and Mamud Dadingawi. The former came from the South and Dadingawi from the East. Each entrenched himself about 6 hours distance from Senin's headquarters and built zeribas. Practically a state of siege was established which lasted for 17 months. During this

period skirmishing and fighting were continuous, with the exception of a period of 3 months *Kherif*, during which Ali Dinar's troops were ravaged by fever.

Meanwhile the provisions and ammunition of Senin's party were becoming gradually exhausted. The followers and slaves were deserting. During the last 15 days of the siege distressing incidents, common to sieges of history, of eating all sorts of animals and leaves of trees, repeated themselves. When the last rush was made, not more than 400 *ansar* had remained with Senin to make the last stand. All were out and glad to meet death.

Senin, his nephew Sheikha, and Abdalla Azrak fell on this day together with most of their *ansar*. The remnant of the men, with all women and children captured, were taken and their faces branded as a sign of servitude. (*)

The news of his victory was communicated by Ali Dinar to the Sudan Government by special messenger who arrived at Khartoum early in 1909 bringing in Senin's flag as a present to the Governor-General.

After the destruction of Kebkebia and the removal of Senin's fugitives to Fasher, Ali Dinar ordered the old mosque at Kebkebia, built in the days of the old Government and destroyed by the Mahdists, to be rebuilt. He sent thither an Imam, Fiki Osman Mohammed Kurrah.

(*) When, after the fall of el Fasher and the flight of Ali Dinar in 1916, a Govt. force, consisting of the Eastern Arab Corps, under the command of Lewa W.H. McCowan Pasha, with myself as political officer, went west to occupy Kebkebia, and were accompanied by Mahmud el Dadingawi, Mahmud had remained faithful to Ali Dinar until his flight from Fasher, and had then accepted the new order and thrown in his lot with the Government, which he served faithfully until his death in February, 1922.

As the force, referred to above, neared Kebkebia, he regaled the O. C. and me with the story of his campaign against Senin, which corresponds with what is given in this article.

Mahmud had the greatest respect for Senin as a doughty fighter and spoke of him as an irreconcilable "die hard."

Senin's son, Abdel-Shafi, a boy of 20, came in to tender his loyalty to the Government fairly soon after the occupation of Fasher, but some delay was occasioned by his zealous preoccupation with the task of scouring the countryside in pursuit of women, children, horses and cattle which he averred to have been taken from his father by Ali Dinar and his captains, and to have now reverted to himself. He was a nice boy of engaging frankness and intelligence.

He and most of his father's relations and adherents bear on their cheeks the brand of Ali Dinar "H," the sign of servitude.

(Sd.) H. A. M.

NOTES
ON THE LAW AND CUSTOM OF THE JUR TRIBE
IN THE CENTRAL DISTRICT OF THE
BAHR EL GHAZAL PROVINCE.

BY JAD BOUTROS GHAWI,
Sudan Civil Service.

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METHOD OF HEARING CASES

Cases of civil and criminal disputes are generally heard by the chief or the sub-chief and in their absence by any of the elder persons of the village. The procedure in hearing such cases is as follows:-

The judge sits in his house yard or in the village court yard surrounded by any number of the elder persons of the village who may be near him at the time and thus forms a court with himself as president and the others as members.

Accused and his witnesses, complainant and his witnesses and all who are interested in hearing the case sit opposite the court.

Complainant then starts, whilst sitting, to relate his story in a loud voice. It is repeated after him, sentence by sentence, by any reciter who may be selected by the court, in such a way as to make every one in the court yard hear what he is saying. Reciter usually stands whilst repeating the statements.

When he has finished his witnesses follow, and then accused and his witnesses, each in turn, and in a loud voice, give their statements which are repeated after them sentence by the reciter as in the case of the complainant.

When all have given their statements the court will proceed to examine any of the two parties; and when they have done so and agreed among themselves on the appropriate judgment, they call on the president to pronounce it, and to state to all concerned that they have agreed to that judgment seeing that it is the best to suit the case.

The person on whom sentence is passed will be charged by the court with the execution of the terms of the judgment which is in all cases a fine—nothing else but a fine is imposed in all their judgments no matter what the crime or dispute is.

The courts have many ways of executing their judgments in case the debtor should fail to satisfy the creditor. One of their methods is that they would compel judgment debtor to deliver one of his unmarried sisters or daughters to judgment creditor as security until the terms of the judgment are satisfied.

TRIAL BY ORDEAL.

If a person denies any charge made against him his hand is dipped in boiling water up to as many as six times in one or two ordeals, with an interval of one or two days between the ordeals, as may be desired by the complainant. If his hand should show any burns he is proclaimed guilty and fined the usual fine as defined for that particular offence with which he is charged otherwise he is proclaimed innocent and receives from complainant a fine usually equivalent to the fine which he would have had to pay had he been proclaimed guilty.

Another method of dealing with such cases is to ask accused to drink with a small "Qara" (small pumpkin) from 4 "burmas" (water jars) full of water, in which a certain poisonous substance has been diluted.

If accused does not drink or if he drinks and does not vomit what he drinks before he has drunk 12 "Qaras" he is proclaimed guilty and fined the usual fine defined for that particular offence with which he is charged. If he vomits before he has drunk 12 "Qaras" he is proclaimed innocent and receives from complainant a fine usually equivalent to the fine which he would have had to pay had he been proclaimed guilty.

When accused does not vomit the water after drinking 12 "Qaras" he is given a certain substance to drink to make him vomit everything he has drunk otherwise as a rule he swells up and dies.

This last method has been stopped by the Government owing to its fatality.

The Golo, Bari and N'doggo Tribes of Bahr El Ghazal use a different method which may well be mentioned here. The accused has to go out to the open country with an arbitrator and certain number of witnesses to hunt a gazelle, a rat, or any other animal. If the animal he hunts is male he is proclaimed guilty and pays the usual fine but if the animal is female he is Proclaimed innocent and received from complainant a fine usually equivalent to the fine which he would have paid had he been proclaimed guilty.

MARRIAGE.

Many tribes in Bahr El Ghazal are accustomed to exchanging women for marriage purposes but amongst the Jur Tribes exchange of women is absolutely forbidden.

They do not marry blood relatives and may marry anybody else, even a step-mother and a brother's wife.

A Jur has to buy his wife at certain fixed rates normally 200 "Malodas" and 2 bulls.

("Maloda" is a round thin piece of iron about 8 inches in diameter with a short hollow handle just sufficient to hold a long wooden shaft, used for clearing ground from weeds and for other cultivation purposes, current value amongst the Tribes is P.T. 10).

In case of chiefs and wealthy people the price of a wife runs to 500 Malodas, 10 sheep, 4 ewes and 2 bulls.

Less prices, as may be agreed to, are sometimes paid for non-virgin wives and the older the woman is the less the price usually is.

The price paid for the wife all goes to her next of kin to enable him to buy a wife for himself. (The next of kin of a woman is one of her brothers to whom she was allotted by her parents on the day of her birth to enable him to buy a wife for himself with her price.)

It is usually paid in instalments which should all be paid off before the marriage is contracted. During the period of engagement the bridegroom has to send presents to his bride as meat, cloth, fish and such other things.

In case of exchange of women, no expenditure beyond a few presents is incurred by the bridegroom.

If for any reason before the marriage the two parties agree to break the marriage contract, the parents or guardians of the bride have to refund the price paid to them by the other party. The presents offered to the bride are either returned in full or in part or given up as both parties may agree to.

In case the bride's people should, for any reason, break the marriage contract they will have to refund to other party everything paid, incurred or presented to them. In case the bridegroom should break the marriage contract, through no fault of the bride, he will have to forego all presents offered to her and all or part of the price paid as may be agreed to on arbitration:

Presents that have been consumed are usually estimated and paid for in Malodas.

Engagements are made at different ages but usually during youth. In that case the parents choose and buy the wives for their children but when the children desire to marry again when they are of age they choose their wives and request their parents to pay for them.

Should the children, when of age, refuse to marry the women bought for them in their youth, the marriage contract is either broken under any of the aforesaid rulings or the women are married to any of the brothers of the bridegrooms.

If the bridegroom or his parents fail to pay the full price of the bride in the time appointed the parents of the bride or her guardians will have the right to marry her to any other person provided they return to the former bridegroom all presents given and part of price paid.

In case the parents or guardians of the bride should have spent that part of the price paid to them, the latter bridegroom will pay the amount due, charging it to the amount due from him as price of the bride.

If a man engaged to a woman is imprisoned before marriage for a long period, his next brother has the right to marry her provided her price is paid in full, otherwise the parents of the girl have the right to sell her to any other person, returning to former bridegroom any amount paid to them by him.

When the brother marries his imprisoned brother's bride, in the manner described above, the woman, thus married, and her children, will belong to his brother and be returned to him when released.

The Jur are allowed to marry any number of women if they have the funds to pay for them and all their children are considered as legitimate.

The first wife of a man usually chooses the other wives for her husband by whom she is considered as the mistress of the house. If she is old she looks to the other wives as her children and treats them as such and likewise they treat her as their mother.

Every wife must have a separate hut for herself as well as a separate grain store and separate land for cultivation. She is supposed, whether or not helped by her husband, to do everything in connection with her cultivation. When she requires the help of any number of persons she makes "Merisa" and announces that she is prepared to serve "Merisa" to whoever comes to help her. When this announcement is made many people come to her help and are given some "Merisa" to drink at the end of every day's labour.

If the wife dies before getting children for her husband, her husband has the right to take back from her parents or guardians the price paid for her to enable him to buy another woman. He foregoes, as far as I can now recollect, all presents given her during period of engagement as well as 40 and in some places 60 "Malodas" (equivalent to the adultery fine—see "adultery").

If she dies after bringing children to her husband, the husband has the right to take back up to half of the price paid. The amount he foregoes is supposed to be left for the maintenance of the young children - should there be any - who are supposed to be looked after by the deceased wife's people until they are of a certain age.

For other details see under "divorces" as the law on both death and divorce of women is the same.

ADULTERY.

(Note:—Wherever the word "woman" should appear in the following version it may also mean a "virgin.")

Should a man have illicit intercourse with an unengaged or an unmarried woman he pays a fine of 60 "Malodas" if he lives East of Wau and 40 "Malodas" if he lives to the West of Wau. The fine all goes to the parents of the woman who usually pay it to her brother to whom her price was allotted by them during her childhood.

If on the other hand the offence is committed with an engaged or a married woman the fine is 40 "Malodas" in the *East* and 60 "Malodas" in the *West* and paid to the bridegroom or husband as the case may be.

If adultery is committed with any woman and the next-of-kin of that woman commits the same offence with any woman to whom the first adulterer is the next-of-kin no fine is paid by either adulterer and the case is considered as Square (Tit for Tat).

If a man has intercourse with an engaged or a married woman, relative of his, he produces in addition to the fine referred to above a sheep. This sheep is slaughtered and cut into two parts, one part is given to the relatives of the bridegroom or husband of the woman with whom the offence was committed and the other part to the relatives of the man.

This is made in order that the child which may be born in consequence of the crime may not die.

The children born as the result of illicit intercourse with an engaged or a married woman will belong to the bridegroom or the husband as the case may be but if the woman is not married the children belong to her parents.

The children born as the result of intercourse with an engaged woman will belong to the bridegroom only when he has paid the full price of the bride, otherwise the children will belong to the bride's parents.

When a married woman becomes pregnant, whether or not in consequence of adultery, she must tell her husband if she had committed adultery previously otherwise she believes that the forthcoming child will die.

In such cases women very rarely make false charges and are consequently believed whenever they charge anybody with having had illicit intercourse with them.

If when such a charge is made the man denies the charge his hand is dipped in boiling water as described under the heading "Ordeal."

If a man has illicit intercourse with a pregnant woman and that woman should cast her foetus or give birth to a dead child at any future date, whether or not in consequence of the crime, the man is considered as having committed murder and made to pay a murder fine of 100 "Malodas" in the East and 200 "Malodas," one cow and one bull in the West of Wau.

DESERTION BY WIFE OF HUSBAND.

If a woman should desert her husband and decline to return to him he has the right to take back, from whoever received her price from him, the full price paid for her, minus 40 or 60 Malodas, as the case may be, representing the adultery fine, considering that the man has had sexual intercourse with the woman.

If the deserting wife would have young children, whom she has also deserted, the husband has the right in the first instance to take back half of the price paid for her to enable him to maintain his children. Should she return afterwards the amount is returned but should she decline to return the husband has the right to take back the other half of the price minus the adultery fine of 40 or 60 Malodas.

DIVORCE.

If a man divorces his wife he has the right to take back the full price paid for her minus the adultery fine.

If she has any young children, from him, he will take back only half of the price keeping the other half to her parents for the maintenance of the children who will remain with her until the boys become 9 years and the girls 7 years when he will take them back.

On his taking back all his children he will give the mother a cow and 80 Malodas as a reward for maintaining his children for him.

If the woman should marry another person before the children are 9 and 7 years of age the father has the right to take them back as soon as they are able to walk and will pay her a proportionate amount as may be agreed to.

The woman has no right to divorce her husband but the husband can do so whenever he wishes.

HURT.

In all case of grievous hurt a fine of 60 "Malodas" is paid by the guilty party to the aggrieved person.

In all cases of lesser hurt the fine varies from 10 to 60 Malodas.

Should the person to whom hurt is caused die at any future date as a result of that hurt the accused is considered responsible for the death and made to pay the murder fine, minus the amount previously paid by him for the hurt.

MURDER.

In cases of intentional murder a fine of 200 "Malodas" is paid in the East of Wau and 200 Malodas, one cow and one bull in the west and given to the next-of-kin of deceased.

In cases of unintentional murder half the above fine is paid.

If the murdered person is a woman, who has children, the fine varies from 50 to 200 Malodas, one cow and one bull. A reduction is made on account of every child the woman has. The more the children are the less the fine is. The reduction on account of girls is usually about twice the reduction on account of boys considering that a girl produces money when sold.

If the murdered person is an infant the fine is 50 Malodas.

If a person, whether intentionally or unintentionally, causes the death of a child at breast he pays a fine of 30 to 40 "Malodas."

If the spear of any person should accidentally fall from where it is placed on any other person, and kill him, the owner of that spear pays a fine of 50 "Malodas."

If a person gives oath on the abdomen of a pregnant woman and that woman should happen to cast her foetus or give birth to a dead child, that night, the swearer is considered as having committed intentional murder and pays the full fine.

It might, however, be noted here that all murders and cases of grievous hurt are now being tried by Government courts.

INHERITANCE.

The lawful heirs of a person are his next eldest brother and his eldest son. The brother inherits all property inherited from their father, known as the family property and the son inherits all personal property of his father, i.e. everything realised by his father during his lifehood and not inherited from any of his ancestors.

When the next eldest brother dies the family property, should there be any, all goes to his next eldest brother and will remain changing hands in that manner, from one brother to the other until the youngest on whose death the family property will be distributed amongst the male children of all the brothers, but it is very unlikely that anything would have been left by them.

The personal property inherited by the son from his father becomes family property immediately it goes into the former's possession and is treated in the same manner as described above.

The heir, on his inheriting anything, may, if he so wishes, grant something of what he inherited to his other brothers but not to his children.

The inherited property covers all women, slaves, iron, guns, spears, skins, grain and everything else which a person may leave behind when he dies.

MAGIC.

If it is believed that the death of any person is due to magic, performed by any sorcerer (the word "sorcerer" may also mean a "sorceress"), that sorcerer is charged with having committed murder. If he admits the charge he is fined half the fine fixed for intentional murder. If he denies it his hand is dipped in boiling water as explained under "Ordeal." If he suffers any burns he pays the fine defined above, otherwise he receives a fine of 30 to 40 "Malodas" from complainant.

If before an enchanted person dies the accused should deny having enchanted him in any way, his hand is dipped in boiling water and if burns appear on it he pays a fine of 30 to 40 "Malodas" to complainant which is afterwards deducted from the murder fine which he may have to pay should the enchanted person die, otherwise he receives a similar fine from complainant and no further charge is raised against him in future, not even if the enchanted person should die.

The second method, explained under the heading Ordeal, of dealing with a person who denies a charge i.e. by giving him poisoned water to drink, has been, until stopped by Government, more in use when dealing with sorcerers who deny the acts of magic. Even when such a method is used, the fine imposed in cases of death by magic, does not exceed the fine under the former rule.

The magic method performed by sorcerers for killing a person, either on abetment or on account of feud, is as follows:-

When it is quite dark and everybody is supposed to be asleep, the sorcerer goes to the house of the person intended to be killed by magic, and after opening the door of the hut in which he is sleeping he stands right in the door, turns his back to the room, stoops down and throws in a handful of blood, from between his legs, sprinkling it on the inner walls of the hut. This blood is believed by them to be ejected from the anus of the sorcerer.

This act of magic is believed to cause the death of the person intended.

If the sorcerer, *i.e.*, a man is caught whilst performing this act, he is first identified and then slightly stabbed in any part of the body just sufficient to make a mark of evidence; if a sorceress, after identifying her, a bit of the tail of the skin she wears on her body (Jur women always wear a waist belt of skin) is cut and kept by the person who caught her, to be produced as an evidence in court. The next morning the case is brought before the chief who summons accused and deals with the case. If the person dies at any future date the sorcerer is tried for murder otherwise no case is brought against him.

Another way of killing a person by magic, as is adopted by a special class of sorcerers who use roots of trees, known for their medical purposes, in their performances, is as follows:-

The sorcerer produces a small "burma" containing water and after putting it over the fire keeps it there to boil. He then grinds some sesame, and when the water boils he puts the ground sesame in it and then pours over it the root substance referred to above. When this is done he starts moving the contents of the "burma" with a stick until foam appears on the surface of the water. As soon as the foam appears he puts the stick aside, looks into the foam and after uttering the name of the person he wants killed, calls for him to die.

He remains looking into the foam until he can imagine that he sees in the foam the shadow of the person he wants killed. Immediately this image occurs to him he stabs the imagined shadow with a "Kokab" (kind of spear), with all his might, breaking the "burma" and pouring contents on the fire putting it out.

The Jur believes that the person thus enchanted must afterwards die.

They relate many instances of people having been killed as a result of such magic.

It is also believed that when a person looks into the face of another person with an evil eye, coveting his beauty, his smartness or any other good quality which he may possess he causes him to be sick.

When such a case happens, accused, if he admits or is believed to be the person who looked at the other person with an evil eye, is called and made to rub the body of the sick person with a certain substance, made from roots of trees. If that sick person should recover after that treatment no charge is made against accused but if the sick person should die a charge of murder is made and accused is brought to justice.

All cases of death from snake bites are attributed to acts of magic and the person suspected of having caused death in such a manner is charged with having committed murder and brought to justice.

When a sick person believes that his illness is due to the desire to kill him of a man now dead, or that he would not have become sick had he not parted with a dead person when both were still in a state of feud with each other, his people proceed to the grave of deceased, obtain from it a handful of earth, mix it with water and make from it 3 small cakes which are then baked in fire. If after they are baked they are crushed when pressed between the fingers it would mean that the dead person is not the cause of the illness. If they are not crushed, a hole is made in each of them and hung on the neck of the sick person. If he recovers after this process, no further action is taken otherwise his people proceed again to the grave, dig it up, pull out one of the teeth of deceased and hang it on the neck of the sick person. This they believe would cause him to recover.

The same method is adopted by many other tribes in Bahr El Ghazal such as the Golo, Bari and N'doggo.

If the dead person is a relative of the sick person, a different method is used. The son or in his absence the daughter, or next of kin of deceased is called by the sick person, and after telling him of what he believes to be the cause of his illness, requests him to do the needful so that he may recover.

On the son hearing this he goes and produces two lizards one male and one female, one chicken and an empty "burma." He then makes a small opening in the bottom of the "burma" and at dawn, the next morning, he proceeds to the hut of the sick person, and after seeing that the sick person and all his people are in the hut he makes a hole in the door-way of the hut, just sufficient to take in the "burma" and puts the "burma" up side down in the hole. When this is done he cut off the heads of the lizards and chicken with a knife which would be supplied to him by the sick person or his people, and puts them all in the "burma." He then pours some "Merisa" over them, which has been prepared for the occasion by the sick person's people or his neighbours, buries the "burma" well in the ground, and goes away. Before going away he is presented by the sick person's people with 2 Malodas, the knife with which he cuts off the heads of the lizards and the chicken, and any "Merisa" which might have remained after the process is over.

When a person is sick all the elder and notable persons of his village take a sheep and go to visit him. On arrival they tie the sheep near the bed of the sick person and sit round it waiting for it to urinate. If it does not urinate after a reasonable time it is taken outside for an hour or so and then returned with the hope of urinating this second time or else another sheep is brought in place of it. As soon as it urinates they dip one of their fingers in the urine and wipe it on the

body of the sick person. They then cut a part of the ear of the sheep and hang it round the sick person's neck.

When this is done each of them takes a fibre thread from a bundle of fibre threads, which have been produced for the occasion, and put in a special "burma," wets it in his mouth and ties it round the sick person's neck.

During the process they would all be praying for his speedy recovery.

This is believed to cure the person.

In case the sheep should not urinate, after a reasonable time, they would take it to be a bad omen meaning that he is dangerously ill, in which case they would find it absolutely necessary to complete the process that very day.





WOMAN 'SPINNING.

THE HANDSPINNING OF COTTON IN THE SUDAN.

By G. M. CROWFOOT.

The Sudan is one of the few places in the world where cotton is still spun on a handspindle, a method not only of great interest on account of its primitive character, but one with a peculiar value of its own. This note is written in the hope that if this value can be more fully realised, steps may be taken to preserve the craft, now in danger of destruction.

Spinning, in most parts of the country, is a women's craft, and one which they themselves regard as of great importance. I share their feeling, regarding it as a civilising influence in their lives.

I love to sit in a Sudanese courtyard and watch the face of some mistress of craft as she draws the thread from the spindle twirling in her right hand by the graceful flinging out of the left hand holding the fluff of cotton just pulled from the seed. Wide, wider her arms go and yet the thinning thread does not break, her set lip quivers to a smile—quick, she rolls the spindle on her thigh and lets it drop. The tiny toy hangs whirling at the end of the fine strong thread. The spinner smiles, a wise smile, the smile of the artist. She is full of the joy of creation. "Ha! the English lady, for all her wisdom, cannot spin a thread as fine as mine!" No, the English lady is lost in the pleasure of watching the thread grow, is absorbed in the magical moment when all the pains and grief of craft are left behind, the tedium of laborious hours of learning all forgot, and the accomplished form is there, swift effortless, and altogether beautiful. "See, O Lady! How fine! how strong! this is the best warp thread! how slender!" chant the assembled company. They also spin—to many it is but dull labour—or at best something to keep the hands moving harmoniously with their lively tongues—but all know enough to admire the good spinner. To them a fine thread is an achievement, and the material "*farda el banat*" woven from it is beautiful. False shame may sometimes make some sneer at it as "*baladi*" (rustic) but at heart they like it for its unrivalled softness, warmth and durability—it is *their* material, they have made it, spun it, every thread of it.

It is then this joy and pride of Sudanese women in the craft of spinning that makes me speak of it as a civilising force.

It is also a source of income. Apart from the spinning done for family use, the good spinner can spin a bit more for pocket money, while a woman who is in poverty, thrown on her own resources, can always, as they say, "get bread" by it. The economic point of view,

put forward by Europeans, that the people are better off if *all* the cotton is sold abroad and cotton garments *plus* other goods are bought with the money, is not seen by women.

They like the bit of money they make themselves, that is within their own control, spinning to them means a certain, though limited degree of economic independence. As long as Sudanese women can get cotton on the seed to spin from, at a reasonable price, the craft will not die. So far they have been able to obtain cotton, and the craft is still alive in spite of the competition of European goods. A glance round any Sudanese crowd in the winter will show how popular "dam-mur" or homespun still is with both men and women.

But the whole industry is now threatened, and very seriously. Last year, 1924, it became very difficult for the women to obtain enough cotton for their spinning at any price. Their main difficulty lies in the fact that they *must* have cotton on the seed. It is quite impossible to spin fine thread on a hand-spindle from machine-ginned cotton. Indeed it is impossible on *any* spindle, without processes in between. In the factory, many processes, scutching, carding, drawing, slubbing, etc., come between the machine gin and the spinning. Hand weavers at home have asked me why in their experiments in cotton spinning on the spinning wheel fine thread seemed so impossible to obtain—the reason was that they were trying to spin straight from machine-ginned cotton. Cotton gins vary in their destructive powers—perhaps some day a perfect one will be invented—meanwhile Sudanese spinners have quite genuine grounds for refusing to try and spin from ginned cotton which is, they say "melakhbat," all mixed up.

The native bamboo hand gin serves their purpose better, but even that is not highly thought of. When the Sudanese expert spins she gently removes the lint from the seed, takes the soft fluffs two or three together, and with a few quick touches the light roll is ready. Scutching, carding, or other preliminary processes are unnecessary—the essential ones, drawing, twisting, winding are all done on the spindle. Thread so spun has peculiar durability as the fibres lie much in their original order, and is soft with the softness of the cotton in the boll.

The difficulty which the women are experiencing in obtaining the cotton they need varies in different parts of the country—in some parts it has hardly been felt as yet, but in those I am acquainted with it was acute in 1924 and though the situation is easier this year their supply is still precarious. Before discussing causes and possible remedies I will give some examples of what the women themselves say about the situation.

I first woke to the strength of their feeling when I happened to hear their comments on the accident at Wad Medani, when damage was done to the cotton gins by fire.

I was sitting in a courtyard with some Sudanese friends when another came in from Omdurman with the gossip of the day, "Have you heard the news? Medani gins are burnt and all the cotton!" "What, all the cotton?" "Yes, *all* the cotton." General exultation round the hosh. "Ya Khusara" I say, "Why are you pleased?" "It is a judgment on the men because they won't let us have any cotton to spin, and send it all to the gins and away out of the country. Now the cotton at Medani is all burnt. They wouldn't let *us* have any of it, so God wouldn't let *them* have any of it. God burnt it to punish them. God saw our unhappiness. God is merciful." I enquired of other women afterwards whether they also took this view of the burning of the gins, and their reply was "It is what is said in the suk (Market), that this is from God because of the sorrow of the women." One described to me how she had been to stay in Medani and had hoped while there to buy some cotton for her spinning as it used to be cheaper there than in Omdurman. "I bought no cotton in Medani," she said. "There was very little in the suk, very bad stuff, and very dear. The women there are unhappy, very unhappy. We sat with folded hands, so, and watched the camels go by, hundreds of camels laden with cotton, such beautiful white cotton, and never a bit for us." Another (my weaving teacher from Abu Deleig) described with some humour how some of the women round her way had sent a messenger specially to Shendi to buy them cotton for their spinning and how the messenger returned empty-handed. There was a joke passing too against some women of Berber who had been offered a bale of ginned cotton for their spinning. "All they could have done with that cotton would have been to stuff cushions with it." Poor creatures! Others were more bitter. "There's hardly any 'beladi' cotton to be had now, and all the 'qutn bagour' (pump cotton) goes away to the gins. And if a man on a pump station does what his wife wants and keeps back a bit of cotton for her spinning, it's 'stealing' and he may be put in prison. Stealing! Isn't it our land? Why shouldn't we women have a bit of good cotton? Truly this Government is hard on women."

The fact the "qutn bagour," *i.e.*, pump cotton, is commonly used for warps in Omdurman, while the cheap "beladi" cotton is used for wefts, may come as a surprise to some. In a recent Agricultural Report, it is mentioned on the section on cotton, that a certain amount of "beladi" cotton is grown in the Sudan for the weaving of "dammur" "an industry of no importance." Any Sudanese woman would have taken exception to this. "Since when" I have been asked, "Have the women had 'qutn bagour' for their spinning?" I wish the original questioner could have seen a Sudanese woman's face when the question was passed on to her, her expression of scorn and derisive gesture. "Since when have we women had 'qutn bagour'?" she cried, "Ever

since it came into the country. Why shouldn't we have it? Certainly we want it, it is lovely, it is soft, it spins itself, easily so—" and her pose of derision changed to the wide and gracious gesture of the spinner drawing out the thread. "We always use it for warps when we can get it. Where did we get it? How should I know? There used to be plenty in the market—perhaps some used to come from Kadaru—but now it is dreadful, you can't get a bit of good cotton in Omdurman whatever you pay except by favour "under the tobe" (*i.e.*, under a fold of the dress) and then it is such a handful." These quotations give some idea of what the spinners are feeling; they have always had some measure of the soft adorable gift of nature in their hands, and their mothers before them—does not their craft quite probably date back to Meroitic days?—and they cannot see why now, when there is more cotton and better cotton in the country, they may not have a share of it. The general prosperity of a country has very little cheer for those who are made poorer by it. Of the real reasons for the shortage of their supply and those coming conditions necessary for pest control which may cut it off still more sharply they understand very little, they blame either "the men," meaning, I take it, the cultivators of cotton, and, of course, the Government.

As far as I understand, the causes of the shortage are as follows:—

- (1) "Beladi" cotton, *i.e.*, the cheaper and commoner kinds of cotton, is going out of cultivation.
- (2) "Amelikani," *i.e.*, rainland American and the better type of "beladi" are being more exported owing to high prices.
- (3) "Qutn Bagour," *i.e.*, pump cotton, has almost disappeared from the market probably owing to closer control on pump stations.

As regards this third cause, to put it quite straight, there is as far as I know, no legitimate way by which spinners can obtain pump cotton on the seed. The contract between those who irrigate and those who cultivate necessitate the sending in of all cotton to the gins. I did not myself realise this till this year. I have in the past purchased fine warped thread spun in Omdurman from good cotton without thinking of asking myself or anybody else where the cotton came from; the difficulty I found in trying to buy some to show at Wembley last year led me to enquire. I could not find that there were any pump stations where needs of local spinners were recognised and arrangements made for sale (or return) of cotton on the seed, but my enquiries were very limited; I hope there may be some. But it may be asked, even as I maintain, such arrangements would be right and practicable, could spinners pay present prices? The high price of the very best cotton is beyond them, but they declare that they could pay the price of some of the cotton that is sold away from them. In Omdurman they were

paying, for such scraps of good cotton as found their way there, P.T. 2-3 per rotl compared with P.T. 1-1½ given for "Beladi." I discussed this question of price with one group of women and they asked me if, supposing they could make a "gam'a" (or society) as the men do for many purposes, it would be possible for them to buy cotton on the seed by the kantar instead of by the rotl and so cut out any presumed difference between wholesale and retail price. I hesitated, for apart from the barrier of regulations on pump stations, of which they understand little enough, there is the even more difficult question of pest control, of which they understand just nothing at all. At that moment, a fat pink boll-worm opportunely showed himself on the cotton boll that I was handling. "See," I said, "this worm—he is full-grown now and well fed; when he was young and tiny he lived in the cotton seed. The Government fears that if you go on keeping seed in your houses as you have in the past, the worm will spread all over the country and all the cotton be spoilt. This is a new thing—you know that in time past there was no red worm here, it came with the seed from Egypt. For a new thing the Government must make new rules." "But if we were allowed to buy the cotton could we not give back the seed? O Lady, speak for us, ask if the Government will make a plan that we may buy cotton and give back the seed." Neither they nor I are the first to discuss this; I found on speaking of it subsequently, that Government officials were already aware of the spinners' desires and were considering them most sympathetically. But I also found that the necessity to the craft of cotton on the seed was not realised, nor the especial value of the thread so spun, nor, which more surprised me, that value of the craft in the lives of Sudanese women, on which I have already touched. And here I would not be so misunderstood. It is not that I think that "spinning" can ensure happiness in all lives. I believe that Sudanese girls have capacity for enjoying and profiting by far more education than they get. But I have also learnt that there are people in the world (even in our world with its wealth of interest) who are unhappy if they cannot express themselves through the work of their hands. Women's crafts are few in the Sudan, spinning is known to all, a woman who cannot spin is rare, she is usually a darker sister from the more primitive southland where cotton is neither grown nor worn—I do not remember having met a Sudanese Arab woman—if this their common resource is taken from them, with what can they replace it? The real value of a craft and the problem of maintaining it, is, as has been said, better understood by scientists and artists than by politicians, but even politicians might feel impelled to consider the discontent of a possible half of the population!

On the point of the value of the homespun "dammur" I would also avoid misconception. I am not trying to prove that dammur is suitable

for all purposes or that Sudanese people ought to be content to wear nothing else. To me its chief value lies precisely in its difference from any machine-made cotton, and its peculiar excellence for certain purposes. We have all heard and smiled over the story of the Indian social reformers who suffered from "prickly heat" as a result of wearing "chuddhar" and thankfully returned to fine Manchester cotton. "Dammur" too is a strangely warm material, and is therefore admirably suited for winter wear. A Sudanese winter is really winter to the Sudanese and they need warm wraps. Wool is too warm, except for one brief month, is unhygienic owing to the difficulty in washing it, and is very costly owing to the cost of import and the ravages of beetle larvae. Nature has put an edge on this argument by giving the sheep of the country coats obviously more suited for the weaving of rugs than of human clothing.

I have already given the reason for the durability of "dammur" the fact that the cotton goes into the material about as straight from the boll as can be imagined. This also gives it another virtue, pleasure to the eye. How this quality might be developed and used can be well realised by going into the Nigerian and Sierra Leone sections at Wembley and looking at the wealth of cloths displayed there; "dammur" with just a dash of colour and a few lines of pattern no more advanced in technique than the "zig" or little pattern border put in on the Sudanese "tob." For further development look at the bedspread shown by Mrs. Mairet in the Art Section, also woven from Omdurman handspun. And then consider the deliciously paradoxical idea of a cotton magnate coming to the hand-weaving studio to cloth his children in garments of beauty and choosing jumpers woven from handspun cotton! Yet that actually has happened.

Surely a craft so valuable in itself and so capable of development is worth preserving. How can we avert the threatened doom? "The craft" as Ashbee says "must go on or it will die." Let it go and you can't revive it. *Now* it is still alive and so little would keep it alive. We Europeans have killed so many crafts in our time, unwittingly, with our eyes shut—here we have our eyes open. The spinners themselves say "There is so much cotton in the country and we only want a little." The problem is how we can give them that little without endangering the success of the cultivation of the fine types of cotton desired by the rest of the world or rendering ineffective the measures of pest control designed to ensure that success?

So far, I have spoken with assurance, from my knowledge of the spinners and their craft, of possible plans for their reliefs I must speak with more modesty. I have heard four suggestions, two of which seem hopeful to me.

(1) THAT THE EXPORT OF "BELADI" COTTON SHOULD BE FORBIDDEN. This may be recommended on quite other grounds than the relief of spinners, as far as they are concerned I have no great love for the remedy. "Beladi" cotton is rapidly going out of cultivation anyway, and such a measure would naturally accelerate the process. In the year of its application the local spinners would, no doubt, get lots of cotton but not, it is probable in the years following.

(2) THAT SOME APPLIANCE SHOULD BE GIVEN TO THE SPINNERS BY MEANS OF WHICH THEY COULD SCUTCH AND CARD MACHINE-GINNED COTTON BEFORE SPINNING IT. I do not see how the craft could stand the expense of machine-ginning plus labour of such scutching and carding, even if a cheap appliance could be devised and its use taught to the women.

Besides, the special value of the craft lying precisely in the special qualities of a thread spun from cotton "on the seed" and *not* from machine-ginned cotton, this remedy might destroy more than it could save.

(3) THAT SOME PLAN SHOULD BE MADE BY WHICH SPINNERS COULD BUY COTTON ON THE SEED AND GUARANTEE TO RETURN THE SEED WITHIN A GIVEN TIME. Here the difficulty lies in the "given time," two months has been suggested. As spinners can only spin a good thread from lint freshly pulled from the seed, the suggestion that they might de-seed the cotton return the seed, store the lint, and spin at their leisure is not received with any enthusiasm. But if the time could be extended this scheme would be most popular.

(4) THAT COTTON ON THE SEED SHOULD BE FUMIGATED BEFORE SALE TO SPINNERS. Before I left Khartoum in the month of April, Mr. Massey kindly experimented with a small bag of 20 lbs. of cotton for me, fumigated it, pronounced all larvae life to be extinct, and allowed me to issue it to some spinner friends.

Both these two last plans seem practicable and most hopeful to me—and on this note of hope I end.



A NOTE ON LOCUSTS.

By H. B. JOHNSTON, M.A., F.E.S., C.M.Z.S.

Few insects are better known, at least by name, than the locust. Most languages and dialects probably possess words to designate him. He was, in all likelihood, one of those insects which first thrust themselves on the notice of man by reason of their unwelcome attention to his growing crops. It is a curious fact, however, that, in spite of this long continued connection with man and his activities, many of the most important phases of the locust's life-history are still unknown.

Geologically the order, to which locusts belong, emerges into prominence in the Carboniferous period along with the luxuriant vegetation which then flourished. The fragmentary fossil types found there have been regarded by some authorities as the ancestors of our existing forms, and have been given the name *Palaeacrididae*.

The order re-appears in slightly different guise in the Tertiary formations, and one may conjecture that, when primitive man first scratched the ground and attempted to substitute a cultivated crop for the wild fruits of jungle and plain, the locust as well as the mammoth reptile and mammal may well have been one of the banes of his existence as an agriculturist.

Africa has always been a favourite haunt of the migratory gregarious locust. Though apparently less frequently found in the central African forest belts, it enjoys a very wide distribution both in the north and south of the Continent. No doubt the size of locust swarms has frequently been exaggerated in popular accounts of their invasions, but no one who has witnessed the descent of a swarm of winged locusts or the steady march of an army of hoppers can fail to be impressed by their numerical strength.

The popular conception of numbers as given in the account of the eighth plague of Egypt (Exodus x, 15) where the locusts are said to have "covered the face of the whole earth, so that the land was darkened" may be compared with the more accurate statements of recent official reports on the locust campaigns which are now a regular part of the routine organisation of the states of the South African Union. For example, in a recent report on locust destruction carried out by the Entomological Division of the Union (the writer quotes from memory), it is stated that hundreds of thousands of bags of dead locusts were collected, from one area alone, after the completion of spraying operations. These figures presumably include only the comparatively small proportion collected for use as fodder for cattle.

Though all grasshoppers and locusts are herbivorous insects, fortunately only some are gregarious and possess that power of heavy and rapid increase in numbers which is so remarkable a feature of the true swarming species.

The family (*Acridiidae*), to which most of the destructive locusts belong, may be readily separated from all other allied forms by the shortness of the antennae or feelers. The main characters may be seen by a glance at the two figures Plate I, which represents the male and female of the so-called Tree Locust of the Sudan. The third division of the hind leg (femur) is long and strongly developed for jumping, whilst the fourth division (tibia) is slender and usually armed with sharp spines. The members of the family are, in many cases, capable of sustained flight and are accordingly in possession of large and strong wings, which by their great expanse, enable the insect to maintain itself in flight. The same effect is produced also by the presence in the body of thin-walled vesicles or air-sacs by means of which the buoyancy of the body is increased, and an additional supply of oxygen provided in the respiratory system, for considerable periods of time. When not in use the wings are folded away beneath the tegmina or wing-covers which lie closely pressed to each side of the body.

The recognition of the sex of locusts is frequently of importance, since the females congregate at the time of egg-laying, and their destruction together with their egg-masses in the ground is a valuable method of control. In some cases colour differences occur by which the sexes may be distinguished at sight. Size is an unreliable character, though the female is very often the larger. The accompanying figures 1 and 2 show the apical abdominal segments of the Tree Locust (*Anacridium moestum* var. *melanorhodon*). In the male there is a large lower or ventral shield which is usually bi- or tri-furcated at the apex. In the female there are two hard chitinous valves the ends of which point in opposite directions. These processes are used in digging the egg burrow. Two prominent anal cerci lie just behind the upper process.

These points in the structure of the apical segments of the body, though they vary slightly in different species, serve as the readiest means for separating the sexes of locusts.

Having regard to their habits of life, the Acridiid locusts, which occur in the Sudan, may be said to be represented amongst others by the following types: the true migratory locusts which are known to be capable of forming vast swarms and of travelling considerable distances, and which on occasion become a real menace to the agriculturist. Another class may be called the lesser swarming locusts. These appear to possess the swarming habit but in a less pronounced degree,

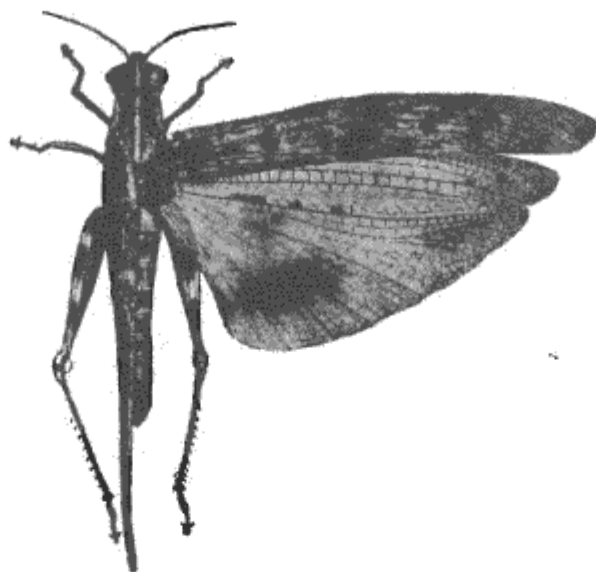


PLATE I. FIG. 1. TREE LOCUST (*ANACRIDIUM MONSTUM* VAR. *MELANORHODON*) MALE.

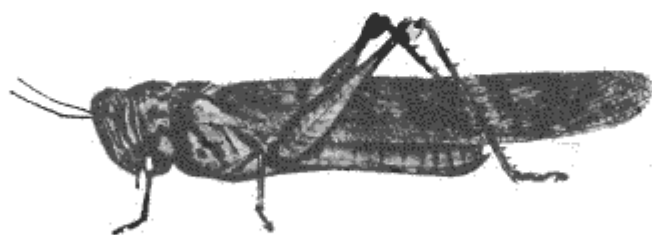
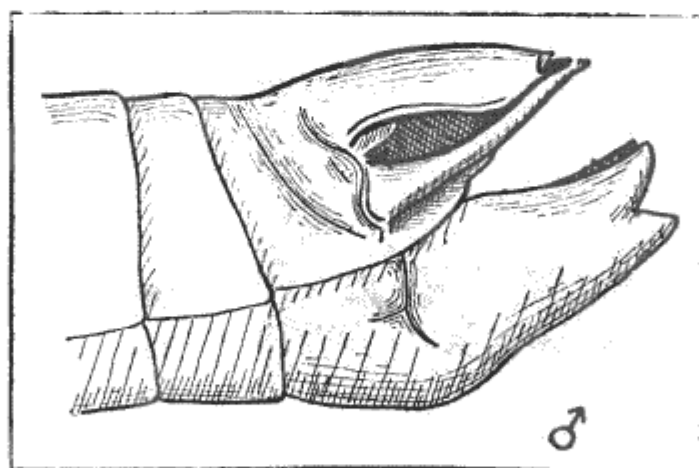
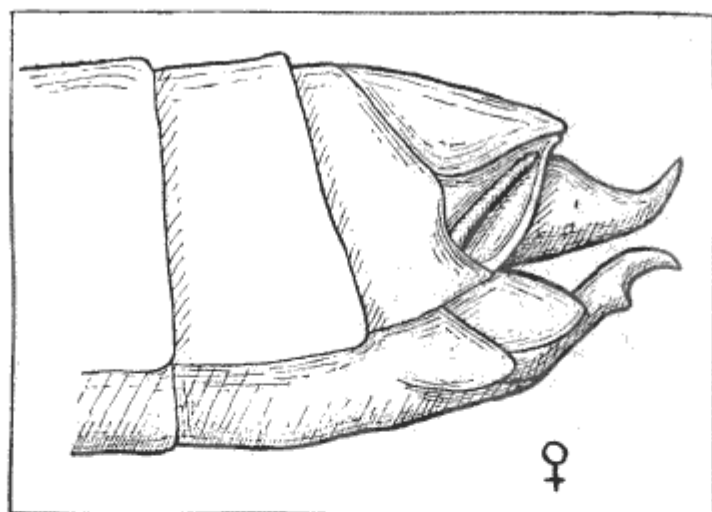


FIG. 2. DITO. FEMALE.
DRAWN BY W. WEDGWOOD BOWEN.



and on this account are of less importance economically. The Tree Locust mentioned above may be included here. Another type is represented by the so-called solitary locusts which do not possess a gregarious habit. In a fourth class may be placed the rather small ground-living species which often occur in large numbers on low vegetation, and which occasionally commit extensive ravages among young dura. These are generally termed in Arabic Gabura (جبرا).

The true migratory locusts are represented in the Sudan by the species *Schistocerca gregaria*. This is not the most important swarming locust of all tropical countries, but it has a very wide range being known to occur in all the three continents of the Old World. In Europe it appears to be restricted to the south of the countries bordering the Mediterranean, and it extends through Palestine and Egypt to the North African countries Algeria, Tunisia, and Morocco, and South to the Sudan, where it is the locust which periodically visits the country in large numbers. The last important incursion occurred in 1916.

During recent years the bionomics of this group has received attention on the part of certain entomologists who have specialized in locust research, and our knowledge of the group has been much increased. A short account of this work may be given here summarised from the paper by Uvarov(1) mentioned at the end of this article. The work therein described was undertaken in South Russia, chiefly in the basins of the Caspian and Aral Seas, where the locusts under observation breed permanently in large numbers. Prior to these investigations two species had been recognised. These were scientifically designated respectively as *Locusta migratoria* and *Locusta danica*. These had been separated by certain structural differences in the adult or winged form. It is, however, in the habits of the immature or hopper stages that the most striking distinctions exist. It appears that the eggs of both species develop equally to a point after which the *danica* eggs proceed to hatch, whilst the *migratoria* eggs are delayed until the spring, hibernation thus taking place in the egg stage. More marked is the difference in habit of life. The *danica* hopper is essentially solitary, and is said to avoid the swarms into which *migratoria* collects. "If a wandering swarm of *migratoria* larvae comes across a solitary specimen of the same form, the latter immediately joins the movement, but when a larva of *danica* is overtaken by a swarm of *migratoria* it tries to escape by leaps and bounds as quickly as it can." Certain indubitable bonds of affinity therefore exist between these two species which are nevertheless as certainly separable by this peculiar behaviour of the individuals of the species towards each other, *Locusta migratoria* being a gregarious species in all stages of its existence, whereas *Locusta danica* is solitary, does not form swarms and hardly migrates at all.

During the years 1912-13, when organized control work was being undertaken to deal with a great locust outbreak which occurred in the north of Caucasia, observations were made which led to the formulation of the Theory of Phases, which may entirely alter our present ideas regarding the causes which produce the periodicity or cyclic character of locust invasions.

In 1912 large numbers of specimens were taken by Uvarov from swarms indiscriminately and their structure critically examined. They proved to be all *Locusta migratoria*. In spite of the vigorous campaign conducted against the locusts during that season, certain swarms occurred in the following year which were definitely known to be the progeny of the swarms of 1912, since the places where oviposition took place had been marked down, and the hoppers noted on emergence. It was then observed that whilst the majority of these hoppers showed "migratoria" characters, certain individuals were undoubtedly "danicas," which when they reached the "flier" stage showed less pronounced gregarious habits, and adopted the solitary existence of the true "danica" locust.

These observations served to show at once that the supposed strictly specific character of migratoria and danica must be regarded with suspicion.

It remained to confirm these observations by experiment, which was commenced by Plotnikov at Tashkent in 1913(2). This investigator isolated specimens of danica in breeding cages where oviposition took place, and found in the progeny a proportion of migratoria forms. Similarly from an egg-mass, laid by migratoria parents, he bred a single danica hopper—the rest of the eggs remained in the hibernating condition, which as pointed out above is adopted by migratoria in South Russia.

These and other observations made at the same time led to the opinion that danica and migratoria are neither different species, nor yet the same, but that, to quote Uvarov's words "they must be regarded as two different forms of the same species without in the meantime any more precise definition of their systematic value."

In order to designate this new status, the term "phase" has been adopted. The periodicity of locust invasions, according to this theory, therefore is due to the alternate rapid production of the migratory phase which is definitely gregarious and is capable of emigrating in vast swarms from its breeding grounds and the ensuing transformation of these swarming phases, perhaps over a period of years, to the harmless or solitary phase.

These investigations, interrupted by the war, have since been carried on in Europe and South Africa (3) in order to ascertain the precise

manner in which this transformation or periodic swarming takes place. One fact has been demonstrated by recent experiments namely that by overcrowding the larval stages in confinement the swarming phase is produced, whereas by giving the opposite conditions the solitary phase appears. This very interesting fact is the outcome of experiments conducted quite independently by Plotnikov in Russia and Faure in South Africa, but on what lines the final solution of the problem will be found is still doubtful.

Locusta danica occurs in the Sudan. Single individuals may be met with commonly in the late summer and autumn. It is interesting to note that from a single pair of *L. danica* obtained in the autumn of 1924, the writer succeeded in rearing a brood of hoppers which contained both the danica and migratoria phases. Curiously enough *L. migratoria* is not plentiful in this country and it certainly has never been known to swarm. Further work is required to determine how far the phenomena of phases in this species are applicable to the Sudan.

The discovery of the true relationship of these two supposedly distinct species has led to the supposition that similar phases may be present in the case of other species of locusts. It is now ascertained that in the Sudan the migratory locust, *Schistocerca gregaria*, does possess these two phases—which have been designated the “gregaria” or swarming phase and the “flaviventris” or solitary phase, two formerly distinct species having now been correlated on the same lines as the migratoria-danica phases. The phase flaviventris appears to be always with us. It is recorded from specimens taken at Port Sudan in 1912 (Longstaff). Specimens in the Government collection were taken at Gureir, Dongola, and recently the writer encountered several individual specimens between Suakin and Tokar. It would seem therefore, to occur singly and perhaps also in small loose swarms throughout the country. We have yet to ascertain what are the causes, if such exist, which stimulate the production of the swarming phase periodically in the Sudan. It is here that the collection of specimens by all interested in such studies will very materially assist towards the solution of these problems.

In Arabic the migratory locust of the Sudan is known as Garad (جراد).

The Tree Locust (*Anacridium moestum* var. *melanorhodon*) will serve as an example of those locusts which in the Sudan appear not to collect into large swarms though they certainly possess the gregarious habit in a modified form. Cases are recorded of confusion between the migratory locust and this species. Apart from certain more obscure structural characters which separate the species, the following rather more conspicuous features are of value. They are noted here from a

comparison of specimens of both species in the Government collection at Khartoum.

MIGRATORY LOCUST.	TREE LOCUST.
Hind tibiae (the fourth division of the leg bearing many strong spines (yellow or light coloured).	Hind tibiae reddish to purple.
Wings transparent.	Wings with a band or suffused smoky area on the anal margin.
General colour tone light or yellowish.	General colour tone dull red.

In habits the two species appear to differ considerably. The migratory locust in the immature or hopper stage consumes chiefly ground vegetation, grasses and herbaceous plants. The tree locust has been so named from the habit of the hoppers of forsaking the ground soon after hatching, and living and feeding on the foliage of trees during the remainder of their lives. The Arabic name for this locust is sari-el-lel (ساري الليل) (night wanderer) which refers to the habit of the adult locusts of flying in swarms after dark.

That this locust can on occasion become of economic importance was shown in the winter of 1923 when native orchards along the river in the neighbourhood of Khartoum were invaded. Lime and other fruit trees were in some cases entirely defoliated and the crop partially ruined. This curiously has not occurred during the past winter, though the locusts have been present in many cases in the immediate vicinity of the gardens.

During the summer and autumn of last year observations and breeding experiments were commenced by Mr. H.H. King and continued by the writer, and a brief summary of some of the points noted may be of interest in view of the fact that much more information is required regarding the habits of this locust in the Sudan.

Scattered flights were reported during June in the neighbourhood of Khartoum and were observed also at Medani and Kosti. Pairing commenced during this month, and females containing fully developed eggs were taken towards the end of June. It was not however, till after the first rains had fallen that egg-laying was observed. After heavy rain on July 11th and 13th pairing became more general, and on the 17th a female which was being kept under observation in captivity laid one batch of eggs. From a comparison made later between hoppers bred in the laboratory and those found in the desert, it seems probable that oviposition was general about the middle of July.

The locusts seem to have disappeared from the Gezira near Medani about the middle of July, probably dying after egg-laying had been



PLATE II. FIG. 1. SIDR TREE (*ZIZYPHUS* SP.) DEPOPULATED BY TREE
LOCUST. PHOTO. A. MARSHALL.

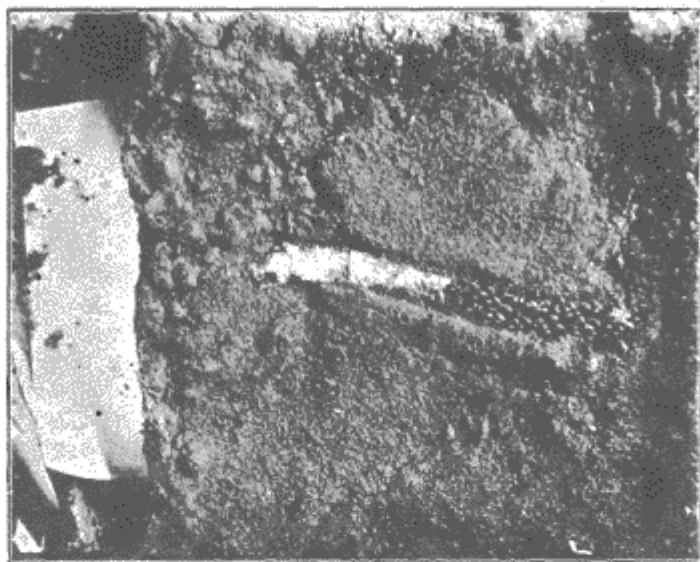


FIG. 2. EGG-MASS OF SOLITARY LOCUST.
(*CVRTACANTHACUS TATARICA* L.) PHOTO. R. COTTAM.

accomplished. In Berber province, on the other hand, numbers were observed in bushes bordering the river as late as August 10th, and egg-laying was still proceeding.

The form of a locust egg-mass may be seen in Plate 2, Fig. 2, which represents that of one of the solitary locusts (*Cyrtacanthracris tatarica*). The general appearance is the same for the majority of Acridiid locusts known. The eggs of the "sar-el-lel" are laid in sand which has been moistened by rain. It may be that dry sand is occasionally chosen, but it would appear that the presence of moisture is necessary for the general emergence of the hoppers. The eggs are laid in the immediate vicinity of the trees which will provide food for the young hoppers. When first laid the eggs are yellow in colour but they soon change to a light brown. They are laid in a burrow excavated by the female locust, and hang together in the form of a bunch of fruit. From 150 to 200 are laid in a single batch. The burrow is closed by a plug of a light frothy substance secreted by the insect, which on exposure to the air dries. This may serve as some sort of protection to the eggs beneath, but, as Mr. King has pointed out to the writer, the probability is that its function is to render easy the egress of the young hoppers from the egg-burrow. After completing the deposition of eggs the female closes the burrow by scraping sand over the spot by means of her hind legs, by which she pats down the place until no sign remains of her work. The length of the egg-mass is about three inches exclusive of the thin covering of sand lying above.

The eggs mentioned above, laid on July 17th, hatched on September 3rd after an incubation period of sixty-five days. The hoppers are tiny yellowish green creatures with yellow antennae. One most noticeable characteristic is their extreme agility and the habit they possess of jumping upwards and clinging to any object on which they alight. They readily climb any obstacle placed vertically in their path. This climbing habit of the newly emerged hopper of this locust is in striking contrast to that of the migratory locust which is a ground feeder, and undoubtedly is correlated to the dependence of the former upon the presence of trees. For a day or so after emergence they refuse to feed but, their preliminary fast over, they never look back and feeding becomes their principal object in life. They attack the edges of the leaves of their food plant, their jaws working laterally, and rapidly reduce the blade of the leaf to a riddled shred. They can also attack the blade from above producing a punctured appearance to the leaf.

One very noticeable feature of the young hoppers is their attraction to light. In captivity they immediately quit the darkened side of their cage for the brighter side towards the sunlight.

The hoppers pass through five full moults or skin castings before attaining the mature winged condition. At the second moult they lose the uniform light colour and the spots and dark patches which characterise the later stages appear.

The first winged locust bred out of captivity on September 25th. The first one seen in the desert was noticed on September 27th. The total length of the life cycle from egg to adult is therefore about 13 weeks.

The species seems to be generally distributed over the Sudan. Records range from Mongalla to Dongola province. It occurs widely both east and west of the Nile being common in Darfur and Kordofan and on the Red Sea littoral. It is not improbable that locusts recorded by Burkhardt in 1814 as occurring in small swarms on Acacia bushes in Wady Um Gat in the Nubian desert east of Halfa belonged to this species. It appears equally at home on the hardy desert Acacia and on the more luscious "lamun" tree.

The favourite food appears to be the leaves of the various species of Acacia. Gum trees are said to be freely attacked in Kordofan. The sidr tree (*Zizyphus* sp. Arabic سدر) is often preferred to Acacia and the appearance of a tree, after partial defoliation, is seen in Plate 2. Here it will be noticed that the highest parts of the tree are those most severely attacked. In the absence of other food, tundra (Capparis aphylla) and the bark of young trees is consumed. Only occasionally has cotton been observed to be attacked and that in small areas. In one instance the locusts were noted to feed on cotton plants during the day and return to the adjacent sidr trees at sunset. In one locality observed, a curious exception was made in the case of Acacia nubica (Arabic : نوب). In a group of trees in which laot grew with sallam (Acacia Ehrenbergiana) the former were left severely alone, whilst the latter were stripped bare.

During the heat of the day the locusts rest in the trees, where they avoid the direct rays of the sun by clinging to the under side of the larger branches. They are constantly on the alert at the approach of any moving object, move round the branch away from the object. They readily take to flight for short distances, but, if driven out into the open desert, they always return to the nearest trees.

Feeding takes place usually in the late afternoon and early morning. How far they can travel by night is not known, but any evidence of long sustained migrations is lacking. Short journeys in search of food are probably the extent of their movements.

They are singularly free from attack by natural enemies. A few fall victims to the large spiders which spin their webs in the bushes during the autumn. The Desert Babbler (*Argya acaciae*) has been

observed to chase and capture a flying specimen, and Mr. Colchester states that in Darfur birds resembling small kites are frequently observed pursuing the locusts escaping from the grass fires which are lit by the natives near gum trees infested by the insects.

Only one case of this species being attacked by a parasitic fly (*Tachinidae*) can be recorded.

Briefly then the life-history of this locust seems to be as follows. Pairing and egg-laying take place in summer during the rains—the eggs being laid only after the ground has received its first flooding. The locusts then die, the females probably surviving the males by a few days. After six weeks the young hoppers appear and make for the nearest trees and bushes where they rest for a day or two prior to commencement of feeding. They grow rapidly and are ready to change to the winged form in a month's time. During this time they remain constantly in the bushes only moving when in search of fresh food.

After changing to the winged condition they remain dormant for some days, then recommence feeding. From now onwards, however, food is only sought at irregular intervals, between which apparently none is taken. From October onwards the small swarms which have bred out after the rains remain together, but by February and March they have disappeared and only stragglers remain. The swarms may break up and again congregate for egg-laying, or they may keep together in small numbers giving off individuals which lead a solitary life. It is noticeable that, in the early part of the year, single individuals are met with both in the desert and cultivated land, and occasional specimens are attracted to light.

As the rainy season approaches, the stores of food laid up in the fat bodies of the females are drawn upon for the production of eggs, and the ovaries begin to swell. Immature eggs are present in May, and these are matured by June, by which time the insects are searching for their breeding grounds.

There is only one brood in the year.

Whether or not this species possesses swarming and solitary phases is not yet known. An interesting point in its development as a hopper has been noted. There appear to exist two distinct types of hopper. One is of a unicolourous light green and in its last stages is a striking and very beautiful creature. The other is a somewhat smaller form and is immediately distinguishable by the presence of numerous black spots and markings on body and legs and by the dark veins of the immature wings. The ground colour of this form may be green or yellow.

The locusts which are produced from these two forms appear to differ very markedly in size if not in other features, the green hoppers

producing the larger and stronger type of flier. It is noticeable also that the solitary individuals encountered in the early part of the year invariably resemble this type.

There is no evidence yet to prove that this locust is a regular migratory species, but it may be that it has a swarming phase, which, at present, has not attained the perfect development possessed by other species. The rapid multiplication of the solitary phase in certain years would give rise to the more numerous swarms which appear at such times.

In conclusion it is obvious that questions concerning the distribution of species within the Sudan and the circumstances which accompany the occurrence of swarms can only be settled by the accumulation of a larger body of data from many localities in the country. Information therefore which is obtained by those resident in provincial stations is sure to be of value, and such information is rendered more valuable if accompanied by specimens. A few words on the collection of specimens and their transmission by post may not be out of place.

Locusts are often difficult to capture owing to their wary habits and strong flight. The solitary or non-swarming phases usually occur singly and may easily escape notice. A good strong net is the best means for securing specimens, but many may be taken by hand when at rest on herbage, and a native may generally be trusted to secure a desired specimen after the expenditure of an amount of energy which the Englishman would hesitate to exert. Fortunately also locusts are less easily damaged in handling than many more delicate insects.

Locusts may be killed most satisfactorily by the use of a bottle charged with cyanide of potassium. If the insect be strongly pinched in the region of the thorax, just behind the head, death usually follows immediately and its value as a specimen need not be reduced.

Probably the most satisfactory method is to kill the insects by immersion in a jar of spirit (90 per cent. alcohol)—gin will serve the purpose almost as well. They may be left thus for any length of time. Their colour will probably be somewhat impaired, but otherwise their value as specimens will not suffer. This method has the decided advantage of eliminating all danger from fungus and insect pests.

If preferred, the specimens may be removed from the spirit after a short time, and the abdomen split open with scissors on the under side, and about half way up. The contents should then be extracted, and a wad of blotting paper or cotton wool inserted to absorb the moisture. The insects may then be wrapped singly in tissue paper, or laid out in layers on cotton wool, in a wooden box, such as a cigar box. A tin should not be used, as ventilation is necessary to prevent the growth of fungus.

Far more valuable, however, than the mere collection of specimens is the acquiring of information regarding the times of occurrence of swarms of locusts, records of the hoppers and their food-plants, and the dates on which females are observed laying eggs. Much of this sort of information may be gathered and noted at the time when on trek.

The importance of ascertaining the causes which lead to the swarming of locusts cannot be overestimated. The existence of solitary and swarming "phases" in the case of many species is now definitely established and in all likelihood the connection will in time be established between these phases in other species which are at present not understood. Information is still lacking regarding the stimuli which lead to the production of the large numbers of swarming individuals from the few solitary members of the locust community which are always with us. Once this is ascertained with certainty, it may be that a valuable weapon will have been gained for the destruction of the hosts which from time immemorial have been one of the banes of human existence in tropical lands.

I am much indebted to Mr. W. Wedgwood Bowen for making drawings of the Tree Locust for this article, and to Messers A. Marshall and R. Cotton for taking the photographs reproduced in plate II.

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REVIEWS.

TWO JOURNEYS TO KUFRA OASIS.

1. THROUGH KUFRA TO DARFUR. Ahmed Mohammed Hassanein Bey. *Geographical Journal*, October and November, 1924, pp. 273-291, 353-393.
2. "DU CAMEROUN AU CAIRE PAR LE TCHAD ET LE DESERT DE LIBYE." M. Bruneau de Laborie. *La Geographie* Tome XLI, Mai, 1924, pp. 599-625.

Kufra Oasis, though first visited by Europeans as far back as 1879, did not come before the public eye until its visit by Mrs. McGrath (Rosita Forbes) and Hassanein Bey in 1920. This journey, though a very gallant undertaking and considerably advertised in the English and Continental Press did not actually add much to the information gained by Gerhard Rohlfs 40 years previously; and Mrs. McGrath's resulting book largely proved, in spite of its vivacious style and excellent photographs, a disappointment to those who had hoped for some scientific results. It was, perhaps, not to be expected that an expedition which had perforce to be ill-equipped and had to encounter such extraordinary physical difficulties would be able to bring back any detailed data but the lack of observations on such subjects as geology, ethnology, etc., and, not the least the rather unreliable topographical results, left plenty of scope for subsequent travellers (*).

It is therefore a source of gratification to all those interested in North and North Central Africa to read the above accounts of two other recent visits to this Oasis Group with the added and valuable data which they bring to our scanty knowledge of the Libyan Desert.

AHMED MOHAMMED HASSANEIN BEY's second journey, which he made single handed, began at Sollum on the Mediterranean coast on the Egypto-Tripoli border on January 2, 1923 and ended at El Fasher in Darfur on June 19, 1923. It was described by himself in a paper read at a meeting of the Royal Geographical Society on May 19, 1924, and published in the October and November numbers of the *Journal*. Appended to the paper are three others, viz.

- (A). Note on the Cartographical Results of Hassanein Bey's Journey. John Ball.

(*) In spite of Mr. D. G. Hogarth's remarks in *G. J.* Sept., 1921, in his review of her book, "The Secret of the Sahara: Kufra," and at the meeting of the Society on 23.5.21. after the reading of her paper. He says "Its (Kufra's) secret is out. There seems very little else to be done about it. . . . Her descriptions will go far to satisfy any curiosity that has been felt about this desolate bit of the world. . . . She has fulfilled the first duty of an explorer, which is to go to a place and leave nothing for anybody else to do.

- (B). Conclusions derived from the Geological Data collected by Hassanein Bey during his Kufra-Owenat Expedition W. F. Hume.
- (C). Notes on the Geology of Hassanein Bey's Expedition, Sollum-Darfur, 1923. F.W.Moon.

Hassanein Bey's paper will be more interesting than that of M. Bruneau de Laborie to readers of Sudan Notes and Records in that a considerable part of his journey, and that by far the most perilous part, lay in or near the Anglo Egyptian Sudan, and included the mapping of two Oasis, Arkenu and Owenat, which, though vaguely known by hearsay had never been visited by Europeans. Arkenu Oasis, so called from the Quraan name for a tree which grows there, lies just over the Egyptian border. It is we are told not permanently inhabited, but visited periodically by Tibbu and Quraan tribesmen for grazing purposes. There is a perennial water supply. Jebel Arkenu is a mass of granite rising over 1,500 feet above the plain. The exhausting nature of the journey thither from Kufra is shown by the fact that it was too hot to march in the middle of the day, and too cold at night. Consequently for 8 days the party had only 4 hours sleep a day. High steep dunes added to the difficulty and there was neither water nor grazing along this stage of 170 miles.

The second Oasis, Owenat, was another 26 miles on, and was reached on March 29th. Jebel Owenat stands just inside the Sudan, and is another mountain mass of granite, though higher than Arkenu. It is now inhabited by 150 Quraan. It is interesting to note that the water supply of these two mountain masses is not subterranean as in the Oasis depressions of Western Egypt, but rain catchments in natural basins in the rocks, i.e. the "qeltis" common in Ennedi and the northern Sudan. The rainfall is obviously connected with the orography, as it is much scarcer in the plains further south. In fact Dr. John Ball in his note puts the northern limit of the equatorial rain-belt hereabouts at approximately Lat. 18°50' about half a degree north of where I found it to be in the Bir Natrun area further East. (*)

Perhaps the most interesting find of this part of the journey was the discovery of rock pictures engraved on granite boulders at Jebel Owenat. Lions, giraffes, ostriches, gazelle of more than one species, and possibly cattle were portrayed. Camels were a notable exception, and their absence helps to give a closing date to the pictures, viz:- about the second century B.C. Good photographs are given of

(*) The hearsay reports, etc., about Owenat are given in a footnote on pl 65 of my paper "A Desert Odyssey of 1,000 miles," in "Sudan Notes and Records," July, 1924. Dr. Ball recalls also the two unnamed cases marked on the 1892 1:40,00,000 map of Africa by Justus Perthes of Gotha.

these and I was lucky to be able to see in October last at the Royal Geographical Society the exhibition of lantern slides made from them, which were on view there. They are almost identical with the pictures I discovered at Zolat el Hammad and Um Tasawir, South of Bir Natrun, in the autumn of 1923. (*) There was obviously in ancient times a route (as there still is) (†) from Kufra via Owenat and Nekheila to Bir Natrun.

From Jebel Owenat to Erdi well in French territory was another exhausting stage of nearly 230 miles over absolutely unknown and waterless country. The route cut across the Western extremity of Halfa(†) Province in a S.S.W. direction. On the third day out from Owenat the guide lost his head at night and Hassanein Bey found by his compass that the caravan was heading N. E. instead of S. W. A sandstorm added to the confusion, and this incident, occurring in what is perhaps the most waste place in the world, gives one an idea of the courage and steadiness needed for such an enterprise. On May 16, 10 days after leaving Owenat, the Oasis of Erdi(‡) (Lat. 18° 31' Long. 23° 10') was reached. Patches of dried grass were met with on the latter of half this stretch and valleys full of green grazing about 15 miles before reaching Erdi. Hassanein Bey's Erdi well is close to Lt. Col. Tilho's Erdi-Ma on the latter's map 1920, and thence onwards the explorer was in known and inhabited country. It had not, however, been accurately mapped as it is not long since the French established touch with and gained control over the wild and predatory tribes who infest this hill country on the borders of F.E.A. and the Sudan.

Fifty miles south of Erdi the ravine and rock-well of Agah was reached, frequented by Quraan. Green trees and shrubs were now plentiful and on May 23 the caravan arrived at a large Bedayat camp at Enebah Well, 3,300' above sea-level, and about 28 kilom. east of Keita wells. From Enebah the party passed through Koinamena, Kaptarko, Bao crossed the Wadi Hawa near Tameira Hill (Lat. 15° 48', Long. 23° 77'), which marks the boundary between F.E.A. and the Sudan, and reached Furawia in Kuttum district of Northern Darfur on June 2, and Kuttum itself, the H.Q. of the district, on June 14. El Fasher was reached on June 17 and here Hassanein Bey was

(*) See my paper mentioned above *passim*.

See "The Southern Road to Kufra," "Sudan Notes and Records," December, 1922. The Jebel Anwar of the Zaghawi guide Bidi Audi is obviously Jebel Owenat.

(†) Jebel Owenat is about 405 miles due West of Halfa. It will probably come as a surprise to those who do not consult the map to realise that Halfa province extends yet another 360 miles West of Owenat, i.e., over 750 miles from the Nile, and almost into the Southern Fezzan. In fact, the whole province almost exactly equals in area England, Scotland and Ireland.

(‡) Marked on the War Office 1:3,000,000 Map of the Anglo-Egyptian Sudan. (Dec. 1921)

able to obtain exact Greenwich time from Paris by radio, and thus to check his chronometers. 1,555 miles had been covered in 169 days from Sollum to Fasher and the further 446 miles from Fasher to ElObeid brought his actual continuous horse(*) and camel-riding to over 2,000 miles, a feat which apart from the nature of the country traversed speaks for itself. Rarely can the Gold Medal of the Royal Geographical Society, the highest award of that Institution, have been so painfully earned.

The 3 Cartographical and Geological papers accompanying Hassanein Bey's article form full and lucid commentaries on the scientific aspects of the journey. Space forbids a full review of their subject matter, but the names of Dr. Ball and Dr. Hume are in themselves sufficient guarantee of their worth. Dr. Ball's paper is a comprehensive study of the cartographical results, their value, which he rates very high, and the methods by which they were obtained. The determination of careful barometric levels, in particular, "affords valuable information on the orography of a vast region of which little was previously known, and confirming Lt.-Col. Tilho's conclusion that there is no possible drainage outlet from Lake Chad in an easterly direction. "The astronomical observations were made with a 3-inch Troughton and Simms theodolite, and for time observations 6 watches were carried, of which only one remained in order throughout. For barometric estimations of altitude a 2-inch Steward aneroid was used. Hassanein Bey's observations carried out single-handed are reported by Dr. Ball to be wonderfully complete and accurate. They have resulted in the alteration of the positions of Zieghen and Kufra by about 100 and 40 kilometres respectively on the map of Africa.

Dr. Hume and Mr. Moon give in their papers a full analysis of the geological results. Mr. Moon reports on the actual specimens of rock collected on the journey, and writes notes on 27 of them. The most interesting item is the occurrence of the igneous "island" of Owenat and Arkenu in the great Nubian Sandstone area. The latter is the surface rock to the north and south of these mountain-oases. Jebel Owenat is composed of a rock which "may be determined as a coarsely crystalline grey hornblende granite," and Arkenu of crystalline syenites.

M. BRUNEAU DE LABORIE's paper was read by him on 11/5/24 before the Société de Géographie de France, and is printed in full in *La Géographie*, May 1924. In vivid sentences he describes his journey from Duala in the French Cameroons to Port Said. The distance

(*) Not the least amazing part of Hassanein Bey's journey is that he apparently took a horse with him for the whole way. How he managed to water it is not recorded, but the photographs show it still alive at Owenat.

covered was approximately 5,000 miles and the time taken about one year. The most interesting part from the point of view of readers of this journal was the stage from Abeshr in Wadai to Kufra. The route as far as Sarra wells, which lie in Lat.22° Long.22° (i.e. in Halfa Province) was more or less known, as Lieut. Fouché penetrated thither in 1914, though none the less toilsome, but the road from Sarra to Kufra had never been trodden by a European. It is an 'eight days' march and passes through Bir Bishra (which the author calls Le Hadjer Bechara). Hajar Bishra is approached across dunes and is a rocky mass containing wells, excavated by order of the late Senussi El Mahdi in 1875 through 110' of rock. Their position was roughly known before, but M. Bruneau de Laborie has the honour of being the first European to visit them (if we except certain Turkish officers who may have passed them en route to Tibesti). Three days march brought him to Tellab, the outlying village of Kufra, across a plain broken by other rocky masses e.g. Dor and Zuruf. The whole of the Tekro-Kufra stage was desolate in the extreme and he compares its passage to walking on asphalt.

He then joined a caravan to Jalo and thence passed through Jaghbub Oasis and Matruh on the Mediterranean coast to Alexandria and Port Said completing 8,000 kilometres. M. Bruneau de Laborie was presented with the Grande Medaille d'Or de la Société de Géographie de France, an honour held by Sir John Franklin, Stanley, Livingstone, Marchand, Lyautey and Shackleton.

D. NEWBOLD.

**Two Royal Ladies of Meroe by Dows Dunham (Communication
to the Trustees VII. Museum of Fine Arts,
Boston, Mass. U. S. A.)**

In this interesting publication of 16 pages Mr. Dunham describes the tombs of two royal ladies, one of the Ethiopian, and the other of the Meroitic period, discovered by the Harvard-Boston Egyptian Expedition at Begrawiyeh (Meroe) in 1922 and 1923. They are selected for special notice because the contents of both were found practically undisturbed, and furnish the best examples of the royal burial customs of the two periods that we shall ever see, now that the royal cemeteries at Napata and Meroë have been completely excavated.

In the first tomb the gilded electrum mask, collar, and other gold and electrum trappings of the mummy, all of delicate workmanship, were discovered in position, and various amulets of electrum, beryl, jasper, obsidian and faience were found with the body. The Meroitic tomb yielded a wonderful collection of jewellery, beautifully

made bracelets of gold and carnelian, ornate ear-drops and necklaces. (*)

Nearly six centuries in time separate these tombs. The first dates from about 600 B.C. the second is assigned to the latter half of the first century B.C., and Mr. Dunham draws two striking comparisons between the burial customs of the two periods. In the Ethiopian tomb the ornaments found with the body are wholly of an amuletic nature, made specially for burial with the dead, and are not such as would have been worn by a living person. In the Meroitic tomb, on the other hand, there are no funeral trappings, no amulets; the actual personal ornaments of the deceased, which had been used in life, were placed in the tomb. "The second point" says Mr. Dunham is even more striking. The Ethiopian tomb contained a large number of the little faience figures called *Shawabti*, which "... were supposed to answer the summons when the deceased was called to the daily tasks, and to act for him. In the Meroitic tomb we find no such figures, but instead the owner of the tomb is accompanied by four human beings. This is one of the many examples found at Meroë of sacrificial or *sati* burial, and there can be no doubt that the essential purpose of this barbarous practice was the same as that which caused the Egyptians to furnish their tombs with *shawabti* figures." Readers of this journal will remember that *sati* burial on a wholesale scale was practised at Kerma in Middle Empire times (†) and its recrudescence two thousand years later is of interest.

The photographs are well reproduced and the booklet, printed at the Harvard University Press, is an excellent example of American typography.

F. ADDISON

Far Away up the Nile.

By J. G. Millais, F.Z.S., with illustrations by the author, his son H. R. Millais and from photographs. (Longmans)

This book is the record of two short hunting trips in the Red Sea Province and in the Bahr El Ghazal. It also includes the authors' impressions on such subjects as the resources of the Sudan and its administration, a short history of Nile exploration, an account of the Nilotic tribes and an appendix, "some notes on the Antelopes of the Sudan."

The volume is well and profusely illustrated. The pictures are for the most part from pencil sketches by the Authors' son Mr. H. R. Millais. A few sketches by the Author are added.

(*) The half share of this jewellery which accrued to the Sudan Government may be seen in the Antiquities Museum, Gordon College.

(†) See Dr. Reisner's "Kerma" reviewed by Mr. Crowfoot in the last number of "Sudan Notes and Records."

The fame of Mr. Millais as a naturalist and hunter will ensure that this work will be widely read.

Occasional Sportsmen and the world at large will welcome the book. African travellers, and men whose work lies in the Sudan, will be disappointed. Some will be moved to wrath.

It would profit little to join issue with Mr. Millais on two subjects, namely, the polite arts and the fauna of Africa. Moreover the wise man argues with no-one about the habits of game-there is already enough bitterness in the world--but Mr. Millais and his book call for notice, and despite the generous dedication to officials serving in the southern Sudan, let it be said at once, on their behalf, that the whole value of the book lies in the pictures.

The pencil work of Mr. H. R. Millais is admirable.

Pictures of game chipped by his hand on the rude walls of Shambe rest house foreshadowed a rare genius, which has not disappointed us. He is one of the few men who can draw a camel-possibly the only man who suggests the potential grace of that ungainly quadruped.

A Dinka *murah* (page 122) is reminiscent of an Old Master. The atmosphere is perfect; the suspicious attitude and furtive departure of 'dusky braves' in the middle distance will rejoice the heart of every District Commissioner who has approached the dung-fed fires of a Dinka cattle kraal. "Vultures" and "Dogs at Shambe" common scenes of Sudan life, will appeal to all.

There is no "*curiosa felicitas*" about young Millais' dogs and birds; the unerring line of the born craftsman, unspoiled by second thoughts makes them live. He is equally at his ease among the antelopes. The 'White eared kob studies' is a master piece of grace and fidelity. The inquisitive air, the timorous assumption of boldness are rendered to the life.

If one were asked to select further, 'Heuglins hartebeeste' and 'Tiang studies' must be named, and there is a sketch of a Dinka boy which shows a shrewd appreciation of Dinka character.

The giant eland pictures are, we opine, anatomically beyond criticism, yet those who have been privileged to watch this mighty beast at close range will claim for him a grandeur greater than that depicted. Perhaps colour is needed to portray him to our satisfaction.

To have seen him, on a breezy morning in the forest, as he takes his stately way through the short spring grass is to regard the most skilful counterfeit as a vain thing.

But these are ungrateful words for Mr. H. R. Millais has, by his pictures, earned the thanks of all whose work or pleasure takes them to the upper waters of the Nile.

The Authors' drawings with their more meticulous method, require no introduction, but it may be said that the *Balaeniceps Rex* on page 94 has offended many who pretend to a sense of proportion.

Mr. Millais is observant and sometimes fastens on essentials but he possesses neither the humility nor the discrimination of the useful critic. Praise or rebuke flows from him with Olympian unction; one has moreover an uneasy feeling that he appraises men and matters according to the measure of his bodily comfort at the moment of writing.

A diffuse chapter on the history and wealth of the Sudan is full of information, and the tales which the Author heard and the characteristics which he noted on the fringe of the Dinka country provide certain entertainment. In that they do not profess to be an anthropological treatise they are not subject for discussion here.

A large proportion of Mr. Millais matter seems to have been taken wholesale from 'Sudan Notes and Records,' and to have been embellished by facts or fancies gleaned from chance conversation.

His account of administration and the system of justice in the Eastern Bahr El Ghazal is likely to give a false impression. His spelling of place names is inclined to be inaccurate, and Stigand's death is wrongly dated.

The book adds little to our knowledge of African fauna, but the plain hunter will support Mr. Millais in his plea for the retention of the time-honoured name 'Mrs Gray'. Anyone who has read Petherick's diary of his wanderings-perhaps the most tragic document in African literature-will desire to perpetuate the name which that bold explorer doubtless approved.



NOTES.

NOTE ON JEBEL TABI.

The following notes, obviously fragments and unchecked by reference to other informants, were obtained in 1910 at Jebel Guli from the Tabi natives who supplied the vocabulary already published by Mrs. Seligman.

Incomplete and uncertain as they are, they are offered to *Notes and Records* in the hopes that they may stimulate others to investigate and publish accounts of the habits and customs of the peoples of the anthropologically unknown area between the White and Blue Niles. Moreover they are of interest as indicating the existence of a definite sun-cult—scarcely known in the Sudan—and as offering analogies with the customs of the bantoid-speaking Nuba of Southern Kordofan, (e.g. the absence of a well defined bride-price) with whom as stated elsewhere I consider the hill-men of Dar Fung to form a congeries of peoples of common origin.

The sun is called Tel and it is believed that the sun created all, but who or what was first created was unknown. There is or was a house or shrine, sacred to Tel, said to have been built by one Pudr long ago at a time when the tribes had not cattle, i.e. before the Kings of Sennar and the introduction of Islam. Here the people assembled before fighting and prayed to Tel using some such formula as "Tel help us, give us booty and we will bring sacrifice to you." Sacrifice is or was also made to Tel on behalf of the sick, the animal being killed at sunrise if this were possible, in any case the sacrifice should not take place at night. There is also treatment by the local sickness expert or "medicine-man"—his precise status was not clear—apparently called *kai*.

It will be recalled that Mr. Crowfoot has published in *Sudan Notes and Records* (Vol. III, 1920, p. 86) a rock drawing from Jebel Geili which he considers to date from late Meroitic times and that this represents a king "worshipping a rayed solar divinity." Jebel Geili is only some 200 miles north of Jebel Tobi, so that it becomes a legitimate speculation to consider whether the sun-cult of the Fung region stands in direct continuity with that of Meroe and so with ancient Egypt. Investigation in this direction seems most desirable, in any case it is worth noting that a sun-cult is found among the Burun in the extreme south of Dar Fung for Captain J.P. Mostyn has described the sun as "the big god" of the Burun of Jebel Maiak, while of the Burun on the Khor Yabus he notes that the "rain and sun are considered gods." (*Sudan Notes and Records*, Vol. IV, 1921, P. 209.)

To return to Jebel Tabi the new moon is saluted with a cry, rendered in Arabic as *korak*.

My informants denied any personal knowledge of the Soba stone of Jebel Geili and of any cult of sacred stones, though one of them said he had heard of a stone at a place called Kokor near the village of Mek Goda, at which the local chief prayed at Bairam after he had recited the customary Mohammedan prayers.

It was said that a rain ceremony was performed, but only if rain was late. No details were elicited and it seemed that in the main rain was attributed to the beneficent power of Tel. There is also a ceremony when the dura is ready for cutting.

It was said that there should be a ceremony for the cattle somewhat before the rainy season is due, it would be held while the moon was young, i.e., increasing. To understand the ceremony it would be necessary to have some idea of the number of cattle and their importance to the community as well as the structure of the villages. It appeared probable that the ceremony, including dancing and merissa drinking might last three days. Each man drives his cattle into his zariba and if he has a horse saddles it and likewise brings it in. The owner takes hairs from the tail of each animal and places these together in a gourd (later they may be worked up into a small rope for hobbling milch cows), then he takes a fowl by the legs and walks round the cattle in the zariba. Soon this fowl is killed, usually with a few others. The horns of the cattle are oiled and an egg is placed in position, apparently near the opening of the zariba, where one of the cattle will tread on it when they are rushed about, as they soon are by the boys who have been given spears and battle gear, the egg is broken, the animal that breaks it being regarded as peculiarly lucky. A pig is killed and, with the fowls already mentioned, the meat is distributed, though to whom I cannot say. (*)

It was said that all marriage ceremonies took place in the rainy season, the reason given for this being that the *zimbar*, which I understood to be a flute, could not be played at any other time. Actual consummation might take place at any time and the bridegroom's friends or companions—the exact significance of these words is not clear—had right of access to the bride before the bridegroom. It was said that it was not uncommon for as many as from five to ten or even more to avail themselves of this privilege. By far the greater number of marriages were said to be within the community and no payment is or was made for a wife, though the bridegroom starts to work for his father-in-law as soon as the latter has assented to his suit.

(*) There seems no doubt that in 1910 pigs were kept on Jebel Tabi, if they were eaten as recently as this, Islam had made less progress than might have been expected. But there seems to be no reason for keeping them if they were not eaten.

Usually this is not until he has been approached by the suitor's uncle (paternal or maternal?) two or three times. Moreover he must consult his daughter's kinsmen alleging that they in fact decide. (*) The official announcement of the marriage was said to be made by the girl's father telling the bridegroom to bring a sheep and kill it for the assembled people.

It may be presumed that the youth has access to his bride while working for her father, but the official marriage ceremony seems to be somewhat on the following lines. A great deal of *merissa* is made by the women of both families. The bride is publicly conducted by women to the bridegroom's father's house; bride and bridegroom sit side by side and have their hair shaved off and their heads rubbed with oil; the hair is put in a new gourd, but what happened to it later was not determined.

It was understood that the spirit (of a dead man) or soul was called *kud*; it is this that is seen in dreams and goes forth in dreams. There are discrepancies or misunderstandings as to the position of the grave. According to one account burial would not take place in or quite near the village unless at the wish of the deceased; a circle of stones would be put round the grave and a mat and digging sticks left on the grave. Another statement was that if the deceased wished it he would be buried in or near his house. The body was said to be laid extended on its side in the grave which is a simple trench and with it was buried a spear, sandals and a brass bangle, avowedly for the use of the *kud*. It appeared that the body was tended by old women (relations), the grave being dug by old men, not necessarily relatives. A goat is killed and cooked in its skin, the meat being eaten by grave diggers and perhaps by some others, but details were not clear.

With the exception of children, relatives (both sides of family) are said to shave their heads as a sign of mourning, and to avoid singing and dancing for a month. At the burial the men carry spears and rush up to the house of the deceased brandishing these. After dreaming of a dead man, a goat should be killed and all, even "strangers" would eat of the flesh. If this were not done, the dreamer or his children would probably sicken.

I give the following with even greater reserve than what I have already written.

In certain of the Tabi villages there were said to be wooden images—presumably all human—the object or function of which could not be ascertained, though they seemed in some way to be associated with dancing. The names of these villages were given as follows (in 1910): Medelik, Badili, Kurba. There was said to be a carver (hereditary?)

(*) This seems to imply matrilineal descent actual or recent.

at Badili, at Medelik one Kosefa had an image and at Kurba one Edil. The Gule people, who denied that they ever possessed such carvings, alleged that these were figures of ancestors.

C. G. SELIGMAN, F.R.S.

THE INVESTTURE OF AN ANUAK NYEYA OR SULTAN.

In an article on "The Anuak" that appeared in the "Sudan Notes and Records," Vol. V, No. 3, December, 1922, mention is made on page 115 of certain tribal Heirlooms.

These consist of (1) two four-legged stools, one of which is lower than the other and is the more important, being called the "WELLU" or throne.

(2) Two bead necklaces called UCHOK and GURMATTO of such mixed and dazzling colours that they are said to bring tears to the eyes.

(3) A small drum called UDOLA WURUCHAMU that contains the extracted teeth of the Sultan's children.

These articles are the ancestral regalia of the Anuaks and date back to the unknown period of their history when they claim the origin of their tribe.

As there would appear to be no doubt that they are closely allied to the Shilluk this period of origin may approximate the date when they finally became a separate offshoot, and possibly lived among or near the TOPOSA hills.

Now there are certain Anuak families that claim descent from their original ancestor and these have the right to sit upon the throne and wear or handle the regalia. The number who have this right is considerable but the present heads of the three most important families are SHAM or AKWEI of ADONGA the holder of the regalia, NYANG or AGANA of DIBALLA on the Upper AKOBO river and UJULO or OODIAL of ABORA in Abyssinia.

So long as a male member of these families has not taken his seat on the throne he remains an ordinary individual and his heirs would not be able to claim the right. And since this right is most jealously prized any enforced abstention through the action of the Holder gives rise to trouble and discontent resulting in warfare between the followers of the claimant and those of the Holder.

Most of the internal troubles of the Anuaks have had, and still have, their sources in some dispute about the throne. The father of the present Holder was AKWEI or SHAM, against whom the 1912 Patrol operated, and in his despotic reign it was not too easy to obtain

his consent to sit upon the throne. The result was that a number of feuds existed when he died and these are gradually being settled by enabling claimants to obtain their right.

As the third member of the above-mentioned important families, UJULO or OODIAL, has just been enabled to sit upon the throne owing to his visit to Akobo where negotiations with SHAM or AKWEI smoothed his path, it is proposed to give an account here of the ceremony of his initiation to the throne as recorded on his return.

As a rule the aspirant has to present himself at the Headquarters of the possessor of the Throne and is housed and fed in a special hut set apart for this purpose. On the night before the ceremony the guest usually sends a present of DUMOV beads to the Holder. Next morning an escort of 4 men is sent by the Holder to bring the regalia as these are always kept by some selected old man in a hut that is unknown to the majority of the people.

The reason for this is that no sudden raid upon the Holder's house and village would enable the raiders to secure the regalia, and it is the old man's business to flee at once on any rumour of hostilities to the forest where he must hide the regalia committed to his charge.

The escort having obtained the regalia carries them first of all to the Holder's compound and places them on a raised earthen platform covered with skins. Meanwhile the aspirant, together with the Holder's eldest relative, who is the Master of the Ceremonies, and all the old and influential men collect at a spot some short distance away from the compound.

The Holder then instructs the escort to take the regalia to the Master of the Ceremonies and they are placed on special skins spread on the ground, but each article is firmly held by the escort who sits down beside them. The Holder does not attend the Ceremony.

The Master of Ceremonies then despatches a messenger to his house to bring a special skin of a young white-eared kob and on its production it is spread on the seat of the lower and more important stool (WELLU).

The aspirant is then invited to take his seat which he does whilst the guard still holds the legs of the throne. Then the escort with the exception of the man holding the bead necklaces is relieved by three men of the aspirant's followers who continue to grasp the regalia whilst sitting beside them. The Master of the Ceremonies then takes the necklaces from the fourth man of the Holder's escort and places first of all the UCHOK necklace without which the whole rite of initiation would be void round the neck of the aspirant and then the GURMATTO necklace. Other bead necklaces called NIVALO, GANYA and WANGVET, that are not part of the regalia however, are then

similarly placed on the aspirant, and one bead of the ABODA (dark amber) type strung on a giraffe hair is bound round his brow.

Then the Master of the Ceremonies invites the aspirant to take his seat upon the higher and second stool to which the white-eared kob skin is transferred, and he is given the drum (UDOLA WURUCHAMU) with a short drum-stick.

Up to this point perfect silence has been maintained by all the spectators.

The aspirant then beats the drum dub-dub-dub-dub-dub-dub exclaiming "I am the son of a NYEYA (Sultan). I have worn the necklaces and sat on the Throne. If I am not the son of a NYEYA may I die."

Then the Master of the Ceremonies invites the aspirant to draw nearer to the compound of the Holder and the regalia having been placed in the shade of the grass fence the aspirant once more seats himself on the throne, the legs of which are still held by one of the escort. Three spear heads are then handed to the aspirant and the followers of the Holder bring forward a large and small drums and all the people sit around them. The drums are then beaten and two men run round the outside of the sitting crowd and sing the "AGWARCA," the song of the NYEYA. Then the newly initiated NYEYA rises and enters the circle, taking his wives with him if they are present, and with bells on his left leg, two spears in his left hand and one spear in his right hand walks round the drums making spear thrusts in all directions.

The drummers are then ordered to cease beating and the new NYEYA beating his small drums shouts "I have a red bull," "I have a white bull," "I have a black bull," and at the end of each exclamation the sitting crowd answers with a long-drawn HAA! This formula of statements probably repeats those made on a similar occasion by the initiate's Father.

Then the NYEYA returns to his stool and orders the drums to be taken away. The original escort of the regalia then appears and, after giving the new NYEYA an invitation from the Holder to enter his compound, takes charge again of the regalia and hands them over to the Master of the Ceremonies. The new NYEYA, still wearing, however, the necklaces and carrying the spears enters the compound followed by his drummer beating the royal drum and takes his seat on the skins on the raised platform by the side of the Holder.

Having placed the spears against a tree, merissa and tobacco are produced and the two NYEYA hold conversation in the midst of all their followers.

During this period one of the old men approaches the new NYEYA and shaves the whole of the hair from his head; afterwards removing the hair and burying it.

Later the followers withdraw and affairs of state and policy are discussed.

On the conclusion of this discussion the Master of the Ceremonies approaches the new NYEYA and expressing his congratulations, etc., removes from him the necklaces and goes off with them, the spears and royal drum, to return them to the place from which they were brought.

The new NYEYA then takes his departure towards evening and returns to his house to sleep, whilst the rest of the people pass a night of dancing and singing, and then the Ceremony of Initiation ends to everybody's satisfaction and feuds and ill-feeling give place to unity.

C. R. K. BACON.

STILL MORE NOTES ON TEBELDIS.

On page 135 of the July, 1924 issue of "Notes and Records" the "More Notes on Tebeldis" by Mr. Newbold interested me considerably.

I can claim no expert knowledge of the tebeli, but for three years I collected what information I could about it from the Hamar, and made what observations I could on trek, so I venture to join issue with Mr. Newbold in his note as regards its:—

HISTORY.

The only criterion we have to judge the age of these trees appears to be the rate at which they will grow (a) when heavily watered; (b) when receiving the present normal rainfall of Central Kordofan. As regards (a) the tebeldis in the Palace and Sudan Club gardens at Khartoum, and in the Mudiria garden at Medani show that growth is extremely rapid when they receive water regularly, equal approximately to 100 inches of rain a year (a conservative estimate). On the other hand as regards (b) neither I nor Mr. Newbold have ever found a native of Dar Hamar who can remember any growth in a tebeli which in some cases he has known for 60 years. The smallest wild-tebeli I ever saw was near a village about half way between Nahud and Foga, about 5 feet high, 15 inches or 18 inches in girth near the ground. I asked an inhabitant of the village who had lived there for about 50 years if he could tell me roughly the age of that particular tree, he informed me that he had no idea, he had never noticed any growth in it, and he was prepared to swear that when he was a small boy it had the same appearance as it had that day.

Mr. Newbold himself admits that he has never seen so small a *tebeli*; in a *tebeli* "forest" the smallest are usually 12 to 16 feet in height.

Mr. Davies who was in Western Kordofan from about 1916-1919 has told me that he never found any evidence in Dar Hamar that a *tebeli* had been seen to grow within living memory. It has been alleged, I think by one of the Inspectors of Forests who have much to suffer from their depredations, that the Hamari goats are responsible for the complete absence of young *tebelis* in that district. I cannot admit that their activities are so comprehensive, nor, even if this were the case, can their descendants lay claim to have stunted the growth of the solitary tree above-mentioned which by some means escaped the voracity of their ancestors.

Mr. Newbold admits that this question of age must be *sub judice* but he does not appear to admit that a period of much heavier rainfall was a necessary condition for the existence of the *tebeli*.

Further, he disagrees with Mr. Blunt's estimate of age on the grounds that "I cannot believe that a tree which soon becomes a hollow shell and is admittedly shallow-rooted could stand 2,000 Kordofan Kharifs with their gales and storms." I admit the *tebeli* is shallow-rooted, but I was immensely struck with the fact that it was extremely rare to see a fallen *tebeli*, or even a stump. I think that I have only seen two fallen trees, one of which fell during the Khariff of 1922; possibly about October 5th when a gale uprooted half the Hegleig and other trees in Nahud itself, but did no damage to the *tebelis* in and near the town.

I cannot, however, admit that the *tebelis* "soon becomes a hollow shell": while in Western Kordofan the inhabitants were unanimous that *tebelis* had to be hollowed by themselves, and that it took about three weeks satisfactorily to hollow a normal tree. This proves that the core is soft, but I think disproves the idea that it becomes hollow naturally. During Nazir Abdelrahim Bey Abu Dagl's recent visit to Khartoum I got him to confirm this view in the most positive manner possible. The fact that a *tebeli* is "Ghair Mahfura" is adequate justification for going half a mile daily for water for years instead of 100 yards: the same remark frequently estopped the enterprising District Commissioner who has gone to the village in the hopes of clearing up an ancient *tebeli* feud by examining the lie of the trees for himself. I do not think Mr. Newbold can attempt to refute Mr. Blunt on these lines.

NOMENCLATURE.

It is only during the last 60 years I believe that the *tebeli* has been used for storing water; prior to that it was of no particular interest to

any one, and so one would be surprised to find any traces of non-Arabic names in Dar Hamar. Incidentally the trees in Dar Messeria have no names, as they are there comparatively rare they would be more likely to be named than their commoner fellows further North. So long as the Hamar were nomadic it is probable that they did not take even an academic interest in the *tebeldi*, they ignored them as the Messeria do still. A pre-Arabic place name is, of course, in an entirely different category.

I cannot, however, leave this point without countering a gross libel on the village *tebeldi* lists of Western Kordofan carefully preserved in the Merkaz and written in the excellent hands of well-educated boys and clerks (one of whom had the best handwriting I have ever seen). These lists were prepared during the *ushur* assessment of 1920 (or was it 1921?) and Mr. Newbold refers to them as "written in the vile calligraphy of a Myopic fiki." Leaving out the question of the appropriateness of the juxtaposition of "vile" and "calligraphy," there seem to be two obvious explanations of this libellous statement: (1) that Mr. Newbold's knowledge of written Arabic just prior to the time he wrote his paper was inadequate to distinguish good from bad writing; or (2) that Mr. Newbold's memory has played him a trick and that the lists were actually made in October-November, 1921, and he is referring to local lists which the village *Sheikhs* might have had in 1920, but in fact did not. There is, however, a third possibility which I suspect to be the true one that his ability to turn, and his delight in, a really neat phrase has outrun his normal passion for accuracy.

DERIVATIONS.

Tebeldi may be a Berber word, on that point I must be dumb through ignorance. But do *tebeldis* in fact grow in large numbers at *Belbeldy* at *Jebel Haraza*? If so the place probably got its name from the tree, and we are not much further on.

As regards the term "*Um Laqai*," it refers to a tree which when hollowed fills itself. It is, of course, a lucky and valuable find to discover such a tree, might not the derivation be from *ላዊ* which means "a thing found by chance," with the obvious implication of good fortune?

In conclusion should this very amateur note lead to further observations being made in Kordofan on the nature, use, names and traditions of *tebeldis*, no one will welcome them more than Mr. Newbold and myself.

M. W. PARR.

Mr. Parr's note has been shown to Mr. Newbold, whose reply is as follows:—

I am very glad that Mr. Blunt's paper and mine have elicited this note from Mr. Parr and it is to be hoped that even more competitors will enter the lists in order to throw light on the history of the baobabs.

I will endeavour to answer Mr. Parr's criticisms *sertiatim* :—

HISTORY.

Mr. Parr states that we have only two criteria on which to judge the age of these trees, viz.: their rate of growth (*a*) when heavily watered; and (*b*) when receiving the existing rainfall of Central Kordofan. He nowhere expresses an opinion on the value of these criteria; but I infer from his subsequent remarks that he considers them valueless, with which I entirely agree. It is therefore all the more astonishing that having tried to show they are no criteria of value, he proceeds to express strong views himself on the age of the trees. One notes, however, that he is chiefly concerned in refuting my arguments rather than supporting those of Mr. Blunt, and, although he makes it abundantly clear that he disagrees with the majority of my conclusions, he nowhere explicitly states with what thesis, if any, he does agree. Consequently I am compelled to assume that he inclines to Mr. Blunt's generous estimate of the age of the trees and moreover belongs to the "desiccation" school.

I still adhere to my opinions as previously expressed, which can be crystallized as follows :—

(*a*) That there is not sufficient evidence as yet for Mr. Parr or myself or anyone else to do much more than speculate on the average age of the Kordofan Tebedis.

(*b*) That, granted the above, and although I cannot consequently give an exact estimate of their age myself, (*) there appear to me many arguments against conceding to even the oldest of them the vast age of 2,000 years suggested by Mr. Blunt.

(*c*) That, in any case, whether they are 200 or 2,000 years old, I cannot agree that there is any evidence to show that there has been within the last 2,000 years any period of considerably heavier rainfall in the Northern Sudan. In other words, I do not believe on the "desiccation" theory as regards this part of Africa. (†)

Mr. Parr appears to ignore several important considerations when he states that there are no criteria save the two mentioned above—on which to judge the age of the trees. I have mentioned before that the tree is of interest to the archaeologist, the geologist and the forester.

(*) In the original paper, which I wrote for Mr. Blunt, I gave, tentatively, 400 years as the *maximum* age of my tree now standing in Dar Hamar. I still adhere to this conjecture.

(†) In my original paper of 1921 I inclined to this theory, but have since changed my mind.

Mr. Parr rules out, rather rashly to my mind, all research on the part of these three gentlemen. The archaeologist, for instance, could lay before him a mass of evidence showing that the climate and rainfall of North East Africa have not appreciably changed in the last 3,000 years. Geologists have not, I fancy, been wholly blind to the study of sub-soils and of the effect of pastoral and agricultural populations on local vegetation, and although I am not competent to say that movements of tribes and their stock are responsible for changes in the soil in which *tebeldis* grow, I do not feel that Mr. Parr is competent to lay down that the converse is true.

Thirdly, we have the forester and it seems to me incredible that he, of all people, should have no criterion on which to judge the age of baobabs. The forester, however, has already entered the arena in the person of Mr. Blunt and I will accordingly leave it to him to join issue with Mr. Parr on this apparent libel, while I invoke the support of a fourth party who has considerable experience of *tebeldis* in other parts of the Sudan.

Mr. W. R. G. Bond, Governor of Dongola Province and late Governor of Fung Province, writes to me as follows :—

"Speaking of *Tebeldis* in the Fung Province a tree of 300 years old would be in my opinion a great rarity. The average age of the largest there is I think about 200 years. I counted the rings in several that had fallen and tested the accuracy of my conclusions by estimating the age of a tree which was about to be felled. I recollect the figures in this case—the tree was about 9 feet in diameter at eye level and I put its age at just over 100 years. After felling I counted almost exactly 100 rings of annual growth, and there were two or three not very clear at the centre. An inch growth a year is a rough guide for the Fung Province. I do not know about conditions in Kordofan.

"With regard to young trees taking the place of old, this in the Fung Province merely depends on the closeness with which the area is grazed. Where animals are few, young *tebeldis* are growing in considerable numbers, but near villages or where herds of animals are numerous no young trees are to be found.

"Speaking from experience on the Blue Nile I should say that a change in the intensity of grazing due perhaps to an outbreak or disease or to warfare would afford a more probable explanation of *tebeldis* seeding themselves in the past and not doing so now than a hypothetical desiccation 2,000 years ago."

This letter speaks for itself. There are numbers of young *tebeldis* in the Nuba Mountains Province, as in the Fung and even in Kordofan itself near El Din station, I am told, and it would be interesting to know whether these suffer from the depredations of goats.

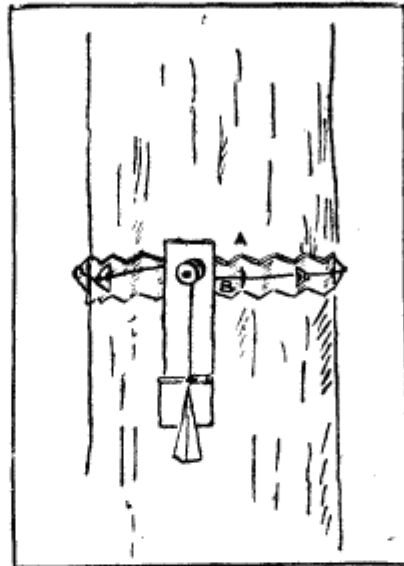
Mr. Parr challenges my statement that "I cannot believe that a tree which soon becomes a hollow shell and is admittedly shallow rooted could stand 2,000 Kordofan kharifs with their gales and storms." He states firstly that he has only seen two fallen trees and secondly that the *tebel* does not soon become a hollow shell. As regards the first point I can only say that he must have been unlucky in his observations. I must have seen several dozen fallen trees during one year in Western Kordofan—a good number obviously crash every year during the rains—partly from the storms, and partly from the disintegration of the soil at every downpour. Once fallen they quickly rot and soon become absorbed into the humus. (*)

As regards the second point it is true that the Hamar have had themselves to do the hollowing of the water-holding *tebel* but I have always understood that this hollowing was more in the nature of finishing-off what nature has begun, viz., the extraction of the soft core and paring of the inside of the walls, rather the actual excision of a whole solid cube of wood from the tree. However, it is only a question of degree and I am open to correction if I have exaggerated. But I must still confess that the lateral spreading roots and rotting core of the *tebel* make me sceptical of its ability to stand intact in a sandy soil for 2,000 years.

NOMENCLATURE.

Mr. Parr argues that non-Arabic names naturally do not exist because as he states "it is only during the last sixty years that the *tebel* has been used for storing water." I presume that he is referring to Kordofan only as in Western Africa their water-holding properties are, as I noted before, mentioned by Ibn Batuta, not sixty years ago, but exactly six hundred! In any case I do not know what authority Mr. Parr has for his statement beyond the hazy recollections of a few Hamar ancients. It is possibly true that the nomadic forefathers of the Hamar of the early XIXth century did not use these trees as tanks, but as we have no precise records of the earlier inhabitants, Birged, Bedayria, etc., most of whom we know from their remains to have been sedentary it is rather rash to assume that they neglected these fine natural reservoirs in so thirsty a country. As a matter of fact I have since been told by Mr. Willis, Director of Intelligence, that he clearly

(*) I find that in my report on *tebel* of 1921, parts of which Mr. Blunt reproduced in "Sudan Notes and Records," I wrote "The question of their decrease is interesting. I should put their annual wastage from age, lightning, etc., at less than 1 per cent., say, about 200-250 a year. One has only to travel through a few *omodias* to be struck with the number of fallen trees."



DENDROMETER
SHOWING BELT (A) WIRE (B) AND
INDICATOR (C).

remembers, when he was Inspector of Western Kordofan, meeting some non-Arabic names in the tebelidi lists. (*)

DERIVATIONS.

As regards the connection of "Tebeldi" with Belbelday at J. Haraza, tebelidis do not "grow in large numbers" at the latter place. There are none there as far as I remember.

As regards the term "Um Lagai" Mr. Parr's derivation is the one that was given me by the majority of the sheikhs whom I asked about it, and may easily be the correct derivation. I personally consider it rather a forced use of *لأول* but in the absence of evidence the point cannot be pursued further.

I hope that the next contributor to the vexed question of tebelidis may produce enough data to lift it from the slough of controversy on to the plane of knowledge.

D. NEWBOLD.

Mrs. G. M. Crowfoot writes :—

May I venture to suggest that in the controversy as to the age of tebelidi trees, the use of a dendrometer would give scientific value to arguments based on the rate of growth.

The most useful instrument for measuring slow-growing trees like tebelidis would probably be one similar to the improved dendrometer described in a recent Carnegie Institution Publication "Growth in Trees," by which the total increase in the circumference during any period can be registered.

A full description would be tedious—briefly the apparatus has a belt of corrugated brass fastened snugly round the tree. As the tree increases, the folds are pushed outwards carrying an encircling wire to a larger circumference, the accretion being duly registered by the pointer on the vertical scale. Cost of apparatus is not mentioned, but no doubt full information could be obtained at the Carnegie Institute, Washington, U.S.A.

(*) In connection with these lists Mr. Parr spills a good deal of ink in countering a quite innocent remark of mine about the handwriting in which I found them to be written. The point is a trivial one and in any case quite irrelevant as regards the main issue, consequently I relegate my rejoinder to the obscurity of a footnote. Mr. Parr's three explanations are, I am sorry to say, all incorrect, but in the second he has unconsciously nearly hit the mark. I was referring to village lists but they were not imaginary and were actually made by the sheikhs in 1919 or previous years. These lists formed the basis of the 1920-21 listing, to which Mr. Parr refers and which was really a *re-listing* of the trees. The final merkaz lists were, I expect, done out in the impeccable script of the youthful scribes of whom Mr. Parr is so justly proud, but they were only a compilation of the villainous screeds done vicatim by the "myopic fikis." Since I pursued my researches on tebelidis under their own shade rather than in the purlieus of the zaptiya, I had to reply on the fikis' lists, hence my "libellous" remarks. As regards the allegation that I sacrificed truth to style, I need only reply that it would have been equally easy to "turn a neat phrase" about the penmanship of Mr. Parr's juvenile amanuenses. In any case even were the lists written by jims and efrits, we should be no nearer to the age of tebelidis, so I will not labour the point further.

THE COINAGE OF THE MAHDI AND THE KHALIFA.

By H. S. JOB.

Supplementary Note.

Since writing the Note on "The Coinage of the Mahdi and the Khalifa" which was printed in Volume III, 1920, of "Sudan Notes and Records," I have received further information from Mr. Howland Wood, Curator of the American Numismatic Society of New York, from Colonel P. R. Phipps and also from Mr. A. L. Furness of Khartoum, who, during his long residence in the Sudan, has got together much information and an interesting collection of these coins, and I wish to express my thanks to these gentlemen for the assistance they have given me.

The information that has come to hand in recent years has not disclosed any new types other than those described in my article in Volume III; several issues not mentioned in my list have, however, been brought to light and also a large number of varieties of the issues described.

A list of the issues not previously referred to is given at the end of this note, but with regard to the minor varieties, they are so numerous owing to the large number of different dies used, that to describe them in detail would not only greatly lengthen the list I have given but would probably also lead to confusion.

I have therefore endeavoured to limit my list to the main types and issues described in notes or found in collections made during or shortly after the Mahdist occupation of the Sudan, and have left to the individual collector the discovery of the many minor varieties that exist, thereby adding interest to his collection.

With regard to the issue of gold coins by the Mahdi, my attention has been drawn to an interesting letter written by Awad el Kerim, the silversmith of Omdurman, and printed in the "Hadaret El Sudan" of the 23rd October, 1920, in which it is stated that two natives of Omdurman who were employed in minting coins in the Mahdi's time remembered that there were two issues of gold coins copied from the Egyptian coins in use at the time, one dated A.H. 1255 (Sultan Abd al Mejid) the other dated A.H. 1277 (Sultan Abd al Aziz). Since the above letter was written two gold coins dated A.H. 1277 have come to light.

It is very difficult to say if this issue dated 1277 can be considered as one of the authorised issues of the Mahdi or not, the Mahdi died

five months after the fall of Khartoum and it is improbable that two issues of gold coins were made during this short period, but what I think is more important is that none of the writers of the time refers to there being any other gold coin of the Mahdi than the issue dated 1255.

It is nevertheless possible that this issue dated 1277 was one of the authorised issues, but until further evidence is forthcoming to support it I prefer not to include it in my list.

Owing to the lack of control over the official coiners and the practice referred to by Nutzelt(1) of allowing the goldsmiths of Omdurman to make coins, collectors must be warned against accepting specimens other than those referred to in my lists without careful investigation.

I do not pretend that my lists are complete, but I have carefully examined the right of each coin described to be considered as one of the authorised issues.

In my previous article I referred to a number of coins as being "Silver washed," I find I was incorrect in so describing them and am indebted to Mr. Furness for the following explanation, which he has obtained from the silversmiths of Omdurman, of how a copper coin containing a small quantity of silver can be given temporarily the appearance of a silver coin :—

"Ardeib (a preparation of Tamarinde) is made into a solution with water. Alum and salt or alum and lemon are added. When everything is quite dissolved, the coin, thoroughly cleansed of all dirt and grease, is allowed to remain in the solution for several hours. On taking the coin out, the surface will be found to be covered with a white deposit which can be polished and burnished in a similar manner to "silver plating." Too much polishing or burnishing will remove the deposit altogether."

The following list is to be considered as supplementary to the list published on pages 180-195 of Volume III, 1920, of "Sudan Notes and Records."

I. MOHAMMED AHMED, THE MAHDI.

A.H. 1298-1302—1881-1885 A.D.

KHARTOUM.

Year.

1302 No. 4. Silver. 5 Piastres.

This coin is referred to in the "History of the Sudan" by Naoum Bey Shoucair, but no description has yet been obtained.

(1) Der Mahdi- Aufstand im Sudan und die daraus hervorgegangenen Münzen. Dr. H. Nutzelt. Berliner Münzblätter 1894.

II. ABDULLAH IBN MOHAMMED, THE KHALIFA.

A.H. 1302-1316—1885-1898 A.D.

OMDURMAN.

DOLLARS.

Type I.

Year.

- 1304 No. 1.—Both these issues can be found with circles varying
 1309 No. 2.—From 1.8 cm. to 2 cm. (approx.) in diameter.

Type II.

- 1310 No. 3. Other issues (a) Year number ١١ (11) Date ١٣١١ (1311).

Type II.

1312. No. 11. Variety (i) Obv. Two flowers on each side in wreath.

Type VI.

1312 No. 13.

- Other issues (b) Rev. Date ١٣١٣ (1313) Year number ١٣ (13).
 (c) Rev. Above one group of three roses between two
 groups of three stars.
 Date ١٣١٥ (1315).
 Year number ١٢ (12).

HALF-DOLLARS.

No. 16A. **Type VIII.**

Design copied from the Egyptian coin of Mohammed Aly
 (see Plate III, 18.)

1310 Silver 10 Piastres.

Obv. value ١٠ over ٢

Rev. date ١٣١٠ Year number ٨ (8).

QUARTER DOLLARS.

No. 17. **Type I.**

1304 Silver. 5 Piastres.

Other issues (b) Obv. Year number ٤ (4).

Rev. Year number ١ (1).

FOUR-PIASTRE PIECES.

No. 23. **Type VIII.**

1310 Silver (base) 4 Piastres.

Other issues (a) obv. No roses in field.

Rev. No roses in field; date ١٣١٠ (1310) Year num-
 ber ٨ (8).

No. 23A. **Type IX.**

- 1310 Silver (base) 4 Piastres.
 Obv. مقبول in "Tughra" form. Beneath value : over ن
 Wreath beneath of wavy lines.
 Rev. Usual inscription within wreath of leaves.
 Date ١٢١٠ Year number ٨ (8).

TWO-PIASTRE PIECE.

No. 25. **Type IX.**

- 1310 Silver (base) 2 Piastres.
 Other issues (a) Rev. Year number ٨ date ١٢١٠ (1310).

ONE-PIASTRE PIECES.

No. 30. **Type VIII.**

- 1311 Silver (base) 1 Piastre.
 Other issues (b) Obv. Stars in field instead of circles.
 Rev. Year number ١١ date ١٢١١ (1311).

**PEACE-MAKING CEREMONY OF RAIK DINKA,
 BAHR EL GHAZAL PROVINCE.**

The two parties sit down about 20 yards apart preferably on each side of a dry khor—unarmed. The killer is represented by some near relation as it is held that the sight of him would infuriate the relations of the deceased beyond self-control.

The "pook" cattle are driven along between and with them a small bull produced by the payers.

This is caught and the Master of Ceremonies summons both sides to hold its legs. The M.C. may be a chief or kujur or anyone with a taste for the limelight provided he be not connected with either party. The payers hold the fore-legs and the receivers its hind-legs—sometimes vice versa. The bull is turned over on its back and one man on each side gives it a spear thrust in the chest and the M.C. immediately cuts it in half across the belly with a spear. The entrails are pulled out and the contents of the stomach are scattered over the parties. Each side goes off with its half of the bull and wrangles over the division of the meat in which they receive plentiful assistance from the spectators. A most disorderly scene ensues reminding one of a pack of hounds breaking up a fox and it appears more likely that new feuds will be started rather than an old one settled; however their habitual sense of humour comes to the rescue and loud laughter greets the discomfure of anyone who gets knocked down or robbed of his meat.

This done, the M.C. goes to the place where the beast was killed and lays a spear amongst the blood-stained refuse, of which he throws handfulls at the parties who have resumed their seats. Official spectators are usually honoured with a handfull or two if in range. Both parties then advance and six at a time—three on each side standing opposite one another—they hold the spear with both hands between them and then bite it together and then spit. This is done three times, once to the right, once to the left and finally downwards when each man spits on his own chest.

One occasionally sees a man taking part who does not know the drill with the result that two people spit in one another's faces : however, this causes no ill-feeling as it is a gesture of friendship, which, indeed, an official sometimes has difficulty in evading politely, though it is now generally known that "the Turk" has a prejudice against any part of himself except his hands or feet being so saluted.

Some ashes are thrown at the knees of the parties and this ends the ceremony. No form of words is uttered by the parties or the M.C. Anyone who took part in it and thereafter is a party to the re-opening of the feud is held certain to die very shortly.

ONLY A FERN.

Remembering Mr. Sarsfield Hall's note on the Sacred Stone of Furnung in Northern Darfur ("Sudan Notes and Records," Vol. 3, p. 223), the last time I was in those parts I requested the Shartai to show me the marvellous plant that grows on the side of Jebel Anab, and is guarded by spirits and their acolytes, the birds, from the profane hands of mortal man. The Shartai's reply was to the effect that it wasn't worth my while to go out of my way there, as there was nothing to see except a small plant up the mountain side, and it would be sheer waste of time and good ammunition to try to shoot any of it down, as how could anyone succeed where Zobeir Pasha, Ali Dinar, and several British officers had all failed. His words met with the vocal approval of the surrounding villagers; but as I foolishly insisted, he told off a man to point out to me the "anabaiz."

When we reached the jebel, I decided to climb up as near to the plant as I could. Despite the protestations of my guide, who was rather afraid what action the spirits might take, we got up to where the cliff face became quite perpendicular. There some 50 feet above us, growing in a crack in the rock and watered by a small trickle of water from above, grew an insignificant plant. I took a shot at it, and off came a leaf, but instead of falling down to us, it floated upwards and then blew away out of sight. This happened three times. So I

started firing at the roots of the plant, and soon down right on top of us came a bit of Maidenhair Fern. Just to prove to the guide that this was not a piece of luck on my part, or of negligence on that of the guardian spirits, I shot down another root of the fern. "Ah!" said my guide, as we descended, "you must have killed the Shaitan."

There must obviously be an almost permanent upward current caused either by the hot air from the heated rocks below rising straight up the face of the cliff, or by the surrounding hills directing the wind on to it. This explains why the light leaf blows away upwards every time! The presence of the trickle of water accounts for the fern's subsistence; though how it ever got there in the first place is a matter for speculation. Is it a relic from the days when Northern Darfur had a heavier rainfall? Or can a spore have been brought by the wind all the 80 miles from Jebel Marra, which is probably the nearest present-day locality for Maidenhair Fern? I incline to the former supposition, for a spore would have had to travel all that way against the prevailing North wind, though I am far from denying the possibility. Perhaps too, it may have been carried on the foot of a bird.

I took the two roots back to the Merkaz, and planted them carefully in the garden, though the gardener was sure they would not grow. This time I was wrong. When I came back from trek a fortnight later they had both disappeared. I have since learnt that nearly everybody in the Merkaz was under the impression that this was "shigerat el iksir" a leaf of which will by night turn the grain in which it is buried to gold. I fear some of them must now be wondering whether I ever did shoot down the "Anabai."

A. J. A.

A NOTE ON "THE GIZZU," OR JIZU.

In the last number of the Journal I described the conditions of tribal life and movement on the great steppe area, where the borders of Dongola, Kordofan and Darfur meet, known as "El Gizzu."(*) I wrote then "Gizzu is a generic name for a group of grasses. I do not know its derivation." Later in reading Doughty's "Travels in Arabia Deserta" I found several references to this word, *e.g.*, (*) Vol. I, p. 219 (2nd Edition, 1921) "The camels now feeding on the sappy rhabia were jezzin, or, not drinking." In good spring years they are in these diras almost two and a half months jezzin, and not driven to the watering. Then the force of life is spent of the herb lately so fresh upon the ground, and withering under the sun it is dried up."

(*) "Sudan Notes and Records," July, 1924 "A Desert Odyssey of 1,000 Miles," p. 48.

(b) Vol. II, p. 265 "This was the time of the spring pasture, when the great cattle are jezzin, and oft-times the nomads have no water by them, because there is le'ban to drink."(*) "Cattle" of course means "camels."

Cf. also Vol. I, p. 242 and Vol. II, p. 226 which need not be quoted.

These references convinced me that "gizzu" was an Arabic word of which I had hitherto been doubtful, and also spelt with a "jim." I therefore decided it could be none other than جَزْء, and consulted Mr. Hillelson who writes to me "Gizzu undoubtedly belongs to the root جَزْء. Lane gives the following as one of the meanings of the IV form جَزَّ: "He satisfied, or contented the camels with green or fresh pasture or herbage" (so that they were in no need of water). In the same way the I-form جَزَّ "may be used of the camels "They were satisfied or contented etc." The sense of "being satisfied with a thing serving in lieu of something else" is the origin of this special application to herbage and water. I suppose it is characteristic of gizu (the second ج in your spelling and Doughty's is Otiose) that no water is drunk. The poets therefore are fond of applying the word to the oryx, which I suppose doesn't drink."

This settles the question. The word should be spelt "gizu." The conditions in Arabia and the N.W. Sudan are obviously similar. Philby's list of grasses (Heart of Arabia, App. II) contains several species identical with mine. Both areas are the home of the oryx, so much so that Doughty's new edition of "Arabia Deserta" has an oryx horn on the cover, while the Natrun Oasis in the Sudan is littered with thousands of these horns, relics of centuries of salt-diggers. The great South Desert of Arabia—the Empty Quarter—swarms with oryx—the بقر الوشى (baggar el wahsh) of the old poets and of the present Sudanese Arabs, and the *wudhahi* of the Ahl Murra of the Empty Quarter,(†) and Mr. Hillelson is correct in saying that this animal does not drink.(‡)

D. NEWBOLD.

(*) Cf. "Sudan Notes and Records," op cit. p. 49.

(†) H. St. S. Philby "Heart of Arabia," Vol. II, p. 219, Doughty, Vol. I, O. 562.

(‡) P. A. Buxton "Animal Life on Deserts," p. 89. This book is reviewed elsewhere in this number of "Sudan Notes and Records."

A SURVEY NOTE.

The illustrations facing this page show some of the difficulties which assail Topographical Surveyors in this Country.

While engaged in the Anglo-French Sudan Boundary Commission in 1922, my Survey Party sheltered in the wet season for about 3 months at Kafiakingi. It was quite impossible to travel and I determined to lay down a base line in the vicinity. The country was exceedingly difficult, there being only one small prominent hill in the vicinity, the rest of the country consisted of undulating ridges covered with dense forest.

After climbing many trees we discovered a possible place for a station, but it was quite impossible to clear the forest, so an elevated station was the only solution.

A tall tree was denuded of all its branches, the top sawn off, a few pine battens nailed on it to support the theodolite. The scaffolding shown in the illustration was built by Sergt. Woolcott, R.E., with nothing but native rope and a few of our Hamla ropes. The platform was over 40 feet above the ground, and satisfactory observations were obtained from it to extend our base line.

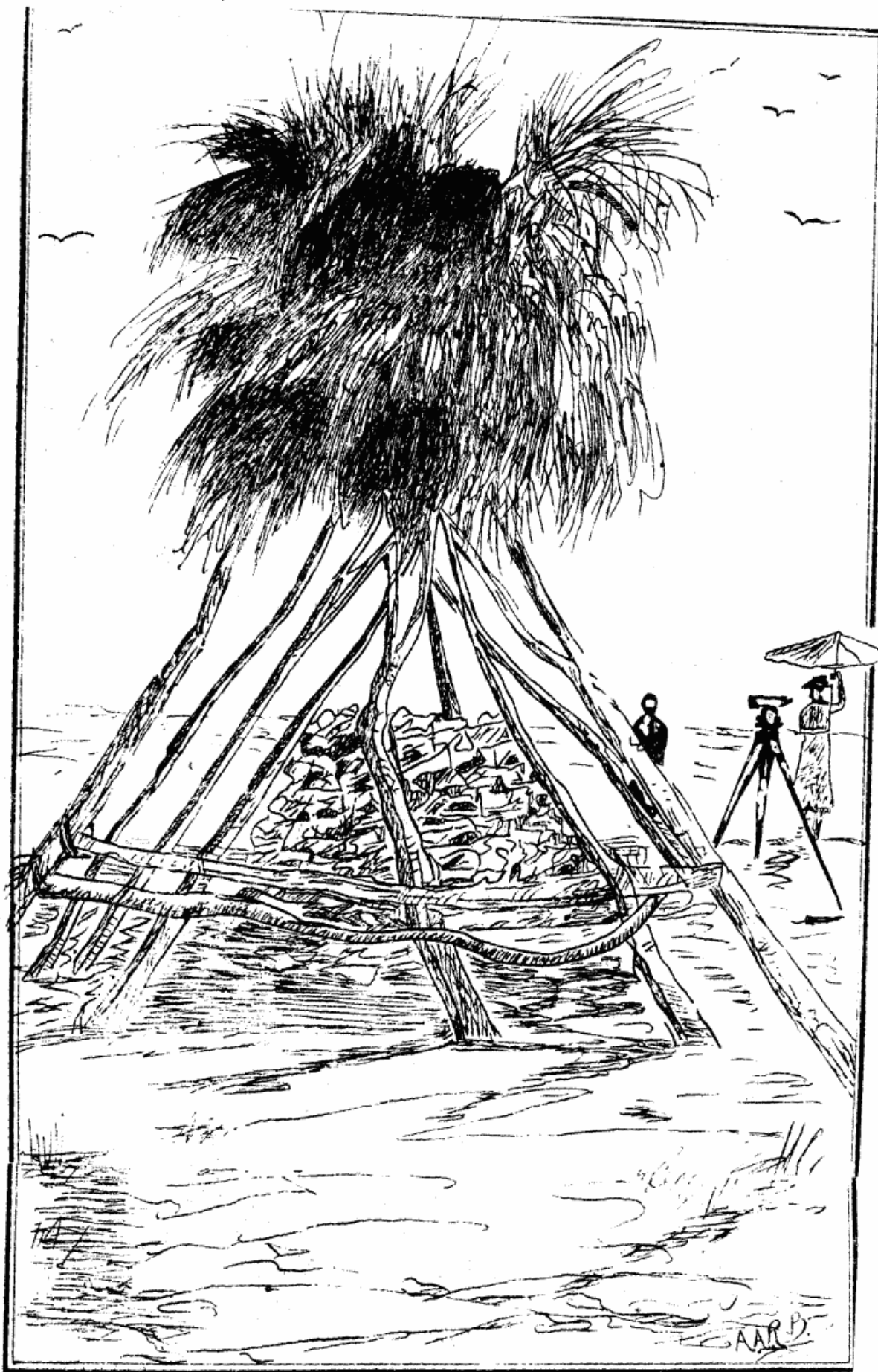
The other illustration is one of the beacons erected by Riad Eff. Abdel Shahid on the summit of a Jebel in Southern Bahr El Ghazal. I have adopted a modified form of this beacon after many experiments. The materials for erecting it are always at hand and if properly built its visibility leaves nothing to be desired.

Riad Eff. is quite a young surveyor, who was attached to the Nile Congo Divide Syndicate, and whilst thus attached carried out a topographical triangulation with plane table, detail, etc., covering an area of about 7,000 square miles. It is the first time in the history of the Sudan that a man, born and educated in the country, has carried out work requiring such technical skill and such a capacity for hard work.

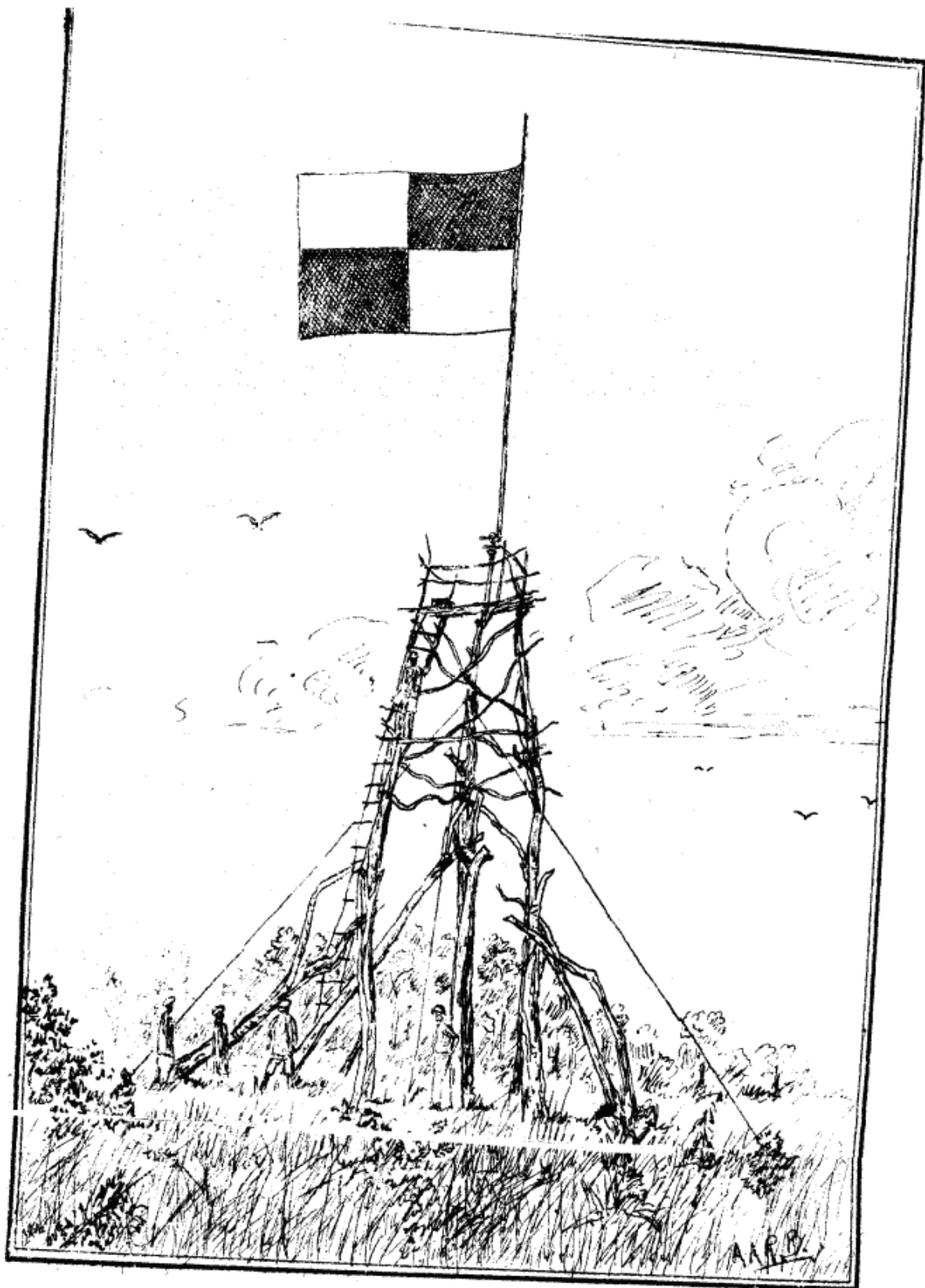
Riad Eff. made a topographical triangulation with plane table detail, &c., covering an area of about 7000 square miles.

A. A. R. BOYCE.





Triangulation beacon erected by Riad Eff. Abdul Shahid at Jebel Baka Wirru
Bahr el Ghazal Province. This beacon was observed to at
a distance of 62 Kilometres.



Tree observing station used for extension of Kafiakangi Base Line on the Anglo French Sudan Boundary Commission. The instrument was about 40 feet above the ground. The scaffold was built by Sergt. Woolcott R. E. Native rope only was used. Note the crooked timber nothing better was obtainable.

CORRESPONDENCE.

I do not know whether, if you agree with the following remarks, you would feel inclined to insert a suggestion that they should be carried out in "Sudan Notes and Records"?

One continually comes across articles written from parts of the Sudan where Arabic is not the local language, describing the habits and customs of the inhabitants of such districts.

These are always immensely interesting but to me they are greatly spoilt by the fact that the writers commonly use Arabic terms in such a way as to make a reader, who is not conversant with the latter language, think that they are reading the local names.

In my opinion it is preferable to use either the proper vernacular word or English, and avoid writing *chor*, *agaba*, *merissa*, *burma*, *angarib*, *simsim*, *dura* and such like.

P. N. LARKEN.

It may interest readers of the "Sudan Notes and Records" to know that a male white-eared Kob (*Cobus Cob Leucotis*) of 21-inch horns with a wholly white skin has recently been shot in the Pibor District.

It has been known in the past that a few of these white-skinned Kob existed and Anuaks consider them as the leaders of the vast herds that annually invade this District from the south-west at the beginning of the dry Season. It would be interesting to know whether these white-skinned animals have been recorded anywhere else, either in the Sudan or other parts of Africa.

C. R. K. B.

It is somewhat of a mystery how the *Μυρμηκολέων* crept into the Greek version of Job. iv, 11.

The Hebrew text reads *layish* an ordinary Semitic term for lion (cp. Arabic (لَيْش)), supposed to mean more particularly the mature, full-grown animal.

It is to be observed that verses 10 and 11 contain the word "lion" five times: The roaring of the lion, and the voice of the fierce lion, and the teeth of the young lion are broken.

The old lion perisheth for lack of prey, and the stout lions whelps are scattered abroad.' (A. V.) C. J. Ball in his revised text and version

(Oxford, 1922) reduces the lions to four by an emendation, and translates :—

The fangs of the lion are shattered,
And the teeth of the young lions broken out :
The old lion perisheth for lack of prey,
And the she-lion's whelps are scattered.

The Masoschic Hebrew text of these verses, however, has five synonyms for lion (aryeh, shakhal, kefir, layish, labhi). It may be conjectured that the Greek translator was hard put to it to find a sufficient number of synonyms in Greek, and chose *Μυρμηκώλειον* under the impression that it referred to a species of lion, and not an insect. The 'tigris' of the Vulgate is no doubt due to a similar cause.

S. H.

In your issue of July, 1924, Mr. R. H. Willan, in response to Herr Skovgaard's request for information regarding the White and the Black Stork, states that he saw "quite a number of breeding colonies of these birds, principally of the White Stork" along the margin of the swamps between Shambe and the Bahr El Ghazal.

In case this statement should mislead anyone I think it as well to point out the extreme improbability of either the White Stork (*Ciconia ciconia*) or the Black Stork (*Ciconia nigra*) having been the birds found breeding by Mr. Willan. It is much more likely that African species of the same family, and of somewhat similar coloration, were mistaken for them. Probably Mr. Willan's "White Stork" was the Wood Stork (*Pseudotantalus ibis*) and his "Black Stork" *Abdimia abdimi*.

The breeding range of the White Stork extends over a great part of Europe and into Morocco, Tunis and Algeria.

Further South it only occurs on its winter migration. The Black Stork, so far as is known, does not breed in Africa at all.

A. L. BUTLER.

