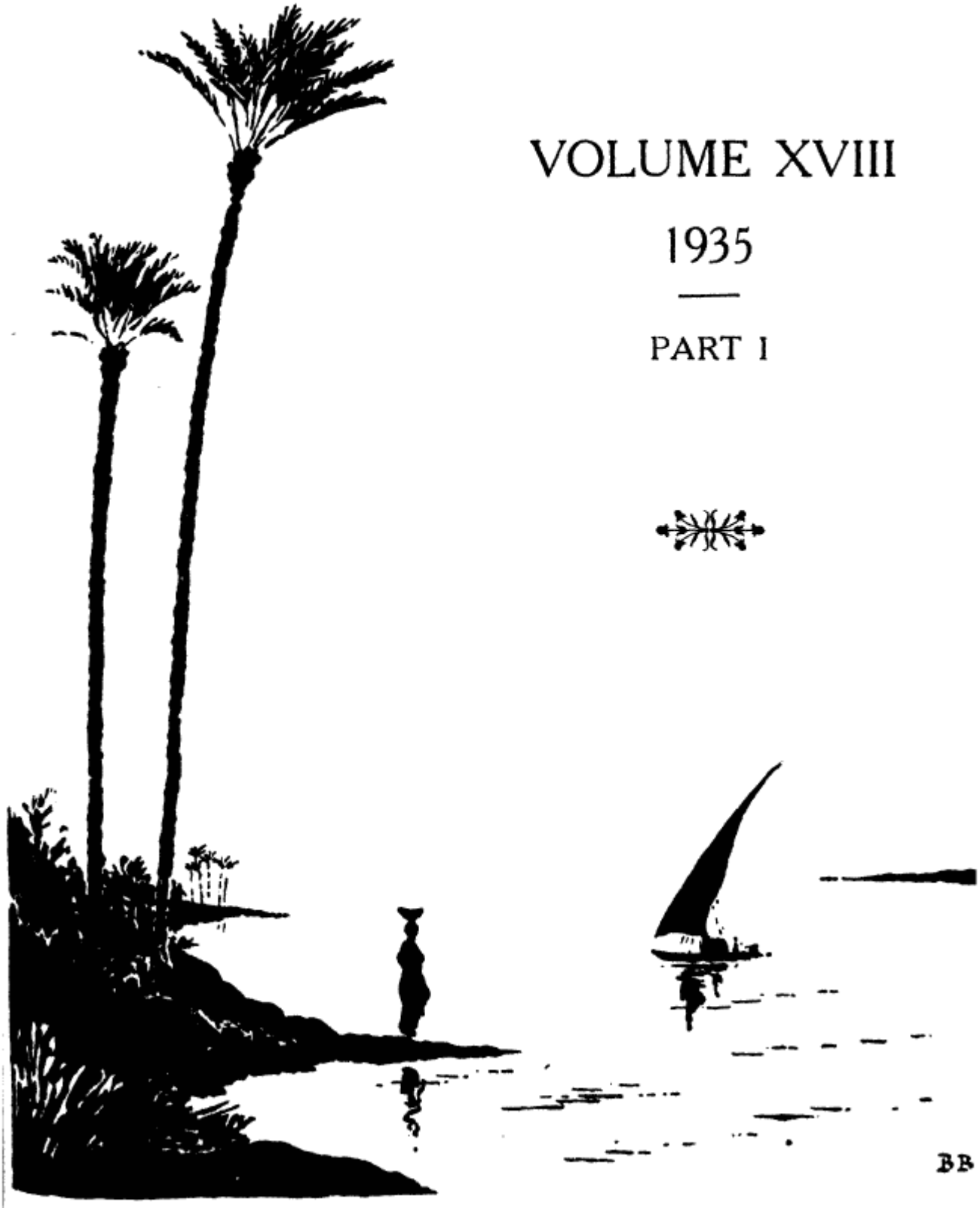
SUDAN NOTES & RECORDS



VOLUME XVIII

1935

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Vol. XVIII, 1935.

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

VOWELS.				DIPHTHONGS.
fatḥa	a,	lengthened	ā	ـَي —ai (as in aisle).
kasra	i,	„	ī	ـَو —au (as in mauser).
ḍamma	u,	„	ū	

The ل of the article always remains *l*.

The silent *t* (ة) is omitted.

NOTES.

1. The system is not applied to well-known names, such as Khartoum, Omdurman, etc.

2. The vowel sounds of *e* in "get," and *o* in "hot," with the corresponding long vowels (*a* in "gate" and *o* in "home"), which occur only in the colloquial, are expressed by e, o, ē, ō.

e.g. beled, Moḥammed, bēt (or beit), ḥōsh.

Ei may be used as an alternative to ē.

EDITORIAL.

The Committee have suffered a further loss this year by the retirement of Mr. R. Davies, and they wish to place on record their appreciation of the keen and practical interest which he has always taken in the production of *Sudan Notes and Records*.

Inquiries are often received for Volumes I (1918) and II (1919) which are out of print, and it has been suggested that they should be reprinted. Subscribers who would like to have these volumes are requested to notify the Honorary Treasurer, and if the demand is sufficient the project will receive consideration. The cost of reprinting would depend largely on the number required.

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SUDAN NOTES AND RECORDS

Vol. XVIII Part I 1935

THE KINGDOM OF TEGALI.

By R. J. Elles.

(PLATE I.)

1. INTRODUCTORY.

FROM the present district headquarters of Rashad there stretches for some forty miles to the north a fine range of granite hills, running up to nearly five thousand feet above sea level. To the west they drop steeply to the plain. To the east the fall is less, and the hills merge into the broad uneven plateau of the " North-Eastern Jebels," three thousand feet high, which stretches away to end in the pleasant shaly hills of Um Talha, thirty-five miles to eastward. Some twenty-five miles north-east of Rashad the valley of Girwaia forms a deep cleft in the northern edge of the plateau, and northward of this, under the eastern shadow of the mountains, lies the group of foot-hills known as Tegali. The name strictly applies to an area of some forty square miles, embracing the hills in which now lie the villages of Keraia, el Hoi, Tasi and Juluia.

It is an attractive country, even in the dry season when all is bare, colourless and shrivelled. But to see it at its best you must go there in the rains when the grass has sprung up green but is not yet too long. Then it is a country to delight the eye. The gently rounded slopes of the foot-hills form a restful contrast to the upflung masses of naked granite which crown the higher summits to the west. The green smoothness of thickly wooded hillsides is pleasantly broken by broad valleys, steep glens and narrow ravines, while here and there a patch of cultivation provides vivid colour to attract the eye. Water, too, is not lacking. Streams everywhere, tumbling over smooth-worn rocks into deep inviting pools, join to flood the sandy khors in the plains below, while against the distant hillsides, waterfalls show white after heavy rain.

From Tegali, along a rough line to the north and another to the east, the hills drop abruptly to the plain, which stretches away northwards

to the "*geizan*" of Kordofan and eastwards to Dar el Ahamda, unbroken save by the rocky peaks of Abu Dom. Fertile valleys lead down from the hills into this plain, extending into rich, low-lying "*nilas*," which afford water and grazing to herds of cattle and camels in the dry season. The plain itself, with many varying soils in its great expanse, supports the cultivation of several valuable crops—ground-nuts and *dukhn* on *goz*-land, cotton and heavy-yielding *dura* on cotton-soil, chillies and onions in the low-lying ground of the "*nilas*," where water is easily accessible.

It was in the hills of Tegali, nearly four hundred years ago, that a wandering *fagir* of a riverain tribe founded that ancient kingdom which in the eighteenth and nineteenth centuries became famous throughout the northern Sudan and which is the subject of these notes. Nineteen of his descendants have since reigned there in unbroken succession, from his son Geili Abu Garida to the present king, Adam el Nil Geili. These kings of Tegali at one time ruled supreme over the eastern Nuba mountains, from the Abu Habl in the north to Talodi in the south. Their suzerainty was acknowledged by the several Arab tribes who from time to time entered this area. They successfully defied the old Turkish Government and were for many years a very real thorn in its side. Their personal prestige, once immense, survives to this day in the genuflexion, the doffing of the *'imma* and the "*Allah yetawwil 'umrak*," which I have often seen accorded to the ruling king even by strangers from the north. By their encouragement of immigration and colonization during the early years of their kingdom they wrought a profound change in the religion, way of life, and in the very nature of their subjects, which is perhaps one of the most striking things about that kingdom as it is to-day.

Not only has the aboriginal population—sturdy pagan hillmen akin to the Nuba of to-day been long converted to Islam, but it has intermarried and mingled with nearly every race in the Northern Sudan. Only in the granite ranges of the Kejakja to the south-west of Tegali is the old race almost pure to this day. In Tegali itself the outside blood is mostly of Ja'aliyin and other riverain strains, while elsewhere there are Fung, Western races from Darfur and beyond, and Arabs, from small settlements of Bedeiria and Gawamaa to whole sections of Kawahla and Kenana.

And yet, for all their variety, there is at the same time a surprising homogeneity about these people of Tegali, which can only be attributed

to the influence of generation after generation of powerful and despotic hereditary rulers. For the traditional rule of the old kings had nothing democratic about it. It was autocracy pure and simple. All the power and authority was vested in the king himself. He administered his kingdom through the medium of two hereditary lieutenants. Of these the most important was the *Gindi*, who alone had access to the king's presence at any hour of the day or night. No one could approach the king except through him and he was responsible for the king's safety. He was also responsible for the subject *Mek*ships to the south; their tribute or their gifts were brought to the king through him. The second official was known as the *Sokarawi*. He had not such close access to the king as the *Gindi*, but he was responsible for that part of the kingdom to the north and east of Tegali itself. Certain of the kings appointed *wazirs*. This office carried with it considerable authority but was by no means invariably filled, and the holder was always a close relative of the king. The selection of a new king, if there was more than one candidate, lay very largely in the hands of the *Gindi*.

After nearly four centuries of successful rule on these lines, the royal family to-day constitute an unchallenged aristocracy which, personified in the king, links together as fellow-subjects all the widely varying people in the kingdom. No one would dream of questioning the authority of the king or the superiority of his family. The result is not only a remarkable unity and absence of disorder of any kind, but a growing similarity in the customs and way of life of the various people. Such is the universal respect in which the name of " Tegali " is held, that I doubt if there is anyone who would not call himself a " Tegalawi," had he any claim to do so, rather than by the name of his original tribe.

The future of this people of Tegali should be as interesting as their past. They are intelligent hard-working farmers, taking a keen interest in the growing of new varieties and not scorning improved methods. They are eager for education and appreciative of the benefits of medical and veterinary work. Their complete subjection to their king, being as it is the result, not of weak-minded servility on their part, but of the long aristocratic tradition of their ruling house, is a sign of racial well-being and an omen of progress rather than degradation. Such a social organization as this, where " Devolution " means the restoration of lost powers and responsibilities rather than the creation of new ones, should

furnish a sure foundation for the future development of the kingdom and its people.

No description of Tegali would be complete without some mention of religion. Islam was first introduced here by that Ja'ali *fagir* whom I have mentioned as being the ancestor of the present line of kings, and it has occupied a prominent place throughout the four hundred years of their history. Islam was the governing factor in the original development of the kingdom, and no visitor can fail to realize its importance in the lives of the people of Tegali to-day. Every village of note has its *masid*—a combination of private mosque and Koranic school—founded sometimes generations ago by some man of piety and renown, and carried on by his successors to the present day. Some are of more recent origin, some are of more widespread fame than others, but all are supported by the local villagers and testify to religious nature of the people. Tegali is a stronghold of orthodox Islam. There may, of course, be found adherents of various *tarikas*, but the majority are followers of Sherif Yusif el Hindi.

The notes that follow are mainly historical and are chiefly based on traditional tales which the patriarchs delight to tell with a wealth of imaginative detail that charms the ear but renders difficult the sifting out of the facts. There are, moreover, hardly any documents available to throw light on the history of Tegali. The late Hag el Tahir, a son of King Adam Dabello, had a collection of papers which is said to have included letters that passed between Tegali and Sennar in the seventeenth century and which would without doubt have been of great value ; but the old man died several years ago, his papers were carelessly destroyed, and to my lasting regret I never had an opportunity of meeting him. But although the chronicles that follow cannot be supported by documentary proof, I have included in them nothing that seems improbable and nothing that I have not heard from more than one reputable authority, and I have no doubt myself that they represent the main outline of the facts.

Of events during the last ninety years we can be more certain. There are many old men alive to-day whose personal memory, albeit somewhat blurred, goes back to the seventies and eighties of the last century, and with what they heard in their childhood they can remember what happened thirty or forty years earlier. Most of the events of the last half-century can be confirmed from independent sources.

In a final section will be found an attempt to elucidate the chronology and genealogy of the ruling house of Tegali ; the latter in particular is somewhat involved.

I have obtained several references from Sir Harold MacMichael's " History of the Arabs in the Sudan," and in particular, references to the Sennar Kingdom and to the genealogy of the Ja'aliyin from the documents translated and published in the second volume of that work.

2. TEGALI BEFORE THE KINGS.

At the present day, Tegali is inhabited by a mixture of many tribes, a people in whose veins the blood of widely varying racial strains is diffused. This was brought about by the immigration of settlers after the founding of the present dynasty of kings, and its result is seen in the sturdy, virile nature of the typical " Tegalawi " of to-day. Four hundred years ago the people of the North-Eastern Jebels were one race, isolated from the outside world and living mainly in three areas—TIRMI in Um Talha, the Kejakja hills and Tegali itself. These people were pagans ; they lived a life of primitive simplicity under the rule of hereditary chiefs, whose home was at Tegal'arro, near the present village of el Hoi, and who were known as the " Humuj." So runs the legend. The direct descendants of these people are to be found, almost free from outside blood, in the Kejakja hills to-day. Elsewhere, this ancient race has largely died out, though its strain predominates in the ancestry of the majority of the people all over the North-Eastern Jebels.

The Kejakja to-day, although they have been Mohammedans possibly for three hundred years, still retain many of their old customs, and their way of life seems to have changed but little with the passing of the centuries. They cultivate grain on their hills, using a wooden hoe ; they grow little else ; they have few cattle and they seldom venture far from their hills. Comparatively few of them speak Arabic, although in Tegali the vernacular is now seldom used and almost forgotten. Their *Omda* or *Gindi* is descended from the old *Genadi* of Tegali, who used to be the hereditary lieutenants of the pagan chieftains and continued to hold the same office under the Ja'aliyin kings.

Very similar to the present day Kejakja—in all but religion and dress —must have been those people who lived in Tegali four hundred years ago and were there found by the Ja'ali *fagir* who became the ancestor of

the present line of kings. Their tradition, though vague, still lives in the tales and folk-lore of their descendants. We can yet trace the crumbled ruins of their dwellings at Tegal'arro and Tirmi; more persistent than these are the walls defending the approaches to these settlements; tumble-down and overgrown though they are, they serve to remind us that these hillmen were not always the peace-loving folk they are now. I have never viewed these primitive defences, built high and thick to block the ascent of some commanding pass, or stretching far across the face of some open hillside, without seeing as it were a vision of the days when those rough stone walls served their builders well, when, crouching behind their shelter, the hillmen would wait to spring out upon the unsuspecting invaders, and repulse them with stone, knife and spear.

From such visions it is a short step to wondering who were the enemies against whom these defences were built. There was at that time little fear of invaders from the north or east; were the hillmen, therefore, at war with each other? And if so, were the people of the North-Eastern Jebels really united under one chieftain, as the legend would have us believe? Probably not. It is more likely that each little community lived its own life, under its own local chief, on its own group of hills, and that these communities were intermittently at war with one another. But it was from Tegal'arro that the powerful dynasty of Tegali was subsequently founded and thence spread its rule; tradition has consequently ascribed a larger dominion to the old chieftains of Tegal'arro than they ever possessed.

We know, indeed, little of this ancient people, and all traces of their origin seem irretrievably lost. There are, however, certain affinities between the present-day Kejakja and the Koalib, which may indicate a common ancestry, but as the former have long been Mohammedans while the latter are pagan to this day, there are many more dissimilarities. Whether these dissimilarities are, as I believe, mainly the result of a difference in religion, and therefore comparatively recent, whether the people of Tukam, Turjok and Tagoi (fairly recent converts to Islam) do or do not supply a link between the Kejakja and the Koalib—and whether they and the other so-called "Nuba" to the South are of one origin, and if so whence they came—all these are matters not yet clear and requiring further study.

All we can be sure of is that at the beginning of the sixteenth century A.D. there were, living in Tegali, a primitive pagan people, who were

probably similar in many respects to certain of the widely-varying "Nuba" of to-day, and who had had little or no intercourse with the outside world. It was among these people, at this date, that the Kingdom of Tegali had its modest beginning.

3. THE FOUNDING OF THE DYNASTY AND THE EARLY KINGS.

Tradition tells us that a certain Mohammed el Ja'ali came to Tegali from the north about the year 1530 A.D., and there founded the dynasty of kings who reign to this day. Perhaps he was one of those preachers who set out in such numbers to spread the faith in that wave of Islamic expansion which followed the founding of the Fung Kingdom at Sennar in 1504 A.D.; perhaps he was an outcast from his riverain home; maybe he was merely travelling from the love of adventure. All that we know of him is that he was a poor *fagir* of great piety. He and a companion called Abu Hayama reached, in their wanderings, the small hills among which then lay the settlement of the pagan chieftain of Tegal'arro, and where now stand the villages of el Hoi and Keraia. There the hillmen found them and led them to Kabr-Kabr, the chieftain. To him the wanderers made overtures of friendship, and he, impressed so we are told by their pious and harmless appearance, received them with all hospitality. Finding themselves so well treated, they made up their minds to stay and introduce Islam to the pagans. This they did, beginning their teaching with the prayers and ritual observances of their faith, and from the very first their doctrine was successful.

So soon as it became clear that the new religion was obtaining a hold among the people, the position of Mohammed el Ja'ali was secure. His piety and general conduct are said to have been such that it was not long before he became one of the most respected and influential members of the community. Kabr-Kabr, the chieftain, gave him his daughter in marriage, and she bore him a son who was called Abu Garida—from the fact that the bones of his forearm were fused together instead of being separate. This boy, as he grew up, inherited his father's piety, and helped him to preach Islam in the neighbourhood.

In due course Kabr-Kabr died, and the elders of the community chose his grandson Abu Garida, who was as yet little more than a youth, to take his place as their chief. At the same time they renamed him

" Geili," in allusion to the fact that he was of foreign blood, and not in the direct line of succession to the throne.

Thus, about the year 1560 A.D., was founded the present dynasty of Tegali in the person of Geili Abu Garida. His descendants have since reigned in unbroken succession, though it was not, of course, for many years that they attained the fame and power which was theirs later. The kingdom to which Geili Abu Garida succeeded consisted of no more than the few hills of Tegali, and possibly the Kejakja, which had been subject to his grandfather.

From the fact that he, whose father was a foreigner, was selected by the people to succeed their old chief, it is evident that Geili Abu Garida was already a man of some personality. It was, moreover, he who completed the conversion of Tegali to Islam, which his father had started. It was he who, pursuing his ambitions beyond the immediate neighbourhood, first conceived the idea of facilitating the spread of Islam and extending his own power by bringing in settlers from the north and east ; it was the immigration of these settlers that set the seal on the success of the new dynasty. He built himself a mosque, the ruins of which can still be seen. He moved from the old village of Tegal'arro and built his " *hosh* " at el Hoi, half a mile further north ; the outside walls of it can still be traced and the enclosure measures nearly three hundred yards in diameter. In the middle of it is a *fula*, said to have been originally dug by him. His reign was a long one and his Kingdom was firmly established when he died. He was buried in his own *hosh*, where his tomb may yet be seen. To him we must certainly ascribe a large share of the credit for the power achieved by his descendants.

Geili Abu Garida was succeeded by his son Sabo, who moved from el Hoi to To'dim, some three miles westward and higher in the hills. There he continued to spread Islam and to expand his kingdom, and his work was carried on by his sons, Geili 'Omara and 'Omar Abu Shiheira, and by his grandson Geili 'Awanallah, each of whom succeeded to the throne in turn. They were all buried in Geili Abu Garida's *hosh* at el Hoi, where you can still see their tombs, together with those of their relatives and *wazirs*.

We know little of these early kings as individuals, but we can discover a good deal about the steady growth of their kingdom during this period For Tegali, like Rome, was not built in a day. The influence

of the kings increased, slowly at first, later more rapidly as they became more powerful. And the keynote to their success was in Islam. Their aim was two-fold—to spread their religion, and in doing so to increase their own power. Once they had established their rule over Tegali and the neighbouring hills, it was their enterprising policy, originated by Geili Abu Garida and continued by his successors, to encourage immigrants through whom they could further these ambitions.

So the kings got into touch with the outside world and attracted to Tegali holy men, merchants and adventurers of every sort. It was an age of Arab immigration into the Sudan and of proselytizing; the Fung kings gave their patronage to holy men and sent them forth from Sennar to preach; many of them came to Tegali. Among the most famous of these were Hasan wad Hasuna and Tağ el Din el Bahari, both of whom visited Tegali to preach and trade in the early seventeenth century. The attraction was great, for apart from the spiritual profit to be derived from preaching Islam there was material wealth to be made out of trading, and few had any scruples about combining the two. To each as he came, the King of Tegali would allot some still pagan area as a field for his activities, in return for a proportion of any profits he might make out of the inhabitants, who were without doubt exploited freely.

Many of these holy men and traders, would decide to settle, and in return for the king's protection would acknowledge his suzerainty by paying him a periodic tribute in kind.

By such methods the kings of Tegali spread Islam and extended their own influence, gradually bringing more and more of the Jebels under their control. The settlers intermarried with the aboriginals, and their tribes and families persist to this day all over the North-Eastern Jebels, particularly among sheikhs of villages, who are often directly descended from these early immigrants.

Before very long the realm of Tegali had increased by these means to such an extent that the kings were in a position to extend their domain by force, but though it was no longer necessary for them to attract settlers, a natural flow of immigrants continued up to quite recent times. Some, like the early settlers, came to preach Islam. Some came for personal gain, lured by stories of ivory and slaves. Some were doutbless fugitives from the Sennar Kingdom. All helped to produce the present mixed race of Tegali and to increase the power of the kings.

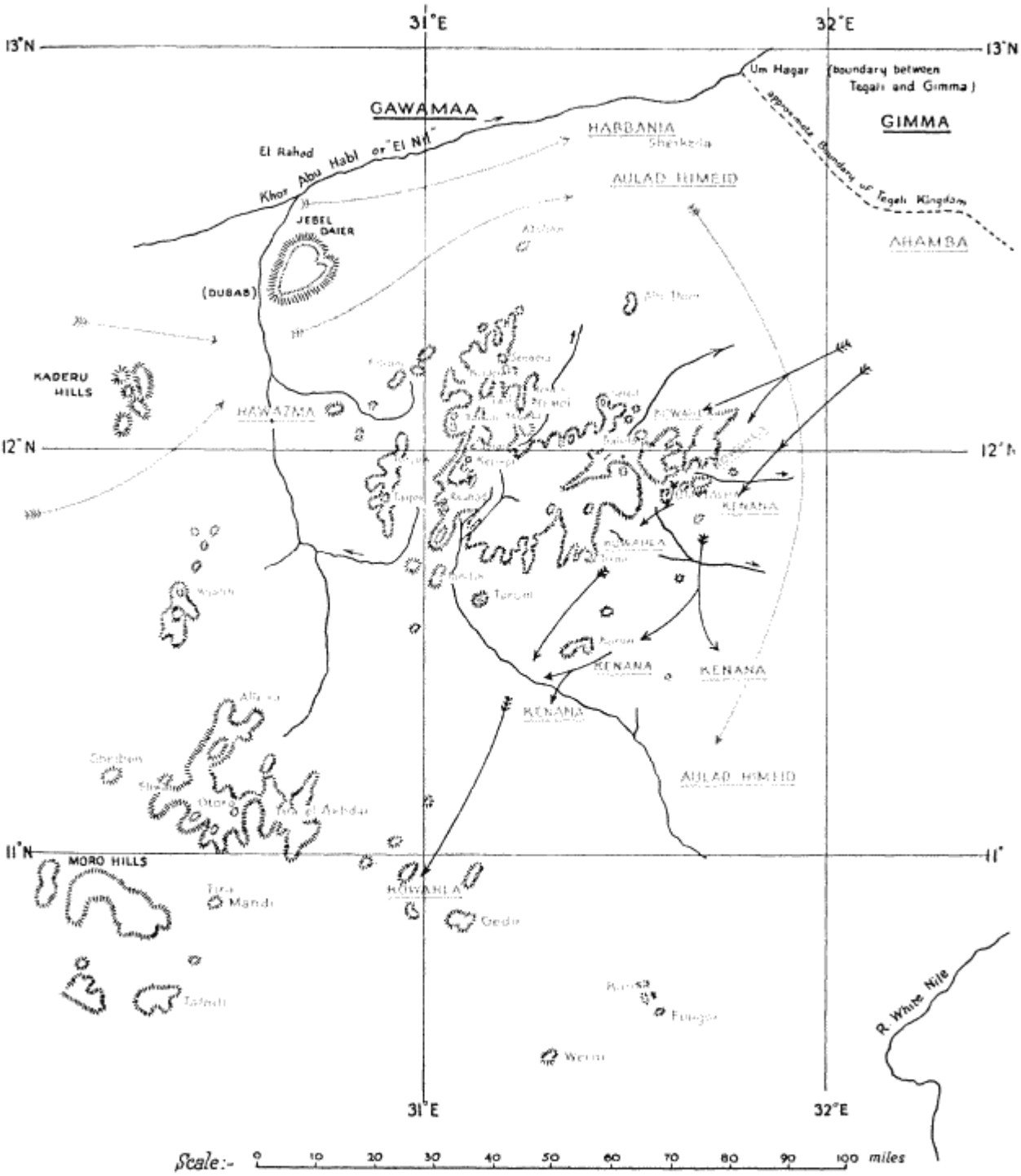
By the middle of the seventeenth century the kings of Tegali were supreme over all the North-Eastern Jebels and the foundations of their future realm were firmly laid. Rulers of an independent state and on friendly terms with the powerful kings of Sennar, they had installed immigrants from the Fung as subject *Meks* over the hills of Rashad, Tagoi and Gedir, and the latter were to become their most powerful vassals. They had succeeded; partly because they brought law and order where none was before, partly owing to their methods of colonization, largely because with them they brought Islam, but mostly, one cannot but feel, owing to their own personal vigour and enterprise. They were and still are a remarkable family. For nearly four hundred years they have kept their throne in direct succession. Few ruling houses can boast as much. Let us not judge them too harshly for their early methods, repugnant to our modern ideas though they may be. Would anyone, in the middle ages, have acted differently, let alone condemned them? And does not the result—a happy, united Mohammedan people—to some extent justify the means?

Geili 'Awanallah was succeeded by his son, Geili Abu Gurun, who ruled roughly from 1640 to 1665 A.D. Of him we have more definite knowledge than of his predecessors. He married the daughter of King El Rubat ibn Badi of Sennar—evidence of the friendly relations then prevailing between Sennar and Tegali—and it was during his reign that Tegali was attacked by King Badi II Abu Dukn of Sennar, as a result of King Geili presuming too far on those relations.

The name of King El Rubat's daughter was 'Aǧaib Um Shilla and she brought with her from Sennar a very large retinue whom she installed in her *hosh* in Balula, to which she retired after the death of Geili Abu Gurun. From members of this retinue most of the Fung communities now to be found in Tegali and Balula (for instance the " Ereid " family of the present Omda of Balula) are descended.

King Geili Abu Gurun had two sons by this princess of Sennar, and each in turn succeeded to the throne. She herself lived to a great age and, as we shall see, played a prominent part in the events of the opening years of the next century.

With the increase of their power, the kings of Tegali were by the middle of the seventeenth century becoming somewhat arrogant. They doubtless levied toll on all who travelled through their realm, and no



SKETCH MAP OF TEGALI IN THE NINETEENTH CENTURY.

Names of places in small letters.

Names of Tribes or areas in large letters.

Names of Tribes in *red* denote those which are known to have been subject to Tegali, either directly or indirectly. If the matter is not clear—*black* arrows indicate direction of immigration of Arab Tribes. Red arrows indicate immigration from the *West*, black arrows immigration from the *East*.

traveller would be safe who had not come to terms with the reigning king. It was Geili Abu Gurun's misfortune that he plundered and ill-treated an intimate friend of King Badi Abu Dukn. Not content with this, he sent a challenge to the King of Sennar, believing himself safe from reprisals in his mountain fastness. He was quickly undeceived. The story was known to the Sennar historian, and the following extract is taken from document " D.7." of Sir Harold MacMichael's " History of the Arabs in the Sudan," Vol. II :—

> " XXIX.—King Badi Abu Dukn—invaded the mountains of Tekali that lie west of the White Nile some two days' march. The reason of his invading Tekali was that the King of Tekali had attacked one of his friends who journeyed thither, and plundered his goods, and when told that the victim was a friend of the King of Sennar had replied : ' If the King of Sennar wants me on his account and crosses the wastes of Um Lama'a, then let him do what he will.'
>
> " XXX. Now the desert spoken of by the King of Tekali is difficult to cross owing to lack of water, but must be passed by one going from Sennar to Tekali. And when the man returned to his friend the Mek Badi he told him how his possessions had been plundered and what the King of Tekali had said, and (Badi) at once equipped his troops and said to his friend : ' When we reach the wastes of Um Lama'a, let me know.' And when they arrived there the man told him, and the King and all his men dismounted from their horses and crossed over on foot. Then they remounted and rode on until they reached the hills of the Nuba ; and there they slew many and took numerous prisoners and so proceeded until they came to Tekali and laid siege to it.
>
> " XXXI. And the King of Tekali had fortified it against them, and he used to come out to meet them by day and send them provisions by night ; and when the King of Sennar saw the generosity of his spirit he made terms with him on the basis of a fixed tribute, payable yearly by the King of Tekali."

This is a charming story. How vividly we can visualize the eagerness of " the Mek Badi " to seize upon the slightest excuse for a fight ; how delightfully naive is the description of the crossing of " the wastes of Um Lama'a "—even though it is not too clear how they solved the water

problem by dismounting from their horses ; and above all, how excellently they conducted their wars in those days ! Chivalry in the middle ages was evidently not confined to Europe.

Tegali thus became a subject state to the Kingdom of Sennar, but apart from the annual tribute remained in effect as isolated and independent as before. In recognizing the kings of Sennar as their overlords the kings of Tegali became once again on friendly terms with them, and there was frequent intercourse between the two states during the seventeenth and eighteenth centuries. As proof of these friendly relations it has been stated that Tegali continued to send an independent " Mahmal " to the Hejaz, a proceeding which would not otherwise have been countenanced by Sennar.

Geili Abu Gurun died and was buried in Keraia. He was succeeded by his elder son Mohammed, who ruled long and wisely and had an uneventful reign ; his numerous progeny are to this day attested by the large number of people claiming descent from him.

It was most probably King Mohammed who founded the royal stronghold of Tasi, where his successors had their home for the next two hundred years. Set at the very foot of the most northerly of three steep, sugar-loaf-like hills, surrounded by the most attractive country in Tegali, and commanding a wide view across a broad green valley to the granite range of the Kejakja beyond, the ruins of their palace can still be seen, covering several acres of ground with their tumbled piles of stones. We can still trace many of the rooms and enclosures, and dimly guess at the uses to which they were once put. Beside their ancient palace, in a little grove of *heğliğ* trees, are the tombs of King Mohammed and his successors. This stronghold must have been well-nigh impregnable, for not only is it so placed that no one can approach unseen, but all the ascents to Tasi are guarded by a triple line of stone walls, at a distance of some three miles out from the old palace itself. To add to the other attractions there is a permanent supply of easily accessible water.

On Mohammed's death his full brother 'Omar Abu Zintir became king. He was the first king of Tegali to be remembered for his bad qualities. Oppressive, cruel and tyrannical, he was soon hated by most of his subjects, although owing to his force of character he kept the allegiance of a powerful faction. His mother, now an old woman, feared and distrusted him and was anxious to secure the throne for her grandson

Ismail, son of King Mohammed, who was only a young boy at the time. She therefore, so the story runs, prepared a dish of food for 'Omar, and concealed in it a small sharp knife. King 'Omar, finding this knife, flew into a great and kingly rage under the influence of which he executed some thirty of his slaves.

This massacre finally kindled the smouldering fires of revolt, for all Tegali knew how the knife had come there. 'Omar and his followers were driven out, and Ismail was proclaimed King. After some desultory fighting, in which he was worsted, 'Omar went to seek help from Sennar, acting on the advice of his mother. She however wrote secretly to her kinsman the Fung King, asking him to prevent 'Omar's return to Tegali and, if possible, to kill him.

'Omar and his followers arrived in Sennar and were hospitably received by the king, Badi el Ahmar, who happened just then to be having trouble with a certain tribe in a distant part of his kingdom. So he asked 'Omar to go and subdue these people, thinking that he would thereby certainly be killed. 'Omar was forced to consent, though he realized how small were his chances of success.

To reach the rebels, 'Omar had to cross a desert with no water but that which his men had in their water skins. So when they were more than half way across, and the men were beginning to get faint-hearted, 'Omar (like Xenophon on a similar occasion) slit the skins so that they now had no water, and thus addressed his men: "You cannot go back for you would die of thirst—and your only way of getting water is to defeat the enemy in front." The men went on and fought like heroes, the rebels were defeated, and 'Omar returned in triumph to Sennar.

Nothing daunted the King of Sennar tried again. He was most effusive to 'Omar on his return, gave him many presents, and promised to assist him to regain his throne in Tegali. 'Omar eventually left Sennar with a letter to his mother from King Badi promising his help. But the latter had no intention of allowing this letter to reach its destination. He had made careful arrangements with the boatmen who were to ferry 'Omar and his men across the White Nile, and they accordingly capsized the boats in mid-stream. 'Omar Abu Zintir was drowned, together with all his followers, except, it is said, two men, who reached the west bank and escaped to bring the news to Tegali.

Ismail therefore became King of Tegali at an early age, about the year 1705 A.D. This is the earliest date in the history of Tegali which I can give with any confidence. King Ismail lived to be a very old man, and among other things we are told that his face became so wrinkled that his eyebrows overhung his eyes, so that he had to have them bound up in order to see. He was—and still is—perhaps the most famous of the kings of ancient Tegali, not only for his long life and reign, but for his many sterling qualities such as kindness of heart (a somewhat unusual virtue among kings of Tegali), complete impartiality and a wide knowledge of the Shari'a.

It was during the long reign of King Ismail that the realm of Tegali attained its greatest geographical extent. All the country between Tukam and Turjok in the west and Um Talha in the east was by now under the direct administration of the king. The inhabitants, though they had long been mixed with northern blood, had not yet been influenced by the Arab tribes which began to penetrate the kingdom later in the century. The northern boundary of Tegali, until the Mahdia, was the Khor Abu Habl or " el Nil."

The Kejakja hills, inhabited then as now by the almost pure aboriginal race of the Jebels, were in those days organized under one *mek*, the ancestor of the present Mek el Zeibag or Torai. The *meks* of Torai claim kinship with the royal family by reason of their descent from Sabo, second King of Tegali, who probably first appointed them as *meks*.

Rashad and Tagoi on the other hand were ruled by immigrants from the Fung. They too were installed as *meks* by one of the early kings of Tegali. The kings did not administer these small *mek*ships directly, but contented themselves with controlling the appointments of the *meks*, exacting from them an annual tribute, and suppressing them when they became unruly, as the people of Rashad in particular are said to have been from time to time. In later years both Rashad and Tagoi were allowed by the kings to become more independent, until in the later nineteenth century the payment of tribute had given place to an occasional ritual gift, such as that brought by Tagoi to every new King of Tegali on his accession, which consisted of a Kudu skin, two fine *tobs* and ten *tobs* of *Damur*. Slaves, also, were sometimes brought, and these served, in the time of King Nasir at least, to turn aside one of the frequent slave-raiding expeditions of that notorious man. That the connection between

Tegali and Rashad was of old much closer than it later became is shown to this day by a cairn in the hills between Rashad and the Kejakja, built there by one of the early kings of Tegali as a boundary mark.

To the south-west many hills of pagan Nuba were indirectly (and somewhat vaguely) subject to Tegali, as anyone will tell you to this day. Chief among them were the Koalib, Alleira, Heiban and Shwai Nuba, and possibly also those of Otoro. All these (except Otoro) lie between Tegali and Sheibun, where gold used to be found, and this fact gives us the reason for their subjection to Tegali. For Tegali controlled the gold mines of Sheibun and Mandi during the eighteenth and nineteenth centuries,[1] and the strong expeditions which were sent by the kings to convoy the gold conquered the Nuba whom they found on the way and forced them thereafter to pay tribute to Tegali. This tribute was almost certainly in the form of slaves.

In the south there ruled Tegali's most powerful vassals, the *meks* of Gedir, who like those of Rashad and Tagoi originally came from the Fung and were installed by the Kings of Tegali. Like them too, the *Meks* of Gedir were semi-independent rulers, but that they paid a periodic tribute (or " gift ") to Tegali and that their appointments were subject to confirmation by the Kings of Tegali, there is no question. The Nuba of Kau, Fungor, Werni, Kologi (later driven out by the Kawahla) Tira, Talodi and possibly the Eastern Moro, all acknowledge the suzerainty of the *Meks* of Gedir, and therefore indirectly of Tegali.

Captain Vicars Miles has observed that the horned *Tagia*—a form of head-dress imported from the Fung—was worn by the *Meks* of Gedir, Rashad and Tagoi. The *tagia* was, I believe, issued by the King of Tegali as a badge of office, in imitation of the Fung custom, and was of different grades according to its shape. The higher grades were worn by such as the *Meks* I have mentioned, while others were awarded to less important chiefs such as the *Meks* of the Kejakja.

It is also probable that in the days of King Ismail the inhabitants of Kaderu and Daier, to the west and north-west, were subject to Tegali,

[1] W. G. Browne who visited Darfur in 1793 describes, from hearsay, the gold mines at Sheibun, and says gold is found as dust and in nuggets. The Nuba collected it in ostrich quills and sold it to merchants. Some Mohammedans, either Arabs or others, lived among the pagans. Browne adds: " The Mek of Sennaar used to claim some tribute from the people of Sheibun but received nothing regularly."

J. Luca 1½ days W.S.W. of Sheibun was also famous for its gold.

W. G. Browne, *Travels in Africa*, 1799, pp. 462–3. D.N.

although later they became independent. I am told that the *Meks* of Kaderu also had the horned *tagia*.

Such was the wide realm of Tegali before the coming of the Arab tribes, which began to arrive towards the end of King Ismail's reign and continued to infiltrate until the middle of the nineteenth century. They all became subject to the kings of Tegali, who were powerful enough to drive out any tribe that declined to acknowledge their suzerainty.

King Ismail died, at a great age, about 1773 A.D., and was buried beside his father at Tasi. He was succeeded by his son Abukr, who was likewise a good and popular king. During his reign, the Fung dynasty came under the power of the Hameg, and Tegali renewed its complete independence from Sennar. As a consequence, the power and influence of the kings increased yet further, both within their own borders and beyond them, and the name of Tegali soon became famous—or notorious—throughout the Northern Sudan.[1]

King Abukr died in 1814 A.D. His sons Omar, Ahmed and Nasir were all young, and his brother el Meriud tried to seize the throne. This he might have done, but for the fact that he was a man of bad repute and generally disliked; consequently the *Gindi* and advisers in whose hands the choice lay would not have him. They proclaimed Omar as king, while another brother of the late King Abukr, called Agilun, consented to act as regent during his nephew's minority. Agilun was a man of exceptional integrity, and so far from abusing his difficult position—as so many others have done in such circumstances—he carried out his trust wisely and well. He established the regime in the popular esteem, arranged Omar's marriage when he came of age, and then retired. It was during King Omar's reign that Mohammed Ali Pasha invaded the Sudan and overthrew what remained of the Sennar Kingdom. The event caused neither anxiety nor enthusiasm in Tegali, where indeed it had little effect for many years to come.

King Omar died, at an early age, in 1827 A.D. His uncle Agilun, acting promptly, had his brother Ahmed proclaimed king before el Meriud could find his opportunity. King Ahmed is said to have been a young man of quiet disposition, and rather lacking in that force of character which has always been such a feature of his family. It was during his

[1] W. G. Browne, op. cit., refers in a route report (about 1795) to "Tuggala, capital of the King of Tuclawi . . . . This district is called Sagurnié, country of the mountaineers." He mentions Tumbûl as "under the Government of the King of the Tuclawi." D.N.

reign that Tegali was penetrated by the Turkish Government for the first and the last time. Khurshid Pasha, who was Governor-General from 1826 to 1837, is said to have " led an expedition to Tegali," though it is not known with what result. The Sennar historian observes that Ahmed Pasha " visited " Tegali about 1840. It does not appear that the Turkish Government got much satisfaction out of either of these visits, but it is certain that they would have been resented—and resisted —by King Ahmed's father or by his successors.

In 1843, el Meriud, the wicked uncle, who still harboured his grievance against the sons of King Abukr and who had been secretly attracting to himself a following from among the worst elements in Tegali, hatched his plot. He murdered King Ahmed's relative and *wazir*, el Mansur ; he ambushed and assassinated Ahmed and had himself proclaimed King.

El Meriud, as I have mentioned, was a man of bad character and was far from successful as king. The eldest surviving son of King Abukr was Nasir, who now tried to wrest the throne from el Meriud, but was at first unsuccessful owing to his reputation for cruelty. He therefore went to Khartoum and succeeded in convincing the Pashas that he was the rightful king of Tegali. He promised, if they helped him to gain the throne, to pay them a yearly tribute in slaves and ivory and to send, as a first instalment, twelve thousand slaves under the euphemism of " recruits for the army." As the Turkish Government had not succeeded in subjecting Tegali,[1] they agreed to Nasir's proposal and sent a force of troops to help him. With their aid, Nasir had no difficulty in driving out and killing el Meriud, and so made himself King of Tegali.[2]

4. THE ZENITH OF TEGALI—NASIR AND ADAM DABELLO.

Nasir ibn el Mek Abukr became king in 1844 A.D. The next forty years were to see the ancient realm of Tegali attain the greatest extent of its history, growing through bloodshed and violence under Nasir to settle into peace and prosperity under his successor—a peace that was only shattered by the chaos of the Mahdia. Henceforth, too, the story of

[1] J. Palline who was in Kordofan in 1839 speaks of Tegali as still independent. Petherick, in 1863, writes : " Tekkela has been subjugated and although not invested with a garrison is tributary to Egypt by a payment of an annual tax of slaves and gold." D.N.

[2] Escayrac de Lauture, author of two papers on the Sudan, 1853 and 1855, states that Mustapha Pasha, who was Governor of Kordofan, captured Nasr. Nasr promised to take Tegali, if given a company of infantry, and to pay a tribute of 4,000 slaves. He seized Tegali and killed his brother and then cut the throats of the officers accompanying him and settled the black troops at Tegali ; needless to say, he paid no tribute. D.N.

Tegali, as expounded by its own historians, is enlivened by a wealth of anecdote, as living memory adds its quota to the store of old tradition.

King Nasir was a very remarkable man, and many of those who saw him in their childhood have still a clear recollection of him. No one having once seen him could ever forget him, so Mek Kabbashi of Daduri—born in the first year of Nasir's reign—once told me, for to see him was usually to suffer at his hands. In person, we are told, Nasir was tall, powerfully built and of great bodily strength. He was rather light in colour. He was a man of unusual force of character; quite devoid of fear, but almost fiendishly cruel. Ambitious of power for its own sake, in the fifteen years of his reign he extended the influence of Tegali to a degree it had never before reached, but the ruthless methods by which he did so were repugnant even to opinion in Tegali itself.

Many tales are told of Nasir's cruelty. For instance, it is said that one day when he was holding court in his *hosh* at Tasi, he had occasion to indulge in a very loud and raucous laugh. At that moment a large bird in a nearby tree uttered a sound so similar that Nasir himself noticed the resemblance, whereupon (one can imagine the bystanders tittering behind his back) he ordered the bird to be caught. After a long chase through the hills it was at last captured and brought back to Nasir, who then put out its eyes and let it go again.

Then there is the well-known story of the el Obeid silversmith. This man, we are told, being at his work one day and asked what he was making, lightly replied: " I am making a ring for the nose of that wicked King Nasir," and thought no more of it. Nasir, however, hearing of this, took offence and swore to have his revenge. He succeeded in luring the silversmith to Tegali on the pretext of having work for him to do. The man, of course, came unsuspecting, and being given some silver by Nasir melted it down and asked what he was to make with it. " A ring for your own nose " was Nasir's reply, and at his words the silversmith was seized and held up by his feet while Nasir himself poured the molten silver into his nostrils until he died.

Other stories, particularly of the punishments imposed by Nasir for adultery, are more unsavoury, and some are quite unprintable. Tales are also told of his bravery, both in the face of men and spirits. It is said, for instance, that men who were being tortured to death would curse

him and threaten to return and haunt him. Nasir, unmoved, would answer: "Get up early, then, for there are many before you."

Nasir, as we have seen, became king by promising to pay tribute to the Turkish Government, who then helped him to gain the throne. This tribute was to be in the form of slaves, and out of his promised first instalment of twelve thousand of these, Nasir seems actually to have sent some eight thousand. But to do so he not only had almost to depopulate his own hills of Tegali and cause considerable resentment among his people, but he had to carry out his raids further and further afield. He therefore declined to send any more. The Government sent an expedition, under one Osman Bey, to bring him to terms, but Nasir repulsed this without difficulty. The Government did not try again, but left Tegali severely alone after this. It is said, however, that either Nasir or his successor later agreed to pay tribute to the Turks, and actually did so once or twice in the form of gold from Sheibun. Whether this is true or not it is a fact that Tegali was not further interfered with by the Pashas or their regime; and there is no doubt that Tegali up to the Mahdia, especially after Adam Dabello became king, was certainly no worse and probably much better governed than those parts of the Sudan which were "administered" by a corrupt Government. The kings were tyrants, but they dispensed justice, and they had behind them the prestige of long tradition. This prestige was enormously increased by their independence from the Turkish Government, and had they not become involved in the general upheaval of the Mahdia, the Kings of Tegali might well have continued in their old dominion to this day.

It was in King Nasir's reign that the power of Tegali reached its greatest extent,[1] not only among the people of the Jebels, but over the various tribes of Arabs who had been entering the kingdom since the end of the previous century. To the east were the Ahamda, and from this direction, too, came sections of Kawahla and Kenana, some of whom settled around the hills of Um Talha, while others moved further to the south. From the west came Baggara, Hawazma, Habbania and Aulad Himeid. All these tribes paid tribute to King Nasir, either directly or, as in the case of the Kawahla who became subject to the *Meks* of Gedir in the south, indirectly. Beyond the Tegali border to the north and east

[1] It must have been fairly wealthy from export of gold, ivory, and slaves. Baron Von Mullar, Austrian Consul-General in Central Africa (1847–9) estimated the export of Tegali ivory as 60–100 cwt. annually. D.N.

were the Gawamaa and the Gimma, who though not subject to Tegali were on friendly terms with the kings. It is said to have been at the request of the chief sheikh of the Gimma that King Nasir drove the Mesellemia across the " Nil," as the lower Eastern end of the khor Abu Habl is known.

From time to time these Arab tribes—particularly the Baggara—became unruly, and Nasir provided an outlet for this by allowing them to make raids on certain hills and to carry off slaves. This policy also acted as an effective check on his own people, who hated him as much as they feared him, and on whom he had to keep a very firm hold to preserve his throne. Only once that I have heard of was the result of one of these raids not in accordance with Nasir's intention. That was when he invited the Habbania to attack Senadra, the sheikh of which place was becoming too powerful for his liking. The Baggara, mounted and armed with spears, were met in the cultivations by the people of Senadra, on foot and armed only with sticks. The latter, under the gallant leadership of their Sheikh Harun, drove off the Baggara by sheer weight of numbers.

So Nasir ruled, using the enmity between his own people and the Arabs to play off one against the other, and keeping the balance of power in his own hands. In his thirst for power he led expeditions to the furthest limits of his domain, imposing his suzerainty afresh on those who had shown signs of forgetting it. He is said to have crushed in turn Rashad and Gedir, whose *Meks* had omitted to bring him tribute. It was his wont on these expeditions to demand a certain number of slaves from every hill or village on his way and, were these not promptly forthcoming, to take them by force. So much of his reign was thus taken up that he was comparatively seldom in Tasi. When there, it is said that he would spend all day on the rock at the top of Chalokidok, the hill which rises steeply behind Nasir's old palace, from which a bird's-eye view of Tasi and the surrounding country can be obtained. Here he would sit and note all that went on in the houses and cultivations. In the evening he would descend, and woe betide the man who had stayed idle in the village or who had been observed paying attentions to someone else's wife !

After some fifteen years of Nasir's rule even his own family were beginning to resent his brutality, while the majority of his subjects, accustomed though they were to tryanny from their rulers, were more

than ready for revolt. Moreover, Nasir's two sons were as cruel as himself and worse ; it was said of el Mumin (his elder son, and an *'Alim* of repute) that he would cut off a man's right hand and left foot where Nasir would content himself with the former.

Now Nasir had a nephew who was a very different type of man. This was Adam, later called " Dabello," the son of King Omar ibn Abukr. On Omar's death, Nasir had married his wife, and had at the same time taken charge of her son Adam and brought him up with his own sons. Adam was quiet and much respected, and Nasir soon began to fear and hate him owing to his growing popularity.

Already there were rumours of a plot to place Adam on the throne, and Nasir hearing of it determined to kill him. Fearing a rebellion, he dared not do so openly, so he arranged with his son el Mumin to entrap Adam into saying or doing something which would give Nasir an excuse for putting him to death. The plot failed because Adam refused to be drawn into the trap. Nasir therefore had el Mumin publicly proclaimed as *Mek* of Balula and Um Talha. This in itself was almost more than the people could stand, but the limit of their endurance was reached when el Mumin abducted a certain very beautiful girl on the eve of her wedding to another man. Then the *Gindi* and all the elders of Tegali went to Adam and swore fealty to him. Adam agreed to drive out Nasir and to take the throne. He seized his opportunity at the annual hunt which would shortly be held.

This hunt, or *Ganasat el Melik,* was held every year until quite recently. It was the custom for all able-bodied men to arm themselves with sticks or spears and to turn out to help in the chase, which took place in the Nila of Girwaia. Every kind of bird and beast was driven into the narrowest part of the valley and there rounded up and slain ; the game was driven from all directions, far and near. A special shady tree, from which to view the hunt, was prepared for the king at the foot of the pass that leads down from the old Royal *hosh* of Tasi. The hunting and subsequent feasting would continue for seven or eight days.

On this occasion Nasir duly came down from Tasi ; he seated himself under the tree and the hunt began. But Adam stayed behind, and no sooner had the hunt fairly started than he beat the Kings' *Nahas* in the appointed place (a specially constructed platform on a bit of high ground near Tasi) and everyone who heard it ran up to Tasi. At first the *Nahas*

was beaten for the people to gather, but when they had collected and the *Jehadia* had been armed, the rhythm was changed to that used for the proclamation of a new King of Tegali, and the people hearing it, we are told, shouted to the new rhythm, which was called " *El Nil daffar, el Beid magchar* "—Adam being " el Nil " and Nasir " el Beid."

Nasir heard the *Nahas* and the shouting from where he was sitting waiting for the driving of the game. Knowing that Adam had been proclaimed, he collected his followers and fled to el Sereif. Here he lived for a year, Adam declining to pursue him, but eventually the people themselves drove him out, and he fled north to Abu Dom, where he lived for two more years. Here Adam was at last persuaded to attack him, but hearing of the preparations, Nasir fled again. He once more went, it is said, to the Turkish Government for help, and though this was not unnaturally refused, he was given land at Ma'fug on the White Nile, where he settled, and even continued to practice his cruelties until he died. I am told that his daughters' descendants are still there. Of his sons, el Mumin fled to Teirifi in the hills west of Tegali, and was there allowed to live unmolested until his death, while his younger brother el Fahl attempted to lead an expedition against Tegali a few years after Nasir's downfall and was defeated and slain by Adam.

Adam Dabello seized the throne from his uncle Nasir in 1859 A.D. For the next twenty-four years he ruled in peace, undisturbed by the Turkish Government or by anyone else. There are many alive to-day who remember him and all agree that he was a wise and just ruler. He did much to consolidate Tegali in the position to which Nasir had brought it, though his methods were very different and he was for his time and place a most benevolent despot. Under his rule the small *Mek*ships of the Jebels, such as Rashad, Tagoi and Gedir, were allowed to become more independent than they had been hitherto. He was ambitious for the prosperity of his kingdom rather than for personal power.

King Adam made Keraia his main residence. It had previously existed as a small *hosh*, whither the Kings were wont to resort for short periods. It had also been their market and their channel of communication with the outside world, no traders having been allowed to penetrate to Tasi. The latter was too remote a place for Adam to carry out his policy of developing Tegali so he moved his family and his entourage to Keraia, and there built himself a house ; part of it is standing yet ;

like Nasir's at Tasi, it had two storeys and was no doubt for those days a very fine building. King Adam also had a *hosh* at Kindoro, one of the highest points in the hills to the west, which they say was as large as three men's cultivations, and on occasions filled to overflowing with people.

Adam devoted his reign to promoting the economic prosperity of Tegali. To this end he encouraged traders to come to Keraia, and a large market grew up there. In those days elephants were still plentiful in this region, and ivory and slaves were the principal forms of merchandise. There being little or no communication with Khartoum, the headquarters of the Government, trade was carried on with el Obeid and the west, and thence with Egypt by the *Darb el Arba'in*. Thus King Adam enriched himself and his people as well as the merchants who came to trade. He is said to have possessed, among other wealth, a large ivory store at Kalenda, a magnificently equipped stable and no fewer than a hundred concubines.

The population of Tegali was very much greater then than it is now. One is continually finding proof of this. Walk over any of the small hills between Keraia and Tasi—Tegali itself—or climb the steeper slopes behind Senadra or Um Inderaba to the North. You will find the same everywhere—ruined villages, deserted cultivations, fallen-in wells. In Balula and Um Talha it is just as apparent. At a very conservative estimate the population of fifty years ago must have been ten times what it is now. It is said that water in those days was more plentiful and easier to come by (particularly with the slaves that everyone had then) than it is now, and I am convinced, from quite recent evidence, that the North-Eastern Jebels have, in fact, dried up considerably. But the main reason for this truly appalling depopulation is to be found, as we shall see, in the events of the *Mahdia*.

King Adam's attitude to the Turkish Government was covertly hostile, though he was far too cautious and peace-loving to defy them openly as Nasir had done. He simply refused to pay tribute to them, and they on their part did not consider it worth their while to send an expedition—which would have had to be a strong one—to compel him to do so. It is possible that he did pay once or twice, but eventually all communications between him and the Government came to an end, and he became known as a passively hostile potentate who was better left alone.

The last ten or twelve years of Adam Dabello's reign may be termed the " Golden Age " of Tegali. Then was the realm at its widest, thickly populated with an industrious agricultural race, growing in prosperity and at peace within itself, under a wise and benevolent ruler whose power was absolute.

5. THE MAHDIA AND AFTER.

In the twenty-second year of King Adam's reign, Mohammed Ahmed el Mahdi came by Tegali on his first flight to Gedir. His followers were at that time few, and he was anxious to secure the help of the king of Tegali, whose animosity to the Turkish Government was well known.

But Adam, although he was in sympathy with the Mahdi's aims and although he received the Mahdi himself with every show of hospitality, was not prepared to risk joining with him in open rebellion—his own resistance to the Government having been purely passive—until he could be sure that the venture would be successful. He therefore compromised by swearing an oath of agreement with the Mahdi, promising not to oppose or obstruct him in any way, in return for the Mahdi's promise that he would leave Tegali alone should his revolt be successful. Even this somewhat vague pact, however, was too much for the king's advisers and *'Ulema*. Led by the *Qadi*, a man of firm purpose and upright life named Mirghani, they with one accord denounced the Mahdi as a false prophet, and recommended King Adam to kill him out of hand, adding that should he do so he would not be held accountable before God for the deed, it being clearly a religious duty to slay such men. Adam, however, refused to break the oath he had sworn, and indeed he so far yielded to the persuasions of the Mahdi as to send his son Omar with him to Gedir. When the Mahdi began his revolt he wrote to Adam, again trying to enlist his support, but the King, this time lending a sympathetic ear to his *'Ulema*, sent back an emphatic refusal.

But at last Adam yielded, to his own undoing. After the Mahdi had captured el Obeid and his success seemed assured, he wrote again, in terms that were more of a summons than an appeal, asking the king to visit him in person. Once more the *Qadi* and the *'Ulema* advised Adam to refuse, but in vain. In full state he set out for el Obeid ; the *Qadi* faithfully accompanied him, but never ceased from his endeavours to persuade him to turn back.

It is said that Adam, before departing, collected together all his wealth of gold and valuables of every sort. This treasure he sealed up and had sunk at the bottom of a well in his *hosh* at Kindoro and then had the well filled in and all traces of the work removed. He then put to death all who had taken part in the work, and only confided the secret of the hiding-place to one of his sons, who was afterwards killed during the Mahdia. The treasure, if it ever existed, is therefore there to this day.

The remainder of King Adam's wealth went with him when he set forth to meet the Mahdi, including all his horses and the traditional war-drums of the Kings of Tegali. On his arrival in the Mahdi's camp he was promptly made prisoner and all his belongings and those of his retinue were seized. Protesting against this treatment and reminding the Mahdi of his oath, the King was informed that the latter had not been broken as the Mahdi had not attacked Tegali, and that for the former he had only his previous curt refusal to thank. Too late he realized the mistake he had made in trusting the Mahdi, and relapsed into silence. Not so Mirghani the *Qadi*. Firm in the courage of his religious convictions, he denounced the Mahdi to his face as an impostor until he was led away and executed.

Adam was kept a prisoner in the Mahdi's camp but only lived a few months longer ; he died at Shabasha in Dar el Gimma during the Mahdi's advance to Khartoum. His son Omar joined the Mahdi and later occupied a high position under the Khalifa. The rest of his family who had accompanied King Adam were kept in captivity, including his sons Geili, el Tahir and Abu Falag, who later made their escape.

Meanwhile in Tegali events were not progressing smoothly. Adam had left two of his sons—Ali " Abu Zeneit " and el Zeibag—to look after his kingdom in his absence. It is said that they quarrelled, and that el Zeibag remained in Tegali itself while Ali took the western part of the kingdom. There was also possibly a third brother, el Tayib, in Um Talha. On hearing of his father's death, Ali proclaimed himself King of Tegali and open warfare thereupon broke out between him and his brothers.

After the Mahdi's death in 1885 the Khalifa sent Omar to enlist support in Tegali ; he met with no success, for his brothers were angry with him for deserting their father and joining the Dervishes. He was sent back with a defiant message to the Khalifa, who was so angered by

this that he despatched a force under Hamdan Abu Anga and el Nur Angara to ravage the Jebels. This they did indeed. Finding a divided kingdom their task was easy; and Abu Anga in the west and el Nur Angara in the east reduced the old realm of Tegali to such a state of ruin and desolation as can hardly have been equalled elsewhere, even in that reign of terror. Mention has been made of the thickly populated state of Tegali before the Mahdia. Seven thousand men were killed, it is said, in Senadra alone; many more were driven off in chains. The Emirs were particularly murderous to any who could claim noble blood; and eye-witnesses still tell of el Nur Angara's massacre of the royal family of Tegali, which took place at el Dabba in Um Talha in 1886 or 1887. Some two hundred prisoners, men, women and children, were brought before him and questioned in turn as to their parentage. Some forty of them claimed royal blood; these were lined up then and there and their heads cut off. The rest, including a few of royal connection who had not had the courage to admit the fact (Gabril of Senadra, who is still alive, was one of them) were driven off in captivity.

Both el Zeibag and el Tayib were killed, but Ali Abu Zeneit had made good his escape. Towards the end of 1885 he was esconced with a small band of followers in the hills to the west of Tasi. He called himself King of Tegali, but his followers were so few that on the approach of the Emirs he retired even further into the hills; there he lived a fugitive existence, continually on the move, and harrying the Emirs' forces whenever he got the chance. It is said that for over a year Ali and his men tasted no grain, but lived entirely on the game they killed. It was then that Ali acquired that reputation as a mighty hunter which was his until his death.

Meanwhile the Emirs continued to lay waste the Jebels. El Nur Angara almost annihilated the Aulad Himeid and Kenana in the south-east, while Abu Anga penetrated as far south as Gedir, where he defeated Mek Bosh with great slaughter; men and baboons together, we are told, fled southwards towards Murung. Eventually, towards the end of 1887, the Emirs returned to Omdurman, taking with them the majority of those who had not been killed, and leaving the most appalling desolation behind them. It is perhaps of interest to note that Hamdan Abu Anga took with him as a concubine Gronfyla, daughter of Mek Abdel Rahman of Rashad, who had, it is said, given her to him in consideration for his leaving

Rashad unpillaged—as indeed he did, though one suspects less for this reason than from the impregnable nature of the hill.

When the Emirs had gone Ali Abu Zeneit proceeded to establish his position as king over what remained of Tegali, and gave places of honour to those who had been his companions while he was a fugitive, among whom was el Neil Idris, afterwards *Omda* of Moreib. The number of his subjects was gradually increased by deserters from the Khalifa's forces, and Ali made his stronghold at Kindoro, where he was safe amid the hills from any sudden attack.

The Khalifa, however, had other troubles to attend to by this time, and Ali was not further molested. Ibrahim el Khalil raided the Jebels about 1892, but he gave Tegali itself a wide berth, and contented himself with sacking Tagoi and parts of the Kejakja hills, and eventually marched east and again fell upon the unfortunate Aulad Himeid.

Had Ibrahim el Khalil attacked Tegali he would have found it easy prey ; at about the time when he was burning the Aulad Himeid settlement at Meia there was again internal strife in that ancient kingdom, and the throne was once more changing hands.

For Ali Abu Zeneit was far from a popular king, and was cruel to a degree that even the notorious Nasir had hardly achieved. His brother Geili had escaped from his captivity at Gedaref about 1891, and had been appointed *Wazir* by Ali. Geili, however, not only was more popular in Tegali than Ali, but regarded himself as the rightful king, and this was appreciated by Ali, who now determined to kill him. Matters were brought to a head when a certain Nasir of the Hawazma Rawawga took refuge from the Dervishes in Tegali. Ali accused him of being a Madhist spy and had him put to death. His small son, running to Geili for protection, was assured that he had nothing to fear, but that same night Ali's men entered Geili's house, seized the child and killed him. This was about 1892.

Geili soon realized that Ali intended to kill him whenever he got the chance. He therefore arranged with his supporters to meet him in Balula and there fled, escaping on the pretext that he was going to Tasi. A considerable number of the Tegali people joined Geili in Balula, and headed by el Fiki el Hasan of the Kawahla they proclaimed him King of Tegali. Ali sent el Fiki Abdel Kerim, chief sheikh of a section of the Kawahla, at the head of a force to kill Geili, but when they got to Balula

Abdel Kerim and all his men threw in their lot with Geili and swore allegiance to him. We are told, however, that Abdel Kerim, to be on the safe side, wrote to Ali saying that he had been defeated and taken prisoner. He is now a very old man, but there is nothing in his character to make one doubt the truth of this story.

Geili was soon at the head of a considerable force and, sending his brother Abu Falag to get help from the Aulad Himeid, he advanced on Tegali. He met Ali at Teirifi, was defeated, and retired south to Todgul in the Kejakja hills. There he was joined by deserters from Ali and by numbers of people returning from the Mahdia, and with these reinforcements he again attacked Ali and this time put him to flight. But the struggle was not yet at an end. Ali lacked nothing in courage, and finding few in Tegali to support him, he gathered a somewhat miscellaneous army from Tagoi, the Dubab and even the Koalib. With this force he commenced a guerilla warfare with Geili, sacking and plundering many places to the west and north of Tegali. Geili, however, successfully resisted his attacks, although at a disadvantage in that he forbade his followers to kill Ali—a weakness for which it is said that Ali often mocked him in after years.

The end came in 1896, when Geili was reinforced by a large number of well-armed fugitives from the Dervishes, who had deserted the Khalifa when the approach of Kitchener's expedition became known. Ali was then finally defeated and retired to Jebel Daier, leaving his brother Geili as King of Tegali. Four years later, under the present Government, they came to terms and Ali was allotted the hills of Tukam and Teishan—a small domain to the west of the Tegali hills which was afterwards enlarged to include Wadelka and Moreib, where Ali made his home and lived until his death in 1922. He was succeeded by his son Abukr and ten years later this small unit was re-amalgamated with the kingdom of Tegali.

King Geili made his peace with the Khalifa, but when the latter fled to Abu Dom after the battle of Omdurman, refused to harbour him and sent his newly appointed *wakil*, Abdallah Godat, to drive him away. Abdallah, who is now *Omda* of Northern Tegali, had been a *mulazim* in the Khalifa's bodyguard at Omdurman, after which he escaped and returned to Tegali with a number of *jehadia*. He drove the Khalifa into the hills of Balula and thence southwards towards Gedir, where, as is well known, he took refuge until he emerged to meet his death.

Geili was therefore King of Tegali when Kordofan was re-occupied. For a little he wavered, but influenced by Abdallah Godat and also no doubt realizing that the new regime was going to be a very different affair from the Turkish misrule of sixteen years before and would have little difficulty in penetrating to the heart of Tegali, he soon decided to acknowledge the Government. He did little, however, to win its confidence.

In 1899 a Mamur was posted to Keraia. Geili wrote to the Governor, thanking him for this appointment, but otherwise ignored it. He continued to administer his people as before, greatly to the indignation of the Mamur, who retaliated by a series of reports to el Obeid. None of these reports were such as to encourage the Government to place overmuch trust in King Geili ; instead, peremptory orders were sent him to refrain from practices which he regarded as his hereditary right. As a result Geili began to entertain thoughts of rebellion, and in 1902 he was only dissuaded by the wiser counsels of Adballah Godat from joining in a minor rising which was quickly stamped out. Realizing at last that the new Government had power to enforce its orders Geili accepted his fate and remained loyal by force of circumstances.

It was not for some years that a British Inspector was posted to Keraia, but the appointment when it came marked the end of such power as Geili had ; it had never been more than a small fraction of that wielded by his father. His kingdom when he came into it had been torn with dissent, depopulated and impoverished by the ravages of the Emirs. Moreover the Arab tribes and the small outlying *Mek*ships, which had submitted without question to his father, had found a new independence in the anarchy of the Mahdia. Now, with the advent of a British Inspector, even the small dominion which remained to Geili was broken up. Tukam and Moreib under his brother Ali, Turjok and the Kawahla and Kenana of Balula, Um Talha and further south, were all now separated from Tegali and each directly administered by the Government ; all that remained to Geili was Tegali itself, the Kejakja hills and half Balula, and even here he was allowed no power. Thus did the kingdom of Tegali lose the independence which it had retained for three hundred and fifty years, even during its century of nominal subjection to the Fung.

Geili died in 1916. His son Abukr succeeded him, but only lived till 1921, since when the throne has been occupied by Adam el Nil, Abukr's half-brother, who is the present king. His accession seems a

suitable point to leave the chronicle of Tegali, for more recent events cannot yet be commented on. We may, however, note that for the last few years the Government has pursued a policy of piecing together the broken fragments of the old kingdom, and restoring the authority of the hereditary ruler.

6. CHRONOLOGY AND GENEALOGY OF THE KINGS OF TEGALI.

Chronology.

These are the nineteen descendants of the *fagir* Mohammed, comprising twelve generations, who have ruled as kings of Tegali :—

1.	Geili Abu Garida, son of Mohammed		(1560–1585) A.D.
2.	Sabo, son of Geili		(1585–1597) ,,
3.	Geili 'Omara, son of Sabo		(1597–1625) ,,
4.	'Omar Abu Shiheira, son of Sabo		(1625–1626) ,,
5.	Geili 'Awanallah, son of Geili 'Omara		(1626–1640) ,,
6.	Geili Abu Gurun, son of Geili 'Awanallah		(1640–1668) ,,
7.	Mohammed, son of Geili Abu Gurun		(1668–1702) ,,
8.	'Omar Abu Zintir, son of Geili Abu Gurun		(1702–1705) ,,
9.	Ismail, son of Mohammed	(70 years)	1705–1773 ,,
10.	Abukr, son of Ismail	(42 ,,)	1773–1814 ,,
11.	'Omar, son of Abukr	(13 ,,)	1814–1827 ,,
12.	Ahmed, son of Abukr	(17 ,,)	1827–1843 ,,
13.	El Meriud, son of Ismail	(1½ ,,)	1843–1844 ,,
14.	Nasir, son of Abukr	(15 ,,)	1844–1859 ,,
15.	Adam Dabello, son of 'Omar	(26 ,,)	1859–1884 ,,
16.	'Ali Abu Zeneit, son of Adam	(7 ,,)	1885–1892 ,,
17.	Geili, son of Adam	(25 ,,)	1892–1916 ,,
18.	Abukr, son of Geili	(5 ,,)	1916–1921 ,,
19.	Adam el Nil, son of Geili		1921– ,,

This list, in so far as the names and the chronological order are concerned, is undisputed. It is known to all authorities in Tegali at the present day and it is supported by the *nisbas*, which only vary in generations before the *fagir* Mohammed, ancestor of the kings. The only list I have seen that does not agree with this is an old one in the tribal files of Rashad district, which places one or two of the earlier kings in a slightly different order. But as there is no support for that order in the *nisbas* I see no reason to suppose that the list is based on fact. I have therefore adopted the order which is given above.

The exactness of the dates is a different matter. With no documentary evidence to rely on I cannot pretend to their precise accuracy But Tegali authorities are agreed upon the lengths of the later reigns, and I have given these in lunar years as they were given to me. The figures are said to have been corroborated by the late el Hag el Tahir, who was

undoubtedly very well versed in the history of the royal family, and for this reason alone I am inclined to accept them as substantially accurate. I have, therefore, by turning lunar into solar years and by working backwards from the known date of King Adam Dabello's death at the beginning of the Mahdia, been able to arrive at reasonably approximate dates A.D. for all reigns from King Ismail onwards. The reign of King Ismail himself may appear somewhat long for credulity, but remembering that the legends are unanimous in telling how he came to the throne when a boy and died a very old man, I have accepted it as it stands.

Tradition is vague with regard to the reigns before King Ismail's and it is consequently hard to date the founding of the dynasty. Were we to accept all the legends as to the lengths of the early reigns, we should be forced to the conclusion that Geili Abu Garida became king at the beginning of the sixteenth century, and therefore that the *fagir* Mohammed must have arrived in Tegali many years earlier. This I cannot credit. It is far more probable that he came some fifty years later, when the immigration of Arabs into the Sudan and the spread of Islam, movements which received a great impetus from the founding of the Fung kingdom (about 1504 A.D.), would have had time to expand across the White Nile. If, on the other hand, we count backwards from the accession of King Ismail and allow about twenty-five years for each generation, we arrive at 1560 A.D., as the approximate date for the beginning of Geili Abu Garida's reign. This is far more reasonable. It also accords with the first mentions of Tegali as a kingdom in the native manuscripts published by MacMichael in Volume II of his " History of the Arabs in the Sudan." Hence, accepting this date, I have arrived at approximate dates for the first eight kings by effecting a compromise between it and the length of each reign according to Tegali tradition. The results are given in brackets opposite the names of these early kings.

Assuming, therefore, that Geili Abu Garida became the first king of the new dynasty about 1569 A.D., and accepting the tradition that he was a young man at the time, it seems probable that the *fagir* Mohammed first came to Tegali about 1530 A.D.

It is not, however, claimed that any of the dates before 1884 A.D. are more than approximately correct. At the most they may prove useful in correlating events in Sennar and other parts of the Sudan with a view to compiling a more accurate chronology. For example, Geili

Abu Garida is traditionally believed to have reigned for very much longer than the twenty-five years which I have allotted to him ; it may be that tradition is right. The dates given above are those which, from the facts as I know them, seem nearest to the probable truth.

GENEALOGY.

There are three different theories as to the immediate tribal origin of the ruling house of Tegali. The *nisbas* of the Ja'aliyin nearly all refer to them as "Sagarang," descended from Dula, a son of Kerdam (e.g., manuscripts BA, A2 and A11 in Volume II of MacMichael's book). If you ask any of the more educated people of Kordofan, they will tell you that the kings of Tegali are Rubatab ; this, too, is the origin that members of the family themselves lay claim to. On the other hand, a study of their own *nisba* leads one to the conclusion that they are in fact, a branch of the Gamu'ia, and this I hold to be correct.

The *nisba* of the kings of Tegali is luckily free from serious inconsistencies ; luckily, because it is almost all we have to go on. I have seen several copies of it and they vary but slightly, all being obviously copied from the same document, though not always very well copied. This document was a long and complete *nisba*, reputedly of great age, which was last in the possession of el Hag el Tahir ibn el Mek Adam Dabello. It was lost on the latter's death in 1925, but fortunately some of the most interesting and relevant parts of it were copied out by el Hag el Tahir himself, and this copy I have seen. The names in it accord with those in other Ja'aliyin pedigrees, and from it I have made out table "A" which follows. It will be noticed that the names are only slightly different from those in manuscript "A7" on page 120, Volume II of MacMichael's book, which is obviously another copy of the same document (referred to in "A7" as "the great original.") As this document is known to have been in the possession of el Hag el Tahir however, and as he himself wrote out the copy I have seen, that copy, from which I have made out table "A," is more likely to be accurate. I have left out the names of ancestors previous to Kerdam, as they are identical with those mentioned in other Ja'aliyin pedigrees, going back to el Abbas and beyond.

If, then, the original document (of which all *nisbas* to be seen at the present day are copies) is to be trusted, it is clear that the *fagir* Mohammed who founded the dynasty of Tegali was—and therefore that the present royal family are—related to the Gamu'ia, and not to the Rubatab as is

popularly supposed. If the latter were the case, then not Gamu'ia but Diab, another son of Ghanim, would be cited as their ancestor.

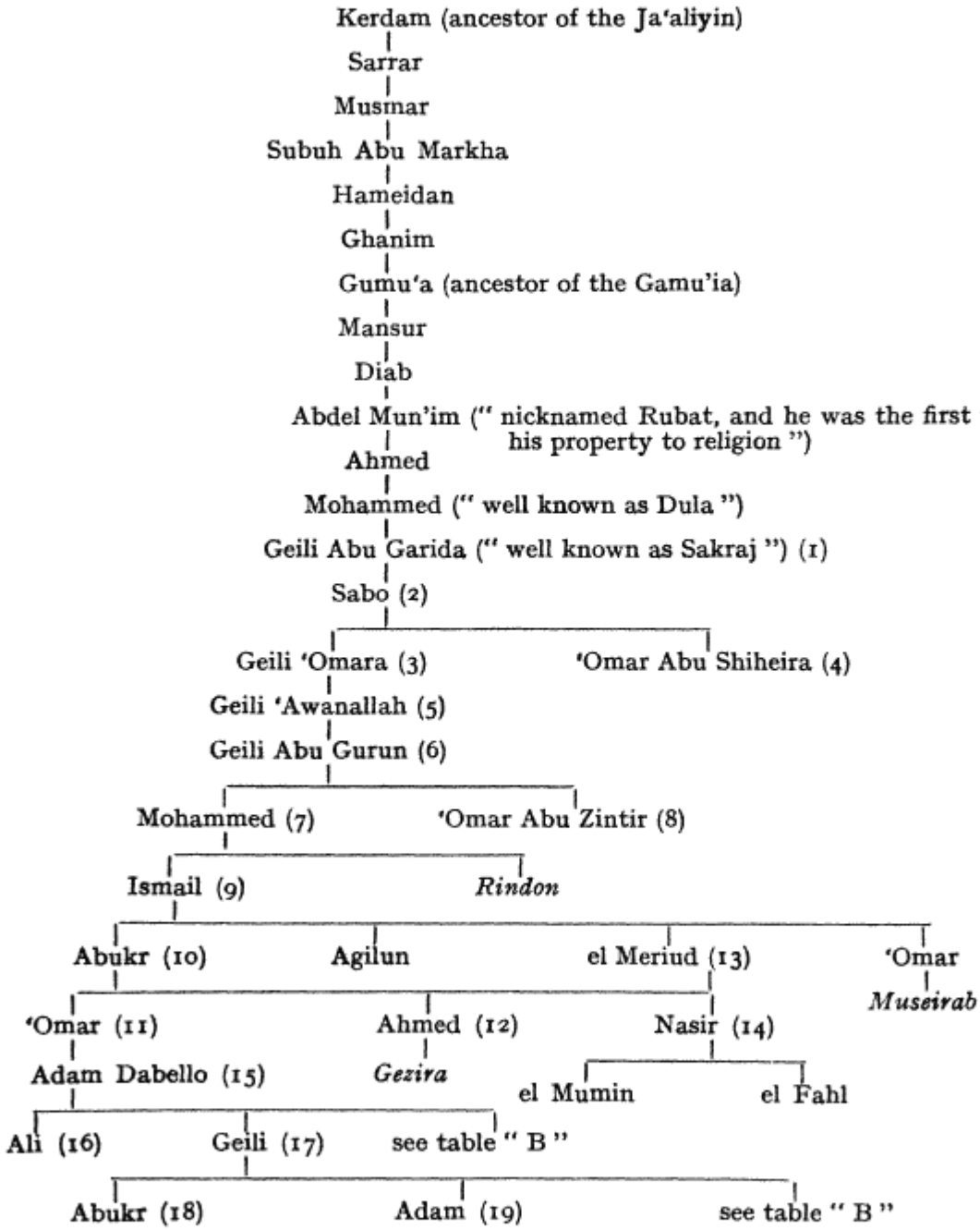
For the almost universal reference, in other Ja'aliyin pedigrees, to the kings of Tegali as "Sagarang," descended from Dula son of Kerdam, it is hard to account. But it may possibly be due to the tradition—mentioned in the document copied by el Hag el Tahir—that the *fagir* Mohammed, father of the first King Geili Abu Garida and the immediate ancestor of the kings, was "well known as Dula." It is probable that the authors of the *nisbas* knew vaguely that the kings of Tegali were descended from one Dula, whom they confused with Dula son of Kerdam, many generations before him, whom they also cited as the progenitor of the royal family of the Fur. What more likely than that they should associate the two ruling houses, even though they are not in fact related to one another?

Who the Sagarang really were is by no means clear. The people of Kordofan do occasionally refer to the Tegali royal family by this name, but no one who knows them does so. Moreover, as I have also heard the word applied to the *Meks* of Gedir, and even Rashad, both of whom are quite distinct in origin from the kings of Tegali, its use appears to be quite haphazard. It is, in fact, meaningless at the present day. In Tegali itself, of the few who have ever heard of the Sagarang, some say that they are an extinct branch of the Ja'aliyin, while others assert that the word is another name for the people of the Kejakja hills. One Madawi el Mahi told me that the Sagarang were the old ruling family of the Jebels before the present dynasty, and that the ignorant confused them with the present ruling house owing to the fact that the latter are descended from them through the daughter of the old chief who became the mother of Geili Abu Garida. It may be so. But until further evidence is forthcoming the riddle of the Sagarang must remain unsolved.

There are to-day many branches of the royal family, offshoots from the main line, who claim descent through one or another of the kings of the past. The best known of these cadet branches are the Museirab, the Gezira and the Rindon. Although they are not mentioned in the *nisba*, I have indicated the origin of these branches in table "A." The direct line—descendants of King Omar Abukr—are known as the To'dir, and I have shown them separately in table "B." In spite of the massacre of Um Talha in 1886, it will be seen that the family is in a flourishing state to-day, and its living members are more than sufficient to carry on the traditions of the last four hundred years.

TABLE "A."

Table showing kings of Tegali and their relationship with the Gamu'ia, from the *nisba*, written out by el Hag el Tahir ibn el Mek Adam.



NOTES.

1. Numbers in brackets indicate kings of Tegali, in order of reigns.

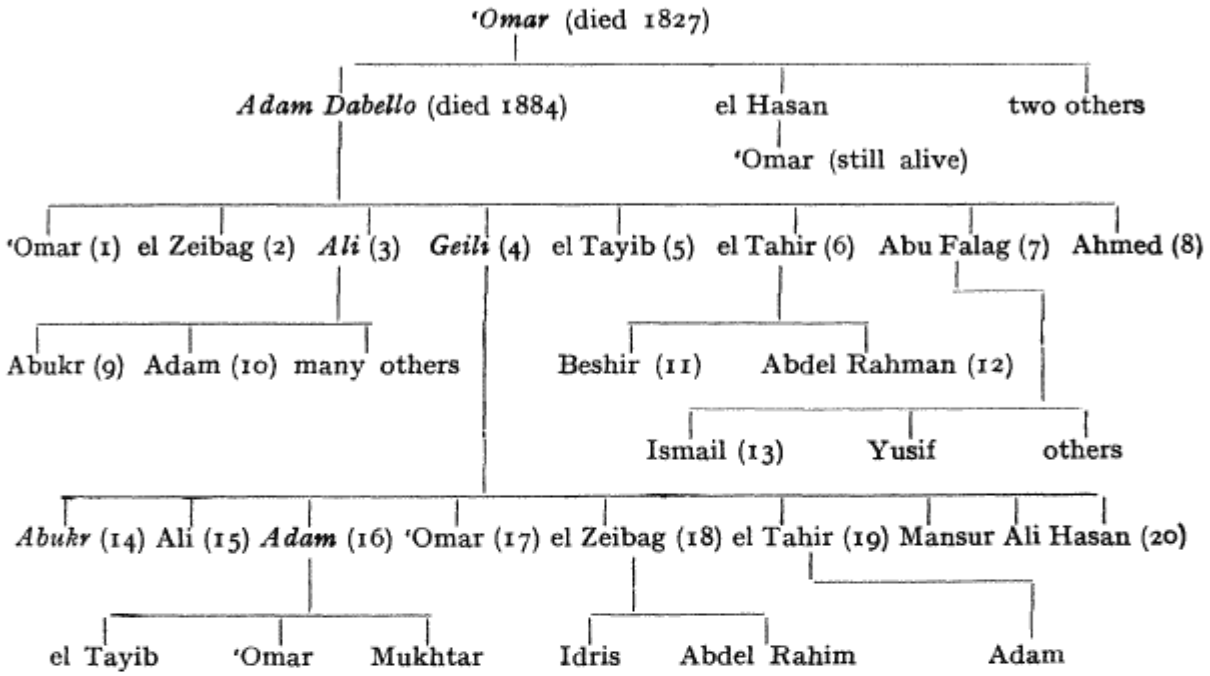
2. Branches of the royal family are indicated in *italics*. Descendants of King Omar Abukr are known as the " To'dir " and appear more fully in table " B."

3. Ancestors beyond Kerdam are omitted because they are no different from those in other Ja'aliyin *nisbas*.

4. Phrases in parenthesis are translations of those occurring in el Hag el Tahir's document.

TABLE "B."

Table showing the To'dir—male descendants of King Omar Abukr.



NOTES.

1. Sent by his father to the Mahdi at Gedir. Subsequently joined the Khalifa and became a minor Emir. Said to have been killed during a raid on the Koalib at Umbri about 1892.
2. Killed at Um Talha about 1886.
3. King of Tegali, 1885–1892. Defeated by (4) and retired to Daier 1896. Allotted Tukam 1900. Subsequently *Mek* of Moreib. Died 1922.
4. Escaped from captivity at Gedaref, 1891. Drove out (3) and proclaimed king of Tegali at Balula, 1892. Died 1916.
5. Killed at Um Talha about 1886.
6. Escaped from captivity towards end of Mahdia and lived a peaceful and retiring life, performing pilgrimage several times. Famous as an 'Alim and as the greatest authority on local history. Died 1925.
7. Escaped from captivity with (4) and helped him to become king and to drive out Ali. Died about 1920.
8. Still alive.
9. Succeeded (3) as *Mek* of Moreib in 1922. Rejoined Tegali in 1932.
10. Right-hand man to (9).
11. At present studying religious matters at Taiba in the B.N.P.
12. Tribal dresser in the Tegali administration.
13. Formerly in the Rashad police but resigned.
14. Became king of Tegali on his father's death in 1916. Died 1921.
15. By same mother as (14) and tried to become king (unsuccessfully) when latter died. Was till 1934 a market clerk in Rashad.
16. Present king of Tegali. Succeeded (14) in 1921.
17. By same mother as (16). Died young.
18. 'Omda of Central Tegali.
19. Accountant, chief clerk and *Wazir* in the Tegali administration.
20. Veterinary retainer in the Tegali administration.
21. Kings of Tegali are indicated in *italics*.

THE NUER: TRIBE AND CLAN.

By E. E. Evans-Pritchard.

(PLATES II & III.)

VII—*Continued.*

(*For plate* II (*Figs.* 1 *and* 2) *I am indebted to F. D. Corfield, Esq.*)

The *kuaar muon* has a part to play in the settlement of other civil disputes than homicide though this part is rather different to that which he plays as ritual agent in homicide cases. But we shall note here also that while he performs no ritual he nevertheless functions in virtue of his sacred character.

In cases of theft the man from whom property has been stolen goes to the local leopard-skin chief who promises to accompany him and one or two *tut wec* (elders) of the neighbourhood to the village of the thief. Elders from both villages will be present and will listen to the case under the presidency of the *kuaar muon*. On the following morning the leopard-skin chief, wearing the insignia of his office, arrives at the home of the injured party and brings with him one or two friends and they sit down to drink the beer which has been specially prepared in their honour. They spend the night in the same homestead and on the morrow the owner of the stolen property and several elders of his village accompany the leopard-skin chief and his friends to the village of the man accused of theft. A leopard-skin chief always takes two or three of his relatives or friends with him when he goes on a mission of this kind. On their arrival the *kuaar muon* is honoured with the present of a goat and perhaps will be supplied with beer as well. The owner of the property who has come to make plaint against the thief in his own village is quite safe, together with the elders of his village, since they have the protection afforded by the presence of a sacred leopard-skin chief. The visiting party are joined by some elders of the thief's village and they sit in the cattle byre to listen to, and take part in, the case. The owner of the property brings forward his plaint and the man who has taken it urges a plea of justification for his action and then everybody discusses the affair. The *kuaar muon* does not take more than his fair share in the discussion and leaves the argument to the elders on either side. When

everyone has had his say the leopard-skin chief and the elders withdraw to discuss the case among themselves and decide which of the two men is in the right. The elders concur in the decision of the *kuaar muon* and though there may be more discussion when it has been announced, people will none the less accept it since it comes from the leopard-skin chief and is backed by the concurrence of the elders. Afterwards the owner of the property will give the leopard-skin chief a male calf or a sheep but if he is very poor the chief will not ask for anything and he will be excused from payment.

Another account ran as follows: If a man has a suit with another man they will go together (when they live in the same neighbourhood) to the homestead of their local *kuaar muon* and will lay their spears on the ground in the byre where he is sitting (no one would plant his spear upright in the ground in a *kuaar muon's* byre. If a man were to do so a bystander would immediately appropriate the spear and keep it as a penalty since to plant a spear in the ground in front of a chief is a sign of disrespect to his person). The two men now make their case before the chief and in the presence of the elders and when it has been spoken the chief and elders leave the byre, in which plaintiff and defendant remain seated, and discuss the merits of the case outside.[1] When they have settled on a verdict they return and the chief announces what it is. It was clear from the way my informants described the whole procedure that when the chief gave his decision it was less with an air of final authority than with a tone of persuasion. His position at the hearing of the case was clearly one of *primus inter pares* rather than one of sole arbiter. Doubtless the hearing of the case was marked by a good deal of loud talking and excitement which one expects in Nuer gatherings. The person in whose favour the decision has been given hands his spear to the leopard-skin chief who either takes it and gives it to a friend or spits on it and returns it to its owner, as he feels inclined. The loser in the suit keeps his spear but will have to pay compensation for the wrong he has done his neighbour by returning the stolen property. The sacredness of the *kuaar muon* and the social influence of the elders who

[1] Mr. Coriat writes (op. cit., pp. 18–19): "The general assembly is seated in a semi-circle facing the Chief. All parties in the case then make their speeches in rotation standing before the Chief. The man speaking has his right hand on his spear, which is embedded shaft downwards in the pit . . . . The significance of the pit is that a man making false statements while holding his spear will be stricken dead on the spot or in a short time be buried, the pit being presumably a reminder to any would-be perjurer of his grave."

have sat with him during the proceedings render it difficult to dispute the verdict of the court.

From the foregoing accounts it is evident that the functions of the *kuaar muon* are not those of a political chief such as we find in so many African societies, who summons plaintiff and defendant to his court, hears the suit between them, gives judgment, and executes it. His function is rather that of a mediator. The loser of property, generally a cow—(for the Nuer are always taking one another's cows, not as mere theft but with some excuse which they consider ample to justify their abduction of the animal ; and who cannot find such an excuse in Nuerland where most debts are remembered for generations without being claimed ?)—goes to the leopard-skin chief because the thief who has taken his cow belongs to another village or district and it would not be safe for him or members of his village to go and make a claim by themselves as they might easily be attacked and killed if people became excited about the matter. Especially is this the case when the claimant is a member of a small village and uninfluential lineage and the defendant comes from a strong village and a powerful lineage. So he approaches the leopard-skin chief because the sanctity of his person ensures that any who accompany him will be free from molestation. As in homicide cases the primary function of the *kuaar muon* is not that of policeman and judge and executioner but that of mediator between independent groups of kin and between independent villages because it is the village (groups of kin with those who have aggregated to them) which are the real functioning political groups of Nuerland, as I have already explained, for the tribal sections and the tribe itself register a more or less nominal political cohesion. The leopard-skin chief is without real political power and with no means of enforcing his arbitration, but nevertheless provides means of getting groups into negotiation with one another and the machinery by which their disputes can be peaceably settled. That he can do this is due to his sanctity since anyone travelling with him is in the same position of sanctuary as if he were sitting in his cattle byre.

We have noticed moreover that the *kuaar muon* does not sit in state and give decisions purely on his own authority but that he allows the elders on both sides to discuss and settle matters among themselves as far as possible. The decision comes from him and is invested with his authority but it is reached as the outcome of free discussion and unre-

strained advice from the elders. If either party refuse to listen to his decisions he cannot compel them to conform in the way in which a powerful political chief can compel obedience among his subjects, but he can threaten to curse them, and this is so serious a threat that people generally give way at once. It seems that if one side disputes his decision through their spokesman the *kuaar muon* will simply pass him his leopard-skin and tell him to take it, which is tantamount to a curse, so that the man to whom it is passed will have to make a present to the leopard-skin chief before he will consent to take back his skin again. If people wish to dispute his words they may do so, though in a respectful manner, by first spitting into his hands as a sign of their good-will and respect for his office.

A further function of the *kuaar muon* is to perform ritual to cleanse parties to incestuous congress. The ancestor of the Nuer clans is said to have taken a brown-rumped bullock and cut it in two, vertically from head to testicles, severing by this action relationship (*mar*) between his sons and daughters so that his children were able to start the separate lineages which have developed into the clan system of to-day. The cutting of a bullock in two in order to ward off the consequences of incest is associated with this myth. The *kuaar muon* first invokes the bullock before sacrificing it and addresses his spirit[1] that the *rual* (incest and its consequences) may depart and the people may live. *Rual* is incest and the supernatural punishment which follows on its committal. The consequences are not always the same since they may take the form of almost any misfortune but it is thought most likely that a person guilty of incest will be afflicted with syphilis and this disease is also denoted by the same word *rual*. It must not be supposed however, that if you have escaped syphilis you will escape the consequences of incest for it may happen that you are injured by a wild animal, or bitten by a snake, or cut with a spear during a dance, or pierced by some sharp thorn or stump of wood as you run along a bush path, or you may develop an illness suddenly, all of which happenings would be ascribed to incest had it been committed previous to the accident which befell you. However the Nuer usually speaks of incest as *rual* using the word which also refers to syphilis. It is interesting to note that in Dinka the same word means a sausage-tree because in parts of Nuerland the pendulous

[1] He addresses *kwoth ring gwari*, the spirit of (the flesh of) my fathers.

fruits of this tree are used in ceremonies of atonement for incestuous intercourse.

After the *kuaar muon* has invoked the bullock, or if the man is poor it may be the goat, he sacrifices it. It is held down on the ground while he inserts the point of his spear into its throat and cuts towards its breast. When he has cut some way—by this time the bullock is dead—he commences to make a second incision through the scrotum and cuts upwards to meet the first one. Finally when he reaches the head he hacks it in two with an axe since it is impossible to cut through it satisfactorily with a knife. The whole body thus falls into two even halves. While the *kuaar muon* is making the last cuts or hacks which will completely sever the animal in two he and one party to the offence tug at the body on one side, while the other party tugs at the body on the other side, so that they pull it apart. One half of the animal will be eaten by the *kuaar muon* and his friends and the other half by relatives of the parties who committed incest together, though the two principals will not partake of the meal. When the bullock has been cut in two the leopard-skin chief extracts its gall bladder and squeezes out the gall into some water in a gourd and adds *wal ruali*, incest medicine, and the man and women who had sexual intercourse and all their relatives, who are also threatened with the consequences of the broken taboo, partake of the mixture.

The performance of this ritual is essentially the province of the *kuaar muon* though I should not care to say that it can never be performed by another specialist in ritual or even by a layman in rare cases. I had the curious privilege of witnessing a ceremony similar to that described in the preceding paragraph on my first visit to a Nuer homestead, though I did not at the time understand its import and had no interpreter to enlighten me. I thought that I was witnessing some kind of feast in spite of its puzzling and unusual features. A male sheep was brought out of the byre and, whilst one boy held its feet and another boy placed his foot on its neck to prevent it from moving, a man cut its scrotum with his knife and when the cut was large enough he squeezed out the testicles and severed the tissues which attach them to the body. After the testicles had been removed they cut its throat and then skinned it and amongst much shouting and grabbing, the meat was pulled about and divided, old men going away with legs and the larger pieces of meat

while children got kidneys and such like titbits. During the cutting up of the goat its gall bladder had been removed and its contents were then squeezed into a gourd and water added to them and afterwards the family (or families ?) involved drank its contents making wry faces the while. The two principals in this case were both men, a youth and his father who had made love to the same woman and had intercourse with her, conduct which constitutes incest among the Nuer. It is not, however, considered nearly so grave an offence as incest between brother and sister, or between two other close relatives, and the consequences are not likely to be so severe. I think, therefore, that the whole ceremony was on a smaller and more amateurish scale than the proper incest ceremony. As far as I can remember the goat was not cut in two and tugged apart, though it is possible that this took place and I am not at all sure that there was any *kuaar muon* present but am under the impression that there was not. The only elements which distinguished the killing of the goat from the killing of a goat on some other occasion were the removal of the testicles, the drinking of the gall, and, to a lesser extent, the manner in which the meat was torn about during and at the end of the cutting.

It seems that on the western bank of the Nile less serious cases of incest, that is to say cases between members of the same clan but not of the same small lineage, are often treated with less expense than is involved in the sacrifice of bullock or goat, since in these parts they make use of the fruit of a sausage-tree instead. It is possible that the same ritual is performed among some tribes of the Eastern Nuer as well, but it does not seem to be practised among the Lou tribe or the Jekany tribes, in whose territories, it may be noted, the sausage-tree is very seldom met with. When I was in Dok country I pitched my tent at the side of a sausage-tree, just far enough removed from the danger of a fruit crashing on to it, and I noticed that on two occasions young men came early in the morning and cut down a fruit and took it home with them. It did not strike me as curious at first since they might have needed the fruits for a number of purposes, but on the second occasion on which it occurred I enquired into their use and was told that they were employed in protecting members of the same clan who had had sexual congress, from the consequences of their act. My informants said that a *kuaar muon* or a *tiet* (specialist in magic) would sever the fruits in two and give the people concerned incest-medicine to eat.



FIG. 2.
A GAAJAK NUER.



FIG. 1.
A GAAJOK NUER.

The *kuaar muon* plays a very minor *rôle* as rain-maker and this is one important respect in which Nuer political life appears to differ from Dinka political organisation, for the Nuer attach little importance to the art of rain-making. Among the Dinka the rain-maker is the political head of the tribe and the greatest consideration is given to his magical powers of producing rain. Among the Nuer of the East Bank any member of the GAAWÄR clan can act as a rain-maker since their ancestor came down from heaven in a shower of rain holding in his hand a sprig of the *Nyuot* tree, and, some say, a small round stone besides. When other Nuer want rain they send for a GAAWÄR man and give him a white goat. He puts a sprig of *Nyuot* in a gourdful of water or in a stream and leaves it there to soak. He also cuts the goat's throat at the side of, or perhaps over, the gourd. At the same time he calls on his spirit to fall since the GAAWÄR respect the sky and the rain. Rain will pour for several days after this rite and when they desire it to stop the GAAWÄR takes the *nyuot* sprig out of the water and dries it in the sun. He may also take a stone and place it in the ashes of a dung fire in order to stop rain and prevent floods, but probably anyone can do this. The Nuer do not pay a GAAWÄR for these services though they will let him have some of the meat of the slain goat and sometimes they will make some beer for him on the day when he performs the rite.

It is clear that his ritual functions give a GAAWÄR no kind of political status nor for that matter any particular social prestige. Any man of the hundreds of members of his clan can carry out this simple ceremony and none of them becomes in any way a departmental expert with official functions. It appears that in certain parts of Nuer country, if not throughout its length and breadth, land-experts and prophets also claim to be able to produce rain though they do not acquire any outstanding merit from their powers in this respect. The Nuer when asked about rain-making always tell one: "There is nothing we can do if it does not rain. God has given us nothing. We are merely ignorant folk." If you press them and say that there is surely something which they can do they will reply: "Oh well, the land-expert will kill a bullock and pray to God for rain and that is all; perhaps God will give it and perhaps he wont." When I asked about Car, a well-known prophet at that time imprisoned by the government, who, I had been told, was good at bringing rain, they said: "Oh well, he will pray to his spirit and ask for

rain but that is all." Car is said to have sacrificed a goat and poured water over the back of a white cow in order to bring rain. He also is occasionally spoken of as *gwan pini*, owner of water, though the title has not, I think, much significance. Once the prophet Gwek could bring rain by killing a male calf and a female calf but since his death at the hands of the government they can no more trust to anyone to bring rain without fail.

In Lou country, and on the West Bank of the Nile, I was told, as mentioned above, that it was possible to stop rain from falling by placing a stone in a dung fire so that rain will cease and not fall again for several days. They do this if there is danger of the crops being spoilt by excessive rain but, as I have suggested, it is apparently within everyone's ability to perform this rite which does not form the special province of any expert. In the event of floods proving of great severity they are dealt with, at any rate in parts of Nuerland, by an individual called *gwan pini*, owner of water, who has inherited his ritual powers from his father. There is such a woman in Dok country who functions in times of floods by taking a bullock down to the waters and sacrificing it to drive them back within their banks. It will be gathered that the expression *gwan pini* simply means any specialist who has ritual powers in connection with rain and floods.

I was told in Lou country that if no rain falls at the time when the corn is emerging out of its case of leaves (*ruit beel*) the land-chief may untwine the metal coil from around the end of his spear shaft and so cause rain to fall, but no one seemed to think very highly of those powers. My servant Nhial informed me that in Lek country the land-expert may attempt to bring rain by taking a goat or sheep to the river and there beating its back with grass dipped in the river. He then cuts its throat and throws its head into the river while the body is taken home and eaten. On another occasion he told me that the land-expert might take a goat into the river with him and fix it into the weeds, so that it could not save itself, and leave it for crocodiles to eat. He then kills a second goat in his homestead and throws some of its hair into the air asking God for rain. Nhial also said that this land-expert will take a sprig of *nyuot* tree and place it in the river when he desires rain and that when the rain comes he takes it out and thrusts it into the thatch above the entrance to his byre, inside the byre, so that in the torrential downpour

which follows the byres and huts may not be destroyed by lightning. It is very likely that there has been some misunderstanding in this relation and that the person about whom Nhial was speaking was a member of the GAAWÄR clan. I have heard moreover that land-experts sometimes keep an hyæna's skull above the entrance to their byres, where it hangs on the inside from a metal ring. When the land-expert wants rain he puts the skull in the river and rain is certain to fall. Of these two kinds of rain, *nhial nyuota*, caused by the mechanism of a sprig of the *nyuot* tree, and *nhial yaka*, caused by the mechanism of an hyæna's skull, the former is preferable since it is not generally accompanied by heavy thunder and lightning, with its consequent dangers to men and cattle, and to hut and byre. In Dok country I was told that when there is a drought everybody will pray to God to send rain but that it is no one's special business to sacrifice to him.

If rain is very heavy and is accompanied by thunder and lightning a man takes the mallet with which he beats cattle pegs into the ground, and lays it in the doorway of his kraal, and says to God, "*Kwoth bir piny goaa, e ghoudu,*" "God rain well, it is your universe." Besides doing this a man takes some ashes in his hands and throws them up into the rain. These ashes are for God and they want him to accept their offering instead of taking their children and cattle and property with his lightning. It is a sacrifice in which the ashes are offered up in the place of life and property.

It is to be noted that no steps are ever taken to make rain before the crops are sown however long the season may be delayed. The Nuer thinks that this would be disastrous since it is asking God to send rain before there is desperate need for it, and the result would probably be a storm of such violence that it would inevitably do injury to life and property.

It remains to add a word of explanation about the hereditary position of the Nuer leopard-skin chiefs in their clan system. It is, as has been said, only certain lineages that can furnish these ritual experts, but whether these lineages should be regarded as clans in themselves, or as lineages of clans, cannot be entirely settled in the present state of our knowledge. Nevertheless a few details may be given towards affording a basis for further research.

The dominant clan in the Bul tribe seems to possess more ritual functions than other clans and they are especially prominent as leopard-

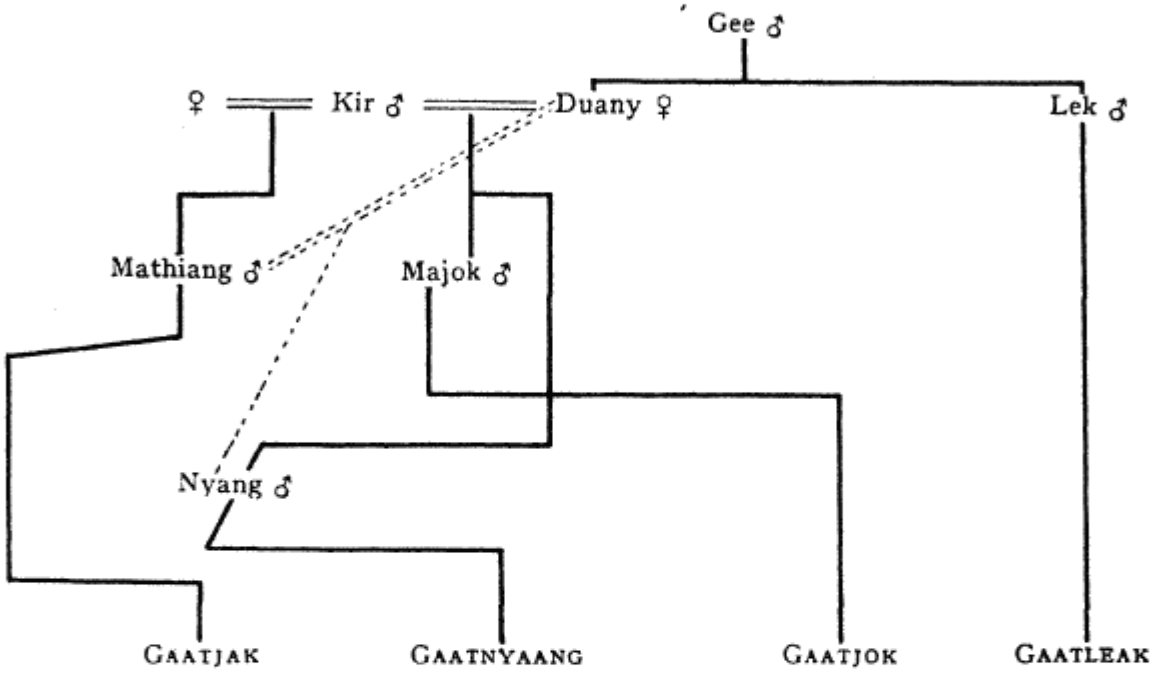
skin chiefs and cattle experts. I have even heard it said that all true *diel* (aristocrats) of the Bul tribe have the right to wear leopard skins, but that, as they spread over Nuer country, this right became the exercise of certain lineages only. These Bul experts are said to have come originally from the country known as *rol joki* from a place called *kwer kwong* (*tharien me bekä thin ne joki*). It is apparently they who are called by the honorific clan name of GAATLEAK and who figure so prominently as leopard-skin chiefs in the Jekany countries.

There seems some doubt whether the GAT GAN KIIR clan have a right to exercise functions of leopard-skin chiefs, though on this point there is much dispute. Members of other clans often say that all leopard skins can eventually be traced back to Gee, the father of the Nuer Family of Clans, and that therefore a man who does not trace back his descent to Gee cannot possibly be the possessor of one. They add that Kir was taken out of a gourd with a sheep's skin and not a leopard's skin. Some, however, would appear to concede ritual functions to certain GAT GAN KIIR lineages but to deny them altogether to the GAAJOK major lineage, who, indeed, do not make any claims to them, though they say that their ancestor once possessed a leopard's skin. According to one story Majok was the son of Kir and of his wife Duany, the sister of Lek. Majok was therefore sister's son to Lek who was his maternal uncle. After Kir's death another of his sons, Mathiang (founder of the GAAJAK lineage), begat a son called Nyang (founder of one of the lineages comprising the Gaagwang tribe) by his father's wife Duany. When Majok grew up he married, but when the cattle were sufficiently numerous to afford another marriage instead of Nyang being given the opportunity of taking a wife, as he should have been according to Nuer custom, his elder brother Majok married a second time.[1] Lek was somehow a party to this breach of custom and did not support the claims of Nyang who in anger cursed him saying that his descendants would always be a small and scattered people. To this day they are a small clan spread all over Nuerland, but nowhere in sufficient numbers to form a powerful territorial section, or even be the nucleus of one. Majok and Nyang shared the leopard skin of their father Kir, each taking half of it. Majok later gave his portion to his maternal uncle Lek and told him that if

[1] Nyang counts as a son of Kir and brother to Majok, although his biological father was Mathiang, because his mother, Duany, was a wife of Kir.

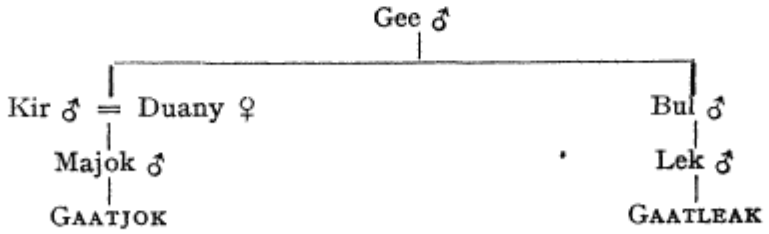
anyone among the Jekany tribes were to kill another he was to perform the offices of leopard-skin chief on their behalf. Hence the GAAJOK appear to be without leopard-skin chiefs of their own since their ancestor gave his skin to Lek upon whose descendants, the GAATLEAK, they rely to-day for the performance of homicide ritual.

DIAGRAM No. XVIII



A slight variation of the story told above records that it was Bul who was the maternal uncle of Majok and that when he died his son Lek brought up his father's sister's children. Kir's leopard skin was inherited by his son Majok but, since he was ignorant of the ritual associated with it, he gave it to his maternal uncle's son, Lek.

DIAGRAM No. XIX



Hence the GAAJOK say that the leopard skins possessed by the GAATLEAK have not come to them by direct descent but "by hand" (*tetde*), that is "by gift." However this statement is contested by the GAATLEAK and would be denied by most descendants of Gee. Majok and Nyang divided their father's leopard skin between them and while

Majok gave his portion to his maternal uncle, or to his maternal uncle's son, Lek, Nyang kept his portion and his descendants still exercise ritual offices in the Gaagwang tribe to-day.

In Gaajak country some leopard skins are said to be in the hands of direct descendants of Mathiang, the founder of the GAAJAK major lineage, and the two lineages of TAR and LEM were mentioned in this connection. However, I am not in a position to do more than note that the GAAJAK claims also were contested by those descendants of Gee whom I met at Nasser. The YAK lineage of the Gaagwong primary section of the Gaakjak tribe are also said to possess leopard skins. Yak was a Dinka who was maternal uncle to Gung, the founder of the GAAGWONG lineage. Gung is said also to have received part of Kir's leopard skin and like Majok he gave it to his maternal uncle so that to-day the GAAGWONG like the GAAJOK have no skins of their own. Nuer have told me that this YAK clan count as *diel* at the present day and they must have intermarried considerably with the GAAJAK if it is true as I was told that the GAAJAK will not take their daughters in marriage while the GAAJOK may do so.[1]

I do not know of any leopard-skin chiefs in Lou country who belong to the dominant clan there, the JINACA. One man whom I knew, Jok Diung, belonged to the BEEGH clan and the leopard-skin chief Thie Rue of Banyejin district is from the same clan. Another expert, Nyang Yuot Nyakoang of Rutdoar district of Nyääk section, is of JIMEM origin. The famous prophet and leopard-skin chief Ngundeng is said to have been a member of the GAATLEAK clan.[2]

It will be of interest to know the genealogies of a great number of leopard-skin chiefs from many parts of Nuerland. My information on this subject is at present far too small to generalise but it seems that the GAATLEAK and the JIMEM furnish a preponderating number of these experts.[3]

[1] The YAK clan seems to be a dominant element in the Yaar, Nyaruny, and Dhilleak sections, though I have not visited their country and write from hearsay.

[2] Other leopard-skin chiefs of Lou Country are Tut Bong of Kuacgrin district (Faditeat), Beel Kwangwär of Kwari district in Jemac section, Luak Tut of Lungoar section, Puic Kerjok of Buth section, and Reath Dok of Jemac section. I do not know their clans.

[3] One leopard-skin chief, Liom Yat, whom I met at Nasser, belonged to the GAATLEAK clan and gave his ascent as follows:—Liom – Yat – Lony – Col – Cangaak – Kwony – Dubul – Lek – Jual – Gee – Gau – Kwoth. He seemed rather uncertain about the earlier names. Another leopard-skin chief of the same clan, Lual Dub, gave me the following ascent:—Lual – Duob – Yoah – Kang – Gee – Ding – Targei – Lek – Gee – Gau – Ran – Kworth. He gave his clan spear as *mut leak* and said that the honorific clan names of his lineage were *gat kwer kwonga* and *nyakwer* or *nyadwolkei*.

We may sum up this section by saying that the *kuaar muon* is the most important of the departmental experts who control various divisions of ritual in Nuer social and economic life. His functions and sanctions are in the main ritual though his sanctity gives him an ill-defined political character in his rôle of mediator and arbitrator in disputes. His functions may be listed as follows :—

1. Anything to do with the earth—especially welfare of the crops.
2. A limited rôle in rain-making and regulation of the weather.
3. Ritual of homicide.
4. Ritual of incest.
5. Ritual for preventing feuds and for protecting warriors on raiding expeditions.
6. Arbiter in all kinds of dispute.

VIII

The *wut ghok* or cattle-expert has not such important social functions as the *kuaar muon* or land-expert. The difference between their actions lies mainly in the fact that, whereas the cattle-expert is restricted in his functions to ritual concerning the welfare of cattle, the land-expert combines his specialist functions as ritual agent, in respect to earth and crops, with the office of leopard-skin chief with politico-ritual functions relating to social, as well as to natural, processes, especially to homicide and incest. Whilst therefore the office of land-expert and leopard-skin chief is associated with all-round political authority the cattle-expert tends to play a more restricted rôle as agent in his special department of nature. His main duties are the curing of sick beasts and the fertilizing of barren cows.

In treating a barren cow the cattle-expert pulls out some of its tail hairs and then makes a slight incision on its head with his spear. He rubs its back with the hair and afterwards buries them at the foot of its tethering-peg in the kraal. Another man told me that the cattle-expert would cure a cow of sterility by beating its back with a handful of grass and that he would be paid a calf if his treatment was efficacious. The owner of a sick animal would pay him a bracelet or some such small gift for curing a sick animal. Here again the animal appears to be treated

by beating its back with some grass. The expert hardly hopes for success in fighting against rinderpest (*Nyapec*), but, if he cannot save all the cattle, he believes that his intervention will save a remnant of the herd. He rubs ashes on the back of a bullock and addresses God before spearing it in sacrifice: "What God? Take this bullock, it is yours; you are master of the world, the world is yours and it is your affair alone. What God? Do not kill all the cattle. What will our children eat? No one will live. Oh God take your bullock and spare a portion of the herds. God I am cattle-expert and I have come to kill this beast; take it, it is yours."

The cattle-expert is sometimes known as *kuaar ghok* (*ghok*=cattle), the same title being used as for the land-expert, the *kuaar muon*. I have also heard him spoken of as *ring ghok* which means "meat of the cattle." Around his neck he often wears a circle or two of cord, used for tethering cattle, as a sign of his vocation. When I asked a youth called Duob Gany, who belonged to a family of cattle-experts, whether he would take off the two circles of tethering cord which he was wearing around his neck if he managed to procure some much envied giraffe's hair to take its place, he replied that he would take one off but would continue to wear the other since he was a *wut ghok*. I further asked him why his elder brother did not, in this case, wear similar cord around his neck, since I had noticed its absence, and he told me that his brother had hung it up in his byre.[1]

This youth had lately returned from Dinka country where he had been pasturing some of his animals and had there performed a sacrifice to save the herds from rinderpest. For the ritual powers of a cattle-expert are inherited from father to son and all members of a cattle-expert's lineage possess these powers and can exercise them wherever they may go. Duob Gany belongs to a lineage of the GAATLEAK clan who live as *rul* (strangers) among the NYAJEKANY who are a lineage of Lou aristocrats in the Rumjok tertiary tribal section. They came originally from Bul country to the extreme north-west of Nuerland, between the Bahr-el-Ghazal and the Bahr-el-Arab.

Among other functions which, I believe, the cattle-expert exercises, are to decide when people are to move to new pastures, to sprinkle people with milk in time of sickness, to lash a tethering-cord in the direction

[1] It is said that in parts of the Eastern Jekany countries the *wut ghok* wears the skin of a wild cat over his shoulders as a sign of his office.

of the enemy on raids into Dinkaland in order to ensure rich booty in cattle, but I am unable to give any details about these various practices. I believe also that the *wut ghok* can hear cases which are especially concerned with cattle but I am not certain on this point. As is the case with land-experts, while every member of a cattle-expert's lineage is able to exercise ritual functions, only some people gain prestige as specialists.[1]

Though the *wut ghok* has not the same social position as the *kuaar muon*, nevertheless he is a sacred personage and his curses are greatly feared as they can cause grievous injury alike to men and to their cherished cattle. If a cattle-expert curses a man he will suffer from terrible diarrhœa since when he drinks milk he will not be able to digest it, for it will pass through him at once and he will find that his sleeping-skin will stick firmly to his buttocks when he tries to rise from sitting or sleeping on it. Consequently it will be necessary for him to sleep on the bare ground instead of on a skin and he will have to give up drinking milk. I do not think that this curse is considered so powerful as the curse of a land-expert but it is dreaded none the less. It is said that a cattle-expert can curse a man and his cattle by cutting in two a tethering-cord and throwing the halves away. The cattle will then die. Sometimes a land-expert quarrels with a cattle-expert and people say everywhere that in these circumstances the cattle-expert asks the land-expert on what he expects to live if his cattle all die, while the land-expert counters by asking his opponent whether he intends to take his cattle up to the skies since he can no longer pasture them on his earth. It is said that if these two experts mutually curse one another then each will eventually make the other a present to buy off his curse.[2]

Although, on account of the limited range of his functions, the cattle-expert has on the whole far less social influence than the land-expert,

[1] I was told that the following persons were the main cattle-experts in Lou country. I regret that I have to use the word *cieng* here since I am uncertain whether the word refers to a lineage, as in the case of *cieng* BEL, or merely to someone living in a village called after a lineage. Thoin Bai of *cieng* Jaadol in Jokrial district; Tutlieth Juath of *cieng* Jemac in Yiidiit district; Lam Tutthiang (now dead) of *cieng* Bel in Fadiek (afterwards in Diini) district (he is of Raiyan origin); Cuaidok Theng of *cieng* Thiang in Kormayom village (he is of Kwe origin—Kwe being a country near Dok country); War Cwadol of *cieng* Macuk in Pulbara district (he is said to be of pure JINACA descent).

[2] Mr. Coriat wrote of the relations between land-expert and cattle-expert and of their functions (unpublished Government Report 27.2.31): "Some of the Kārlual are feeling the need for a *wut ghok* (Man of the Cattle) and have applied for Tantui Tut, a hereditary Kārlual *wut ghok* who lives in Lek Country. The reason for this attaches to a quaint belief that if a man quarrels with a *kuaar muon* (Land Chief) his cattle will not be acceptable as sacrifices as the earth cannot absorb their bones and blood. Hence the services of a *wut ghok* are necessary in order that the cattle sacrificed will go direct to heaven."

nevertheless his sacred character, his ritual powers and their economic consequences, give him hereditary prestige and peculiar opportunity for clutching the reins of power. As I have already observed, when speaking of the land-expert, inheritance of ritual powers gives a man privilege of opportunity but whether he seizes his opportunity or not depends on his character. As a general rule unless a *wut ghok* is also a leader by temperament and ambition he has the limited importance of a magico-religious expert, but there are examples of men who have achieved great reputation and real executive power. Such was a famous Gaajok cattle-expert of a generation ago, Gac son of Jaang. It is true that he derived much of his prestige from possession of a powerful and unique magic called *kultuk* which inspired his fellow tribesmen with the greatest fear, but it is also evident from the many stories told about him that if possession of magic increased his prestige he was able to commence his career on account of his inheritance of ritual functions in relation to cattle. It is said that when he was a boy he and his brother shared the same cow for the purpose of doing what all Nuer boys do, squeezing out the remainder of the milk from the udders after the main supply has been milked into gourds. They divided the teats of the cow and each brother took those on one side of the udder. If Gac happened to quarrel with his brother it was noticed that he would draw milk from his teats and rub it across his mouth and smack his lips and then release the expectant calf while his brother would vainly tug at the empty teats on his side of the udder. In the same way it is said that when he shared the leg of an animal with his father, cutting it in two, his half would always be found to contain the marrow which would be lacking in the half taken by his father. Another story tells how Gac and his wife quarrelled when they entertained visitors at their homestead. Gac said to his wife " bring some milk," ordering her to carry out the ordinary duties of Nuer hospitality to travellers, but she found herself rooted to the ground and fastened firmly to the skin on which she sat. At the time she was churning in the usual way by lifting the churning gourd into the air and bringing it down upon her thigh, but she now found that she could not raise her arm and was only capable of running the gourd aimlessly along her thigh. She remained in this position all day long, and on the next day also till midday, when her husband released her from the awkward situation in which he had placed her. On yet

another occasion a crowd of friends came to visit Gac and he gave them a gourdful of milk to drink. One by one they took the gourd, shook it, and raised it to their lips, but no milk flowed from it and it was only after Gac had himself drunk from the gourd that the milk began to flow. It is told of him that he could hang a milk gourd upside down from the rafters of his cattle byre without any milk running out of it.

Once when great hunger threatened his district he prophesied to the people that if they went to a certain place in the early morning of the next day they would kill fish and be filled, and so it happened. By swinging a cattle rope round his head and calling on the cattle to approach he could draw them from all over the countryside to his homestead. These powers over the cattle, especially over their increase, naturally made his services much sought after among a people whose interests mainly centre around their herds. Hence a poor man who possessed at the most one or two cows would come to Gac to make him prosperous. He would bring some strips of prepared hide with him and would get Gac to twist these into a tethering-cord and to spit on it. After this treatment the poor man's cows would give birth with frequency and without losing their calves, and he would soon prosper and become a rich man.

Gai Jaang was evidently a man of freakish, perhaps neurotic, temperament and part of his reputation may have been due to this fact as is the case with some of the prophets (*guk*) of Nuerland to whom I will refer immediately. He was a member of the *Boiloc* age-set but for some reason he bore his age mates ill will and took impish pleasure in humiliating them. He inflicted such indignities upon them, that when it was rumoured that he was coming to a village, all members of this age-set absented themselves as quickly as possible. He used to make them carry huge trees from a distance and erect them in his homestead in order that his cattle might have something to scratch themselves against. He compelled them to lead his bullocks round the cattle camp when he wished to run and jump and sing behind them which is the greatest delight of Nuer in the morning before the cattle are lead away to pasture and when they return to camp in the evening. This was a grave indignity since it is only uninitiated boys who are expected to walk the bullocks round by their tethering cords. He even went so far as to compel them to sit before him and allow him to use their bald heads

in the place of a gourd, for the purpose of throwing mussel-shells on them, when he wished to divine in the manner of the *tiet gweeni*, or mussel-shell diviner.

Perhaps the most curious story told about Gac relates to his possession of magic. He and another magician, called Tut, were great rivals and decided to put it to the test which had the stronger magic. They repaired to a cattle byre where Tut commenced the duel by bringing up all sorts of beasts, lions, leopards and other creatures. Gac was not at all perturbed by this display and advised his rival to produce some more animals. So Tut brought up crocodiles and even elephants, but Gac was not afraid though everyone else left the byre in terror, except these two. Gac then asked Tut whether he had finished his performance and, on hearing that it was completed, he simply called up water from the floor of the byre, and in the water a host of crocodiles. The water rose to Tut's waist, then to his neck, and wherever he placed his hands in the water he found crocodiles. He thought that he would surely be drowned and admitted that Gac had the greater magic in order to save his life.

The land-expert and the cattle-expert are only two, but the most important two, of Nuer ritual experts. The others will not be described in this paper. It must suffice to mention that they exist and to state that their functions are entirely of a magical order. In passing, however, I will draw attention to what I believe to be an error in Jackson's account when he describes the *kuaar yiika* as an official who acts at wedding festivities (p. 89). According to the information given to me he is the expert who acts as arbitrator in cases of child-birth, for if a woman dies in her first child-birth this counts as homicide and her relatives will claim damages from her husband. All these experts control a special department of natural or social life. But as far as their political influence is concerned they are less prominent than the so-called " witchdoctor."

This term " witchdoctor " does duty for a number of totally distinct magical and religious specialists with separate ritual and social functions. It has been commonly applied by Europeans to land-experts, cattle-experts, various other experts controlling departments of nature, diviners, magicians of various kinds, experts who derive their offices from totemic filiation, physicians who heal the sick, sorcerers who cause sickness, persons possessed by spirits, persons who exorcise them, prophets and so

on. Attention to terminology relating to religion and magic among a people like the Nuer is not inspired by pedantic love of classification alone but is an essential preliminary to understanding the institutions with which they are linked. To heap together all the people who seemed to do " odd " things is disastrous to ethnological description and to good administration alike.

The slightest acquaintance with Nuer life is sufficient to show one that they are an exceptionally religious people and that any understanding of their mode of regulating public life, their law, their social organisation, their economic activities, and so on, depends on a grasp of the main departments of their ritual. I shall not attempt in this essay to discuss Nuer ritual—an exceedingly difficult subject—but wish to stress how dangerous is an unprecise use of terms in the religious sphere of their life since it leads to erroneous notions about all their more important social processes. Surely no term is less suitable to describe the Nuer *guk* or prophet (for such is the term by which I shall speak of him) than " witchdoctor " for he has no connection with witches and his functions have little in common with those of doctors.

A prophet is a man possessed by a spirit of some kind. All important prophets appear to have been possessed by what are called Sky-spirits (children of the Sky-God and Spirits of the Air) such as Deng, Diu, Wiu, etc. Sometimes people are possessed by what are called Earth-Spirits but these are not of so great importance (e.g., the totem spirit of a man's lineage). As will be explained later, prophets have nothing to do with magic. They are the mouthpieces of the Gods.

During the last fifty years prophets have played an important rôle in Nuer culture and have become the most powerful leaders of society,[1] far more powerful than the most influential leopard-skin chiefs who are leopard-skin chiefs alone. Not unnaturally they have been, through the length and breadth of Nuerland, a constant source of difficulty to the Government which found it hard to make up its mind whether to administrate through them or whether to try and break their prestige. Eventually the killing of Capt. Fergusson and the obstinacy of the prophet Gwek decided the Government to take repressive measures against these prophets

[1] Some prominent prophets to the east of the Nile have been Gwek Ngundeng, possessed by the spirit Deng in Lou Country, Mut Dung possessed by the spirit Wiu in Gaajak Country, Lăm possessed by the spirit Măr in Gaajok Country, and Dual Deng possessed by the spirit Diu in Gaawăr Country.

with the result that they no longer openly exercise their functions, (some were shot in war, some were imprisoned, some sacrificed their prophetic offices in order to retain political power as administrative agents).

On the whole I doubt whether they ever wielded so great power as they are usually said to have possessed. It is true that their influence covered really large areas but it was necessarily limited by the nature of their functions, which were mainly ritual, and also by lack of tribal cohesion which put any really effective political control out of the question. Thus even the famous Lou prophet Gwek was not supported by sections of the Lou tribe. The impression I received from informants in Dok country (though I was only there for a fortnight at the end of my first expedition) was that the prophet Diu exercised more autocratic powers to-day as a Government agent than he ever did in the old days as a prophet. Now the Nuer know that Diu has the armed forces of the Government to back up his authority and there can be no doubt that these are far more effective a sanction than the ability to curse. I was informed that Ngundeng, the first of the prophets, restricted himself to performance of ritual and did not hear cases nor carry out administrative functions on a large scale, and that the same is true of most other prophets. Ngundeng's son, Gwek, on the other hand, made himself into something approaching a political chief, though here again I suspect that his real control was slighter than is generally supposed and that he would have found it very difficult to compel the payment of blood-cattle outside his own immediate district. (Mr. Coriat writes, in criticism of the point of view expressed above, " It is incorrect to say that Wundeng contented himself with performance of ritual while Gwek exercised government functions. *Both* father and son were notorious for their secular activities." [1])

The first of these prophets to achieve great fame and power appears to have been Ngundeng, the pyramid builder, who died during this century. He belonged to the *thut* age-set and a few members of this set are still alive to-day. Ngundeng, son of Bung, son of Can Githcuor, was a Lou tribesman of the Rumjyook tertiary tribal section but he was not a Lou aristocrat. His clan was the GAATLEAK, hereditary possessors of the leopard skin, and his family came from the Jekany countries. He himself was a practising land-expert and leopard-skin chief before he

[1] *Unpublished memorandum.*

assumed the functions of a prophet. He acquired these supernatural powers after prolonged fasting and other forms of erratic behaviour. From all accounts Ngundeng seems to have been a genuine psychotic. He is said to have lived for weeks by himself in the bush, eating animal and human excrement. He used to sit down on a cattle-peg in his kraal and allow it to penetrate his anus. He used to wander about the bush for days mumbling to himself or would sit in his cattle byre doing the same, and, when in such a mood, he would refuse all food except ashes which he had cooked for him. After he had established himself as a prophet he seems to have given up his solitary wanderings in the bush though he still used to shut himself up in his hut from time to time, to undergo long fasts. They say that when the spirit Deng seized him he could climb into the air without support and could also run up and down from the ground to the top of his byre.

Ngundeng was famous for his skill in curing barrenness, his power against sickness, and his knowledge of the future. Women came to him not only from the whole Lou country but also from beyond the boundaries of his own tribe, from Gaajok, Gaajak, Gaagwang, Thiang, Gaawär, and Lak, tribal areas, and even from the Nuer who dwell to the west of the Nile. Each woman brought a bullock with her and Ngundeng used to sacrifice it to Deng and annoint her with his spittle. In this manner a great multitude of women were made fruitful.

When sickness threatened Lou country he went out to meet it. Thus he went out to stay the advance of smallpox by slaughtering dozens of bullocks in front of it and leaving the sacrificed oxen in its path since no one would eat them. He then retired home and killed some more oxen in his kraal and gave them to the people to eat. In his day the people were free from smallpox; it was after his death that it ravaged the country. One year he foresaw a terrible cattle disease called *diu* [1] and the herds would have been totally destroyed if Ngundeng had not foreseen the disease and gone out to meet it and made sacrifices before it. As he had prophesied, however, the disease made sorry havoc among the herds and owing to consequent famine the old men were decimated.

Ngundeng made a great reputation for himself as a foreteller of future events. The following story illustrates his prophetic abilities. A Lou land-expert and leopard chief named Yoal, was invited by a

[1] Diu is also the name for one of the Nuer *gaat kwoth*, sons of God.

neighbouring Dinka prophet, called Deng, to a big feast and beer-drinking party which he was giving. Ngundeng warned Yoal not to accept the invitation telling him that if he went he would assuredly not return. Yoal did not listen to Ngundeng's advice but went to the feast where he was immediately captured. His host, the Dinka prophet Deng, told him that he would kill him unless a large ransom of cattle was paid over. Yoal's relatives and neighbours collected a herd and delivered it to the Dinka, but, with typical Dinka treachery, they both took the ransom and held their captive. When Yoal was informed that in spite of the ransom he would be killed he replied, " Kill me. It is nothing. Never shall your women give birth to children on my earth ; let them deliver on the tree tops. You may kill me but I have children and when the rains come again their footsteps shall mingle with yours in the mud." He was killed.

It is said that after his death Yoal's body was cut up and various parts of it were treated in a magic rite to destroy the bravery and resolve of the Nuer warriors. The Nuer say that mutilation of a corpse with this object in view is a Dinka custom and deny that they would themselves perform so loathsome a ceremony : " Have not the Nuer feelings of pride and self-respect (*gweth*) ? Is it likely that a Nuer would do such a thing ? " Nevertheless Tutrial told me how a certain war expert (*ngul* or *gwan muot*) actually performed a rite of this kind to his knowledge. The genitals, heart and tongue, of the dead man (I think he was a slain Dinka) were cut out and the genitals were cooked in one pot while the tongue and heart were cooked in another pot. When cooked they were deposited in two holes in the ground, the testicles and half the penis in one hole and the heart and tongue and half the penis in the other hole. The two holes were then covered over with grass and a little earth and left.

It seems that for some time after Yoal's death the Nuer were seriously discomforted by Dinka raids, their cattle carried off and their huts and byres burnt. Ngundeng would not sanction any counter raiding till one day he secretly gathered around him a small but picked band of youths and went out as though to pasture his cattle on the confines of Dinka country. He gave orders that if any Dinka were found and captured he was to be brought in uninjured. The man who told me this story captured a Dinka and brought him to Ngundeng who allowed

him to see the herds, how numerous they were and how ill-protected. He gave the captive the best milk to drink and before sending him back to his people made him presents of a new spear and club. On his return he told the Dinka, as Ngundeng had foreseen, how fine were the herds he had seen and how easy to take, and they gathered together near Fading a large force recruited from four or five Dinka tribes and aided by a contingent of Gaawär Nuer. Ngundeng went out against them as though, unaware of their presence, he was quietly pasturing his herds. But when the Dinka began to attack he rushed to meet them with a crocodile-marked bullock and sacrificed it before the advancing enemy calling on the God Deng to help his people. Meanwhile the Dinka prophet, Deng, had run out to meet his rival wishing to strike Ngundeng's bullock before it fell to the ground pierced by his spear, but a Nuer intercepted the Dinka prophet before he could reach the crocodile-marked bullock and killed him so that he and the bullock fell to the ground simultaneously. The God Deng, my informant pointed out, refused the prayers of the Dinka on account of his rejection by the Dinka when he had come among them on his descent to earth to dwell among the children of men, and he accepted the sacrifice of the Nuer who received him when he left the inhospitable Dinka and entered into their country.

The two forces met in the marshes and the Dinka were overcome with great slaughter since their flight was impeded by the sticky mud of the swamp in which they laboured and by Ngundeng's ritual which made their feet heavy. But whilst the Dinka fell in great numbers to Nuer spears the Nuer are said not to have suffered a single casualty. And so it came to pass as Yoal had foretold that the footsteps of his captors would mingle with the footsteps of his sons in the mud. This story is often told together with the one describing how the Dinka deceived God and stole the Nuers' calf to account for their ceaseless feud.

When the news of Yoal's death at the hands of the treacherous Dinka had reached Ngundeng he had said, "I told him not to go, but he insisted. He has brought death on his own head." Ngundeng used to foretell in this way deaths of persons living in distant districts and he would announce that such and such a man had died long before he could possibly have received news of his death. He would prophesy that certain folk would die in such and such a district, certain folk in such and such another district, during the year, and so it would come to pass.

Some people say that Ngundeng was eventually killed by a rival prophet called Dengleka, known by his spirit name as Diu, who used magic or witchcraft (*wal* or *peth*) against him. Others say that this story is clearly nonsense since prophets do not use magic to attain their ends but the power of God which is in them and which works miracles through them. Ngundeng's mantle fell upon his son Gwek, so-called because his mother was barren and his father had cut up a frog and given it to her to eat, after which meal she conceived and bare a child, whom they called Gwek[1] or the frog. But it did not fall upon him till a long time after his father had died leaving him a small boy not yet passed through initiation into manhood. On Ngundeng's death his spirit, the God Deng, first entered into his son Reath, but it does not seem to have become settled in him. For a time he acted as a prophet, but after the initiation of his brother Gwek the spirit left him and entered into Gwek. Gwek then began to prophesy and to cure barrenness and sickness though he never seems to have undergone fasts nor to have wandered in the bush as his father had done before him.

This choice of Gwek by the God Deng as a home for his spirit to dwell in, rather than in Gwek's elder brothers, gives us a clue to understanding Nuer prophets. A Nuer believes that a spirit which has once entered into a member of his family will eventually return and enter into another member, though it may not be till many years after the death of the man previously possessed, or even till a generation or two later. The chosen vessel generally becomes aware of the spirit's entry into him through a severe illness which produces delirium, or he may become aware of his new condition in some other way. But the point I wish to stress here is that the ordinary Nuer does not particularly want to be possessed by a spirit of any kind, expecially if he is young, and he regards his lot as a misfortune rather than a blessing. It is only a man of ambition who eagerly takes upon himself the burden of Godhead; only a man without the happy-go-lucky temperament of his fellows who cares to leave the path of ordinary mortals. From native accounts of Ngundeng's career it seems true that the seed at its first sowing often falls in fertile psychological ground but among his sons only Gwek appears to have realised that if you wish the spirit which possessed your father to enter into your body you must go half way to meet him. The only prophet

[1] His line of ascent was Gwek – Ngundeng – Bung – Can – Jithcuor ('black-ear').

of distinction whom I have met, Diu of Dok country, is clearly a man of much cunning and there is no doubt that in the eyes of the Nuer he is selfish and wishes only to amass herds of cattle. His cleverness is shown by the manner in which he allowed his ritual powers to slough from him when he was firmly established as a government chief and in his acceptance of government rule as inevitable. Gwek also appears to have been avaricious, though I have never heard Nuer speak of him in this vein, and without the genuine shamanistic qualities of his father. Another famous prophet, Dengleaka, of Gaawär country, was a captured Dinka. He is said to have set out systematically to acquire a spirit by fasting and solitude. He left his home and wandered into the bush where he sat under a tree and abstained from food for many days. When he was found he was engaged in collecting hundreds of shells of the giant land-snail and arranging them in rows.

Ngundeng and his son Gwek are chiefly famous for the erection of what is known as a pyramid in Rumjok tertiary tribal section. Jackson refers to it (p. 158) as: "An exception to the ordinary mode of burial is to be found in the mausoleum erected at Dengkur over the ancestors of the witchdoctor Gwek. This takes the form of a mud and clay pyramid some sixty feet high surmounted by a spear which is decorated with an ostrich egg and ostrich feathers. The whole was originally surrounded with elephant tusks and formed a conspicuous landmark for many miles around." The pyramid is figured in a photograph accompanying Jackson's account (opposite p. 158) and also by Stigand.[1] A much earlier photograph was taken by Dr. Crispin, medical officer of an expedition to Lou country and his appeared in Prof. Seligman's book on the Southern Sudan. This earlier photograph shows the ring of ivory tusks which made a low palisade around the pyramid, the type of material from which it was built, and weathering around the base presumably due to rains.

Another early account is that by Capt. H. H. Wilson who wrote in 1902 :—

> "From the camp an expedition was made on the 22nd to the Nuer villages in this vicinity, which was stated to be the headquarters of the chief sheikh of the Nuers of the whole country under notice, by name of Denkur. Marching through a fairly thick forest of 'Abu Homera' trees for an hour, and afterwards

[1] Op. cit., p. 118.

over an open grass plain for another hour and a half, brought us up to the village, Keik. Standing in the centre of the village, and seen for about three miles off, was a conical mound of earth, well and solidly constructed by Denkur's people as a token that Denkur was a very big man in that part of the world. It was stated that the bones of innumerable oxen were buried in the body of the mound; the cattle being slaughtered for the occasion. This act was to give greater value to the cone in the eyes of the surrounding tribes, as cattle are the most valued possession of the tribes of the White Nile, and are practically all they live for; in fact, what religion they possess is centred in the cow. The height of this conical mound was about 50 to 60 feet, many large elephant tusks being firmly planted round the base and on the summit. The largest tusk measured 7 feet 10 inches, but of poor quality, as long exposure to the rain and sun had ruined the ivory." [1]

The Nuer themselves have given me the following information about the building of what is known among Europeans as Gwek's pyramid but what might more correctly be called Ngundeng's pyramid. The building of this mound was a gigantic task. It was constructed of wet ashes mixed with baked and unbaked earth, for the material was excavated from two large vacated cattle camps where ashes and other camp debris had grown from year to year and become sodden and agglutinated by many seasons of rain. The workers who built it stood one above the other in tiers from the base of the pyramid, and each handed up materials to the man above him. A low palisade of elephants' tusks was planted round the base of the pyramid, a pile of tusks was buried in the centre of the mound, and one or two protruded from its summit. It does not seem that there was any systematic conscription of labour in the building of the mound but people came voluntarily from all over the countryside to assist and often brought bullocks with them for sacrifices. They would spend three of four nights in one of the temporary grass shelters, which others, since departed to their homes, had put up; and when the food that they had brought with them was finished, they would return to their homes also, and their places would be taken by other pilgrims. The flesh of sacrificed bullocks was divided among the workers and lengthened

[1] *The Anglo-Egyptian Sudan*, ed. by Count Gleichen, 1905, Vol. I, p. 140.

their supplies. It is said that people brought handfuls of ashes to add to the mound from Gaajok and Gaajak and Gaagwang countries as an act of piety. The pyramid was started by Ngundeng; it was added to by Gwek; it was raided many years ago by people whom the Nuer call *Turuk* who they say stole all the ivory around the base but failed to find the tusks buried in the centre (perhaps the expedition of Dr. Crispin mentioned above), and was finally destroyed by the present administration a few years ago.

It is difficult to understand where the idea of erecting such a gigantic memorial originated. I have no evidence in support of Jackson's statement that it was a mausoleum erected over the graves of Gwek's ancestors and I think that he was probably mistaken about this point. The Nuer themselves say that Ngundeng made it to show what a big man he was but it is also certainly associated with the worship of Deng for Ngundeng collected in his home from all over Lou and Jekany countries cows of *rial* (black and white) colour in honour of Buldit, the mother of Deng. I suggest that the conception of the pyramid was Dinka in origin like Deng himself. It is true that there is no record of mounds of similar magnitude in Dinkaland but the Dinka make mounds of smaller size called *yik*, a name which Nuer sometimes apply to Ngundeng's pyramid though it is undoubtedly a Dinka word and the mound is properly referred to as *bie* in Nuer. The small *yik* mound shrine is said to be common in Dinkaland and to be of late introduction into Nuerland. Besides the famous *bie* erected by Ngundeng there is a smaller one at Thoc in Gaajak country which was built by a man called Deng Dul. On the death of this Deng his spirit did not permanently reside in a successor though it is recognised that it may do so even now. I have seen neither of these two mounds myself.

The whole Deng cult is certainly of Dinka origin. According to all informants Deng fell from the sky in recent times, within living memory, and all say that he was the first of the spirits to come to earth. The Nuer tell one with surprising uniformity that in the old days there were no prophets at all and that they possessed only the ritual officials whose functions have been earlier mentioned. I have repeatedly been told that no one has ever heard of sky spirits entering into men before Deng came down from heaven and entered into his first home, the body of Ngundeng.

Nevertheless it is hard to believe that people with prophetic powers have not always existed among the Nuer, though, if so, their influence must have been restricted to the localities in which they lived and the spirits which entered into them must have been of some other nature than the sky spirits who take up their residence in the bodies of present-day prophets—perhaps totemic spirits. We need not discuss further here, and it would be useless to do so with our meagre data, the origin of these prophets. Further research in Dinkaland and Nuerland must be accomplished before conjectures can be put forward that are invested with anything like reasonable probability. I would like to add, nevertheless, that, to my mind, Jackson's statement that there is a relation between the appearance of these prophets and the spread of *Mahdism* and *fikis* is by no means so absurd as it may at first sight appear. I have been expressly told by one Nuer that the first spirit they heard of entering men was Madi in the lands to the north. After him they heard of Deng and then of other prophets.

Prophets have played an important rôle in warfare. They have been able to organize large-scale expeditions against the Dinka tribes and have inspired courage in their followers by offering up sacrifices. A prophet received instructions about the time and direction of raids from the particular sky-spirit that spoke through his mouth. Indeed initiating and directing raids seems to have been one of their most important occupations. This is a further reason why they have never been popular with the British administration.

English writers are unanimous in speaking severely of Nuer prophets.

Mr. Coriat writes :—

> " This class (of prophets) increased as it was found to become lucrative and fundamentally is anti-tribal. The magician, contrary to the dictates of tribal custom, was always prepared, in return for suitable emolument, to absolve a tribesman from the performance of some ritual duty." (Unpublished memorandum.)

Mr. Jackson writes :—

> " At the same time he (the Nuer) is at the mercy of any plausible or unscrupulous necromancer who knows how to play on the superstitious ignorance of the people. From time to

time a witchdoctor attains to a certain degree of eminence but his influence is scarcely ever, if at all, for good and is directed merely to the enrichment of himself with the greatest possible celerity and least possible trouble . . . . The titular chiefs in fact have little or no influence in comparison with the witch-doctors . . . . These reactionary witchdoctors are as much a curse in the Southern Sudan as the illiterate *fiki* is in the North. They stand for all that is retrograde, they hate progress." (Pp. 90–91.)

The late Capt. Fergusson wrote :—

" I recognized that the witchdoctor had destroyed the powers of the hereditary chief and I therefore decided that, since they had almost complete control over the people, it was the best policy to recognize their authority."

He says again :—

" They certainly enriched themselves enormously when they were at liberty to carry out unrestricted raids on their neighbours, but since this has now been stopped they are unable to do so any longer to the same extent as, I found, none of my Nuer will tolerate in his everyday life injury even from a witchdoctor." (Appendix to Jackson, p. 107.)

Mr. Willis refers to them as :—

" These upstarts, preaching a personal and private Deng, arrogate to themselves the right not merely to adjudicate in disputes and to perform the ritual of specific chiefs, but also to alter the known and established custom to suit themselves."[1]

As the Nuer recognize to-day that the supreme offence against Government authority is to be visited by God and to set up as prophets of God it is impossible to observe the ordinary functioning of a prophet in Nuer social life. Even quite obscure persons who have been possessed by a spirit of one kind or another are in such terror of imprisonment that

[1] C. A. Willis. " The Cult of Deng," *Sudan Notes and Records.* Vol. XI, 1928, p. 200. He gives an instance of Gwek Ngundeng who ordered the payment of 40 cattle as blood-money instead of the customary 20. Personally I do not accept the estimation of 20 cattle as the customary payment. Mr. Willis does not give information in support of his contention that these prophets " perform the ritual of specific chiefs." He also states that Gwek gave dispensation to his friends to marry within the prohibited kindred but quotes no actual instance of this happening. Moreover one does not know on whose authority the information of his paper is presented.

they are loth to admit their condition. Hence I have had no opportunity of forming an opinion at first hand on this question but from what I have been told by Nuer, and from what I know of their general attitude towards authority and of the configuration of their institutions, I should be inclined to doubt certain assumptions underlying these critical accounts. I have already stated my opinion that leopard-skin chiefs had not the executive powers often attributed to them and that the most powerful prophets exercised powers less autocratic, and territorially less extensive, than is generally supposed.

I also consider that there has been an unfortunate confusion of ritual categories and on this point must join issue with several authorities who suggest that there is no difference between prophets and specialists in magic and that prophets are no more than ambitious and successful magicians. According to Mr. Jackson :—

> " During the past four decades a change for the worse has come over their methods of divination. Up to the year 1880, or thereabouts, the ordinary witchdoctor foretold the future by means of such inanimate objects as a mussel shell or gourd. Since the coming of the dervishes however (and it is not improbable that rumours of the Arab *fiki*'s methods of witchcraft have influenced his own behaviour) the Nuer witchdoctor has to a large extent abandoned the old methods of divination for others less troublesome. All he has to do nowadays is to pronounce that the Great Spirit has appeared to him in a dream, and told him to do so-and-so, or informed him that such and such an event is about to take place and he has accomplished his task. . . . . This change is realised by the Nuer himself, who call the old type of witchdoctor, now practically non-existant, *Tiett*, while the newer practitioner is named *Gūk*." [1]

Mr. Coriat writes :—

> " The magician and what Mr. Evans-Pritchard terms the shaman or prophet are one and the same type," and he adds later : " The *kwoth* should not be confused with the *guk* or lesser spirits. These generally ' possess ' healers, a class of witchdoctors who confine their work to the cure and relief of ills." [2]

[1] Op. cit., p. 91.
[2] Unpublished memorandum.

Mr. Willis takes the same point of view remarking :—

> " The miracles of healing performed by him (Ngundeng) and others of his sort are simply conjuring tricks, e.g., producing a piece of stone or charcoal from the seat of pain or a mouthful of blood from the patient's skin without any wound." [1]

I have always found that the Nuer distinguish clearly between the *guk*, or prophet, on the one hand, and the *tiet*, or specialist in magic, and *gwan wal*, likewise a magician, on the other hand. I can see no evidence which points to prophets having sprung from magicians, a development which all Nuer, whom I have questioned, have denied. A prophet does not produce objects from the bodies of patients but cures them by spitting on them and blessing them. Such " witchdoctors " as those mentioned by Mr. Jackson [2] as keeping bundles of grass, each blade of which represents a Nuer under their protection are evidently not prophets but some kind of magicians. I have never heard of this custom myself. Nor does a prophet rely upon *materia medica* for his power for his virtue is derived from the spirit residing within him.

To Nuer there is a very big difference between these groups of specialists. The *guk* is in a rank far above the *tiet* because his spirit is one of the sky-spirits, the sons of God, who are the most powerful of all spirits. The spirit of a *tiet* is a minor spirit, an earth-spirit such as a totem. A *tiet* never rises to prominence but is a local functionary who practises in his, or her, village. A *gwan wal*, or magician who possesses powerful medicine, may attain great eminence and may be feared by a whole district, but is distinct from a prophet.

It is easy for us to fall into confusion between one type of specialist and another because Nuer think of most supernatural powers in terms of spirits that reside in persons and things. They generally express their belief in the supernatural in an animistic idiom. The *guk* has a sky-spirit ; the *tiet* has an earth-spirit ; and a *gwan wal* may have another kind of earth-spirit, one of those known as *kulang*. All these spirits are called by the same word in Nuer, *kwoth*, and it is hard for us to distinguish between them. Nuer do not confuse them.

Since Nuer terms impede understanding I propose to classify Nuer beliefs under English titles, using a different term for each Nuer notion

[1] Op. cit., p. 200.
[2] Op. cit., pp. 90–91.

and restricting its usage to describe one notion and one only. I do not aim at making theatrical distinctions between magico-religious categories but desire merely *ad hoc* expressions that will distinguish what Nuer distinguish :—

guk Prophets in whom dwell sky-spirits.

tiet Specialists in magic acting as leeches and diviners.

gwan wal These are of two types. One type use just ordinary medicines, *wal*, and will be referred to as owners of medicines. The second type use " talking medicines " and will be referred to as owners of fetiches since their medicines are inhabited by spirits known collectively as *kulangni*.

The *guk* have been dealt with earlier and it remains to describe shortly the functions of *tiet* and *gwan wal*. The stem *tiet* occurs throughout the Nilotic languages. In Lango the verb *tyeto* means " to divine " (hence *tyeto war*, " to divine by throwing sandals ").[1] Among the Dinka a *tiet* is a person who, by means of a spirit, usually an ancestral spirit, residing in him, can reveal hidden things.[2] Westermann gives *thyedo*, to bewitch, in Shilluk.[3]

The following specialists in magic—there may be others—are found among the Nuer :—

(1) *Tiet gweeni*, mussel shell diviner. This man answers questions put to him by throwing mussel shells on to the convex surface of a gourd. The gourd contains seeds so that it rattles when shaken. The diviner sits upon the ground with his enquirer opposite him and the gourd between them. He takes the shells and throws them on to the gourd, from which they shoot off on to the ground or into the lap of the enquirer. The diviner tells the answer to questions by the way the shells fall. Every now and again he moves the gourd under his legs or rubs it on his body, and speaks to the spirit which is associated with it. Every mussel shell diviner has, I believe, his *kwoth*, the spirit which his fathers revered and which assists him in his practice. One such man I knew reverenced the snake called *lual dit*.

(2) *Tiet däla*. This man appears to have several functions. He cures headaches by taking some grass and whirling it round

[1] J. H. Driberg, op. cit., *pp.* 234 and 411.
[2] C. G. and B. Z. Seligman, op. cit., p. 187.
[3] D. Westermann, *The Shilluk People*, 1912, p. 283.

the head of the sick man after having first spat on the grass. When he has done this he throws the grass away and the sickness with it.

His main function, however, appears to be the recovery of lost property, especially cows. Someone takes your cow and you go out to hide and await an opportunity to steal it back again, but you find that the herd with which it grazes is well guarded in the pastures. You then go to this specialist in magic to whom you explain your difficulty, and he will help you by performing a rite. He takes a gourd (*lier*) and pours some water in it. He then rubs some earth into a ball between his hands and oils it with butter and puts it into the water. This is done to render the owners of the herd so slack that in their laziness and fatigue they will one day leave the herd unguarded. As an alternative rite he may take a piece of live charcoal from the end of a burning log and drop it hissing into the water. This has the same effect as the rite described previously in that it takes the energy ("heart") out of the owners of the cattle. The specialist in magic will also place in the gourd a needle (*rip*), which remains there until the cow is brought back. He also places near the gourd a fish-hook (*gwor*) and attaches it to a length of cord, which he jerks sharply towards him. This is done to ensure that you will capture your cow, extract it from the herd, and bring it home. I was told that the same procedure is employed for regaining a runaway wife. After the performance of these rites you will retrieve your animal from the unguarded herd and you will then pay the specialist in magic a goat. Apparently a *tiet däla* can recover anything lost in the bush.

The same man will, if you are going on a long journey, rub your chest with the inside of a wild tomato, or pass you through his legs or sprinkle you with water. In the same way he will pass warriors who are about to set off on a raid, one by one, through his legs so that they will be protected from danger. If a large number of people are going out to fight he takes some butter (*lieth in bor*) and daubs the chest of each warrior with it.

Another function of the *tiet däla* is to make the heart of your love cool towards you so that she will consent to marry you.

He takes some mud and rubs it into a ball, anoints it with butter, and drops it into cold water. He may also take a hot cinder and drop it into the water as well.

If you are assisted by one of these specialists in magic, as soon as his task has been accomplished, he must perform a second ceremony to protect you from any evil consequences which might result from the first. He plucks grass and after whirling it round your head throws it into the bush. You have been tied up (*twith*) by the first ceremony and now you have been loosened (*loyn*) by the second.

(3) *Tiet me ngwet* or *tiet coli*. This person performs the usual African leech's trick of removing objects placed in a sick man's body by a witch (*peth*). This function may be a specialist's sole magical accomplishment or it may be combined with other magical functions. I have only once seen an operation when a woman sucked the eye of a youth and produced from her mouth a piece of grit which a witch had put into his eye. Another woman, Nyagen, whom I knew, used to operate in a similar manner and she told me that her spirit was the lion, this being the spirit of her lineage. Each specialist in this kind of magic appears to derive his powers from a spirit.

(4) *Tiet me monye dholi*. This is an expert in curing constipation in children. He is " the specialist who anoints children," *monye* being the action of spitting on a person, for when a child is seriously constipated its parents take it to one of these specialists who spits on to his hand and rubs the spittle across the child's belly. This action will loosen the bowels. This *tiet* is said to *thek*, or respect, the actual massage itself which is his *kwoth*, or spirit, just as other people respect thier totems.

Besides the specialists already mentioned there are others who have functions which they may combine with those described, e.g., those who treat barren women and those who treat impotent men.

A few words will be added in conclusion about Nuer medicines (*wal*). All Nuer with whom I have spoken on this subject have said that medicines were almost entirely lacking in the days of their fathers and that most of the few medicines they possess to-day have been borrowed from neighbouring peoples. They say that their hunting and fishing medicines

and their " talking medicines " have been introduced from Dinkaland. *Wal e rooni*, medicine of hippopotami hunting, is used to the north of the Bahr-el-Ghazal among the Nuer who border the Shilluk for it has been introduced from Shillukland. Other medicines come from the Jur (Beli, Gberi, Sofi, group of peoples), the Cai (Southern Burun and other inhabitants of the extreme south of Darfung), and even from the Liri (peoples of the Southern Nubian Hills).

A love medicine, *geegol* or *wal nyiet* is said to have been recently introduced from Burun country. A youth will rub his body with this medicine when oiling himself in preparation for a dance so that the girl he wishes to attract will consent to his courtship and solicitation. The medicine can also be employed to cool the hearts of a girl's parents and brothers if they oppose marriage. It is placed by the youth at night in the drinking water used by their household.

Wal kore is said to have been borrowed from the Dinka. It cures or prevents a sickness known as *kor* which is caused by adultery. A man has adulterous relations with a woman on her husband's sleeping skin and when her husband later sleeps with his wife on the same skin he will contract this disease. It seems also that if either the husband or the adulterer then visits a sick man with a sore, this man also may catch (*be dop*) the disease and die. The sickness is also known as *gwei kuli*, sickness of the sleeping-skin, or is called after its symptoms *gwei letka*, sickness of the loins, because it causes pain as though the spine were broken. It is generally and speedily fatal. A preventive, the *wal kore*, is inhaling the smoke produced by burning the tip of a buffalo's horn.

Although many medicines have been borrowed from adjacent cultures a few are claimed as old Nuer medicines. Lual said that *nguth* was such a one. Its owner could point it at another man and kill him by so doing. There is also *wal petha*, medicine against witches. Another medicine called *muth*, attacks and destroys fetiches of the *kulangni* type. This medicine might itself be described as a fetich because Nuer speak of it as a mere house in which dwells a spirit.

A like opinion may hold for other Nuer medicines. Of this I am uncertain. Nuer usually seemed to think it funny when I explained to them that among the Azande the medicine itself is the source of power. As they generally conceive supernatural power in an animistic idiom I think that they often endow with spirits the medicines they have borrowed.

Certainly one may say that Nuer are little acquainted with medicines and do not understand them properly. Coming from Zandeland where everyone is a magician and medicines are in daily use I was amazed at their absence among the Nuer who have, moreover, exaggerated ideas of the omnipotence of magic and would come by night to beseech me to bring them some medicines from Zandeland for the Azande knew every kind of magic whereas they were simple folk who knew nothing.

There is another Nuer medicine called *niany* which has the action of cooling the heart of a man with whom you have quarrelled. After you have quarrelled with him you pour a little water into the palm of your hand, then dip the medicine into it and afterwards shake the drops from the end of the wood and off your hand. This will cool the anger of your enemy and be an antidote to any magic he may make against you.

There is still much to be discovered about Nuer medicines for I am convinced that I did no more than touch on the subject. The most powerful medicines are the *kulangni*, or " talking medicines," which are said to have been borrowed from the Dinka as late as the period when the Dangunga age-set was initiated. Although these medicines are known collectively as *kulangni*, each has its individual name, *macar*, *malual*, *maluil*, *mathiang*, *därguk*, *maluth*, *goncien*, *ngo*, *bielpam*, and perhaps others. Many of those names are colour-names : *macar* is the black one, *malual* is the brown one, *maluil* is the baboon-coloured (?) one and *mathiang* is the chestnut (thiang-coloured) one.

One does not compare these Earth Spirits with the Sky God and other Sky Spirits but, all the same, people are very much afraid of owners of fetiches and I shall not easily forget my surprise upon observing on the first occasion when I met a magician of renown the respect and fear in which he was held by his proud neighbours, one might almost say retainers, whom democratic sentiments and mode of life have made quite impervious to secular authority. This man, Bul, was treated with greater servility than I have observed elsewhere in Nuerland and it was apparent that the whole of his village, Kurmayom, were terrified of him. I had moved to this village intending to use it as a centre for work and was making friends with its inhabitants and thought that at last I was about to obtain some regular informants, and progress in my enquiries, when Bul, who had been absent a long while, returned home. He had been visiting Dok country to the west of the Nile, and was said to have journeyed from

there to the Jur peoples to the south to acquire new medicines. At once everybody's attitude towards me changed and those who had daily paid me visits ceased to visit me. They seemed quite cowed at Bul's presence and after a few days of solitude I gave up the village as hopeless and returned to my old residence at Nyakwac.

When Bul returned home a goat had been sacrificed outside the village in honour of the medicines he brought with him. A *kulang* fetich also requires food. Sometimes its owner places it on the ground and porridge and milk and tobacco by its side. The spirit of the fetich feeds on the souls (*tiedien*) of these things and later its owner eats their substance.

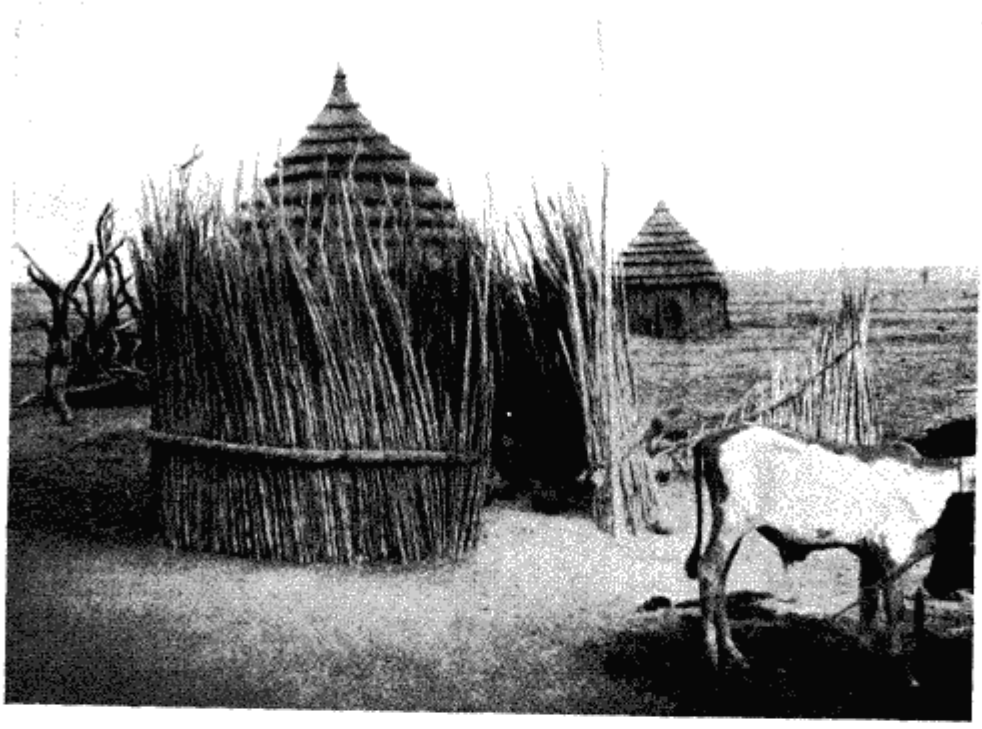
Fetiches can be exchanged for cattle. To-day it is possible to buy one for a cow but in the past when they were not so easy to acquire, it was necessary to pay as many as four or five head of cattle. Employment of fetiches has probably gained ground during the present administration. Previously a fetich-owner ran great risks of being killed by avengers. He was safe and enjoyed great prestige among his fellow-villagers who regarded his medicines as a protection and spoke of "*waldan*," "our medicine"; for a man would not injure members of his kin and village. But if a fetich owner killed a man of another village or district he precipitated a feud and was likely to be speared by the kin of his victim. An informant, Luak, said that a man who belonged to a numerically weak social group would not own a fetich as he would be unable to protect himself against vengeance. A fetich owner in a large village and of a strong lineage would be protected from direct attack, but if the brother of a murdered man hears that he is going on a journey he will consult a specialist in magic to know whether and how he shall slay him, and will promise the specialist a cow if he succeeds in avenging his brother.

The use of fetiches is quite a moral. When I explained to Tiop how Azande believe that for certain lethal medicines to achieve their purpose their owner must employ them justly, he considered their ideas remarkable. A fetich kills you because its owner dislikes you, that is all. He agreed that a fetich-owner ran a grave risk of vengeance. When I asked some Nuer how Bul had escaped vengeance they replied that he belonged to a powerful village and that Lou tribesmen suffered fetich-owners more than their neighbours the Jekany. In Lou country if a fetich-owner asks for a gift it will be granted him but in Jekany country I was told that a man would readily curse a fetich-owner and, if he caused any trouble,

hit him over the head with a club. I was told that a number of these men had been killed in the old days. Also many people possess medicines, particularly one called *riel* which protects them from fetiches.

Death may be due to one of three causes. It may be *lia kwoth*, a sickness of God ; *lia me ce kwoth e jak*, death which God has sent. This is especially considered the case in sickness of the stomach and also in pneumonia and leprosy. Other deaths are due to witches (*peth*), particularly sickness of the heart. A witch by merely looking at people and cattle can cause them sickness. A man meets another and shortly afterwards feels a burning pain in the region of the heart. He goes to a specialist in magic who pushes his heart back into its right position and scratches and massages the region of the heart with his hands and pulls at the fire in his heart and extracts from it some object. In the old days relatives of a sick man might kill a witch. Finally there is sickness due to fetiches. This is sudden and may kill a man in a few hours whereas illness sent by God is prolonged. Sometimes a man struck down by a fetich has an idea of who is its owner since he may have had a quarrel with a fetich-owner shortly before. More often it is necessary to summon a fetich-owner of his village to discover whose fetich is responsible for the sickness, or even to consult a specialist in magic to ascertain whether it is a fetich at all or some other agent which is the cause.

When a fetich-owner is called in to diagnose which fetich is causing sickness he shakes a gourd containing corn and all rock their bodies, clap their hands and sing hymns to the fetich. This may continue, at intervals, for two or three days till a patient is in a dissociated state. The fetich-owner then knows that his fetich has entered into the sick man and he begins to question it (or rather " them " for they speak of the fetish in the plural). The patient replies to these questions and will divulge what spirits of a fetich are troubling him. It may be divulged that the fetich-spirits of his father, or other close relative, have entered into him or that some fetich-owner is trying to kill him. If the fetich spirits of a relative have entered into the sick man they will be placated by having a cow dedicated to them and having a bullock sacrificed in their honour. If a fetich-owner is trying to kill the sick man a bullock will be sacrificed in honour of the fetich of the man who is conducting the seance and afterwards the fetich-owner, who is acting on behalf of the sick man, will go to the fetich-owner responsible for his sickness and



A WINDSCREEN IN LOU COUNTRY.



A WELL IN LOU COUNTRY.

call upon him to desist from troubling his enemy. He may deny his responsibility or may admit that he has sent his fetich to kill the man but that he will now call it off and regard the quarrel as settled.

When a fetich-owner dies his medicine is put aside. After a time the spirits may enter into one of his kinsmen and speak through his lips when he is delirious, saying that they are offended at neglect and at receiving no food. They thereupon give the spirits food and afterwards the man who has fallen sick will respect (*thek*) the fetich and see that it is given offerings from time to time. A son, or brother, or wife, of a dead fetich-owner may take over the fetich and use it without having previously been possessed by it in the sense of it having produced in him, or her, a feverish condition. Also a man may purchase a fetich from another. When he brings his purchase home he kills a sheep to fix the spirits in his home (*ba ka kap ciengde*). The medicine is only the dwelling-place of the fetich-spirits. They exist apart from the medicine.

When a bullock is killed by relatives of a sick man, in honour of the fetich that is about to reveal the author of sickness, the owner of the fetich takes half of the animal while the relatives take the other half. Two ribs taken from either side are the portion of the younger men who take them into the bush and roast them there. They throw a bit of the meat into the air as an offering. When any of the party say, " Let us go," then even if a man has a piece of meat in his mouth he must spit it out.

The main object in sickness is to get the spirits to speak through the mouth of the sick man, and the songs, and rattling of the gourd, and the hand-clapping, are designed to make him speak. If he refuses to speak a bullock is sacrificed to induce him to do so. If a patient recovers without the spirits of the fetich having spoken through him it is a sure sign that it was an illness from God and was not caused by a fetich.

A fetich-owner has only to point grass at a man to point him out to his fetich and the spirits will be on his tracks. When he has killed his victim he must sacrifice a sheep or goat. This sacrifice is known as *laka wangkien* and is said to be equivalent to the scarification of the arm of a man who has committed homicide.

IX

I will now attempt a summary of a few problems of theoretical interest that are raised in my paper, though none can be discussed at

length. I found the Nuer extremely difficult to investigate. This was partly due to conditions of research, absence of interpreter, difficulty of movement in their country, the expenditure of most of my energy in a struggle to exist at all rather than in making enquiries. It was also due to the psychology of the Nuer, their hostility to all strangers, their resentment towards the European, their extraordinary pride, and their successful opposition to all enquiry into their customs which I greatly admired in spite of the exasperation which it caused me. A third difficulty in trying to understand the main principles of Nuer social life was that observations had to be made while it was in a state of change, a change which, it is true, is going on in every African community to-day, but which seemed to me to be more painful among the proud conservative Nuer than among most peoples with which I had hitherto been acquainted. Change has been taking place rapidly during the last century. Firstly we have to bear in mind the expansion of the Nuer, especially on the eastern side of the Nile, where their conquests have resulted in dispersion of the clans on an unusual scale and in an enormous absorption of Dinka which must have profoundly affected their social life. Later they have been subject to Arab raiding and, in parts of Nuerland, even occupation. Of wider and deeper effect has been the influence of British rule which has already had far-reaching consequences, especially with regard to those political institutions with which this paper deals.

I was more successful, for these reasons, in grasping their kinship system and the daily contacts of cattle camp life than the organisation of the less tangible clan and tribal groups. In the case of the first I was able to make direct observations and was not dependent upon regular informants since I spent many weeks of intimate relationship with Nuer in their camps, while in the case of the second I had to rely largely upon what little information could be dragged out of occasional informants by question and answer methods of enquiry. I am therefore compelled to generalise upon what may sometimes be insufficient data and to regard some of my conclusions as working hypotheses though I feel that I have drawn the outlines correctly. The main theme of this paper has been the interaction between kinship and locality in creating social bonds. In anthropological theory there has often been a tendency for writers to over emphasize one of these two moralising influences to the detriment of the other. Those who hold that primitive society is essentially based

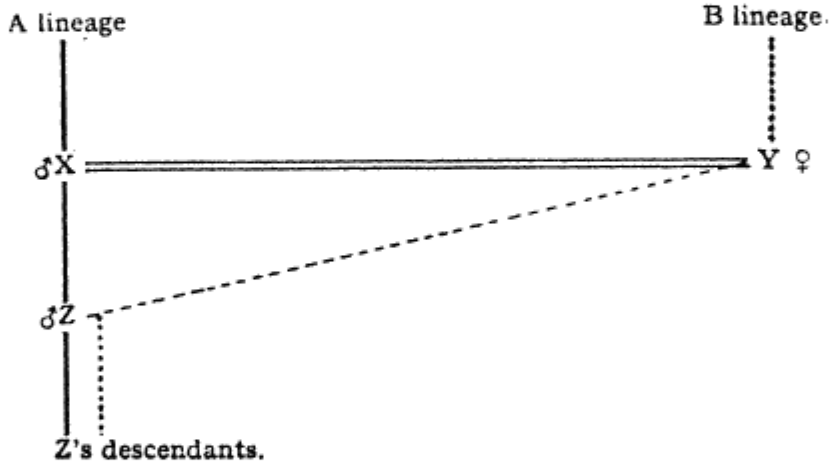
upon kinship structure, that whatever feelings of unity with his fellows primitive man shows is due to sentiments of kin, and that all other social relationships are mere copies of fiction of kinship, have tended to underestimate the facts that ties of kinship are only effective when the kin live together, and act together in common social undertakings, and that the necessity for common social action among those who live together creates a feeling of unity among persons who may be totally unrelated by blood. On the other hand those who have stressed the importance of symbiosis as the prime factor in the maintenance of unity among members of all human groups, from the family upwards to the nation, have sometimes under-estimated the strength of notions of common blood, the physical and psychical unity of kin. When we combine these two points of view we can understand more completely not only the parts played by kinship and symbiosis in Nuer social life but that they are in reality one and the same. To be sure kinship in the life of the Nuer is ineffective without community of living, but equally true is it that community of living is ineffective without ties of kinship. There is no question of priority of importance between symbiosis and blood relationship as the main factor in the maintenance of social cohesion. Each is indispensable and each is inconceivable without the other. The local group is a clan lineage with other lineages integrated into its kinship framework, and a clan lineage is a local group living in a community with its neighbours and co-operating with them in all economic and political undertakings.

The truth of this proposition may be stated in different terms. Nuer kinship breaks down as a social agent when kin are too widely distributed. Space destroys the sense of unity among kinsmen for kinship is recognised not as mere genealogical relationship but as a system of reciprocal social services. Your kin are those who help you to pasture your cattle, to marry your daughters, to avenge your dead, and so on. Effective kinship is measured by social obligations and these can only exist when the kin live together. Hence fission in territorial groups means fission also in the clan and its lineages.

On the other hand Nuer local groups derive their unity from sentiment of common kinship, and a Nuer will tell you of his neighbours that these are his people because they are his kin. As it is obvious to an enquirer that only a very small number of a Nuer's neighbours are in reality members of his lineage this may, at first, prove a perplexing

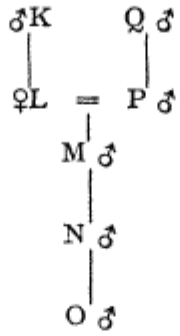
statement. But as enquiries go deeper into the kinship system it becomes evident that relationship is recognised in many ways other than through the father, and that a man's neighbours are his kindred. While each generation differentiates more and more the descendants of brothers it also connects hitherto unrelated families and lineages. This happens in several ways. Members of the same local group are constantly intermarrying and since a child is related to both its parents a permanent future relationship is forged between the two lineages in respect to the child and his descendants. Thus in the following diagram Z and his descendants in the male line belong to A lineage, are the children of the sons of A ; but they are also children of the daughters of B lineage.

DIAGRAM No. XX



Moreover there is always a tendency in Nuerland to stress the dominant line of descent, that is to say the lineage which counts as *diel*, and if this happens to be the mother's line she is often regarded as though she were a man in the genealogy of her descendants. In this way people who are really unrelated in the male line to the dominant lineage of their district come to regard themselves and to be regarded as though they were truly members of it. Thus in the diagram beneath if O♂ is asked for his genealogy he may say that he is the son of N♂ the son of M♂ the son of L♀ the son of K♂, treating L♀ as though she were a man and neglecting P♂ altogether, although he is really a member of P♂'s lineage and clan. He does this because he lives, as his father and grandfather lived before him, in a community in which the lineage of K are predominant.

DIAGRAM No. XXI



Another way in which integration takes place is by the creation of fictitious relationship through adoption on a colossal scale. Captured or immigrant Dinka are adopted into a Nuer lineage and since these Dinka and their descendants enjoy all the privileges of true kinship, are kin in exercise of social privilege if not by blood, the splice by which they are grafted on to the lineage of their adoption disappears, and the branch of their descendants is indistinguishable from native branches.

But it often happens that foreign lineages are too large to be incorporated by intermarriage and cannot be adopted on account of their numbers and Nuer descent. Frequently a small lineage, or tribal section comprising a number of small lineages, seeks protection from their more powerful neighbours by allying themselves by common residence and economic interests with a stronger lineage or tribal section. This kind of political aggregation is going on at the same time as the splitting up of tribe and tribal sections which we have seen to be a constant movement in Nuer social organisation. When it happens the strangers forge a fictitious bond with those whose protection and alliance they seek by means of some mythological link which makes them relations, or benefactors, of one another. In a similar manner when a community splits up there is sometimes a myth which accounts for its divisions. I have given several examples to illustrate these processes.[1]

Although kinship is ineffective without spacial contiguity ensuring constant social interaction it is recognised by the Nuer that the real test of common interests is community of blood. Hence it comes about that

[1] I have constantly found myself comparing the Nuer system of lineages and tribes with those of Arabia in olden times. These words of Robertson Smith fit Nuer conditions exactly. "A group which is too weak to stand alone must seek to create a fictitious bond of blood with another group, while on the other hand, a group that is too large habitually to move and act together, too large for common offense and defense, must sub-divide, and when the sub-divisions lose that sense of absolute unity which is kept alive not by counting degrees of kinship but by the daily exercise of the duties of common blood."

community of residence is identified with community of blood to such an extent that the main task of an investigator among the Nuer is to unravel them. The whole confusion which has arisen from the use of the *cieng* to describe both a territorial area and a kin lineage is in fact a result of the harmonising of the two which amounts almost to fusion in common speech. The kin becomes identified with the village or district, and these become identified with the kin, with the result that when a man speaks of himself as a member of a village or district he regards himself as so closely linked with the dominant lineage resident in them as to be almost a member of it. Even more when he speaks of himself as a member of a lineage does he also mean that he is a member of the local community to which it gives its name. A man who says that he is a member of *cieng* pual regards himself not simply as a member of the district of pual but also as part of the complex of lineages interrelated by birth, marriage, and adoption, with the PUAL lineage. Even more the man who says that he is a member of the PUAL lineage thinks of himself as part of the Pual community. Hence the home (*cieng*) and the lineage (*thok dwiel*) become in speech interchangeable terms though their members are quite distinct in descent. In ordinary social situations no distinction is drawn between the dominant lineage in a local community and the other lineages which form part of it. This distinction is only drawn when a situation arises in which descent is of paramount importance.

This linguistic telescoping of social distinctions, by which a man is spoken of and thought of in ordinary social situations as being much nearer to another than their formal hereditary positions warrant, is further illustrated by the manner in which members of the dominant lineage refer to, and treat, Nuer strangers and Dinka. One does not call "strangers" people who share one's daily experiences. They count as equivalent to members of the lineage because they carry out many of the major obligations of blood relations. In the same way one may despise Dinka and regard them as poltroons and inferior beings fit only to be plundered, but not so the Dinka who live in one's household and village. You do not call them "*Jaang*" nor treat them as inferiors. If a Dinka is adopted into your home he is your brother, a member of your family and lineage, while if he lives among you, but is not adopted, he is sure to be united to you by other social ties that are expressed in mutuality of social service. Here again in ordinary social situations

no distinction is drawn between Nuer and Dinka members of a community. This distinction is only drawn in situations where purity of descent is socially relevant.

Herein we perceive what is perhaps the most important social rôle of exogamy. In consequence of it a kinship group is compelled to form new social links with strangers and thus extends the range of its community life to embrace them, for community means people who live together and are united by social ties to one another. Since a clan may not marry into itself it can only replenish its members by taking wives from among strangers. Whilst this means a marriage link between lineage A and lineage B in this generation it means also the emergence of a new social grouping in relation to the child and his descendants. The rules of exogamy are hence one of the sources of political integration. But we must remember that it is not so much marriage outside the clan which in itself creates powerful social bonds but the birth of children into the genealogical system of both parents.

Above all the kinship system gives a framework upon which wider political alliances than small districts can be built up. In spite of spacial distribution, in spite of separate economic interests, in spite even of frequent feuds and quarrels, the tribe maintains a semblance of unity because its dominant clan provides its sections with interconnecting links. Each independent section is integrated around a kinship nucleus and these nuclei are parts of the same clan; they possess a common name, common ancestors, common blood, common genealogical system, common traditions, common rules of exogamy, common ceremonial emblems. The Nuer tribe is thus an accretion formed around the Nuer kinship system.

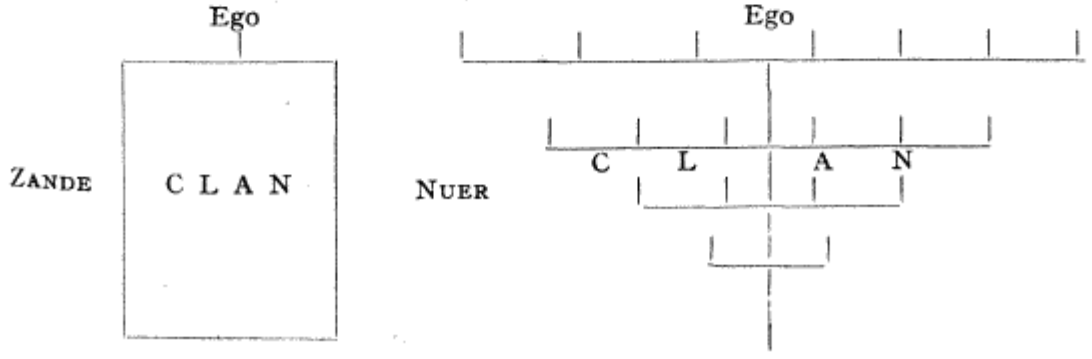
From the Nuer facts we see how territorial expansion, conquest, and political development can take place within the integument of a society in which obligations are expressed in terms of kinship. We observe how a state can be built up by conquest, not, however, by superimposition of conqueror on conquered, or by oligarchic control by leading families, but by absorption of the defeated into the social network of the conquerors through the recognition of one kind or another of kinship fictions and, in consequence, by acknowledgment of egalitarian status. The kinship system does not break up completely and give way to a purely political organization but it expands and remains the unifying principle of community life.

It is instructive to compare the kind of tribe, the political unit or state, founded by Zande conquest with that founded by Nuer conquest. The political machinery of the Zande state is bureaucratic for its cohesion depends upon a network of officials, which departs from the king, and runs through a line of dependent princes to the commoner deputies who supervise each small district, and the leaders of military companies. This bureaucratic state is pyramidical in form, the king at the apex and the common people at the base with various lesser authorities in between. The Nuer state is of quite a different order. It is what we might call a kinship state for its cohesion depends not on an official organisation but upon a network of kinship ties. Districts do not hold together because of loyalty to a king or by the supervision of princes and deputies, but because the lineages which occupy them recognize common ancestors and claim common emblems.

To return to a survey of the points made in my paper: I would draw attention once more to the lack of political control and permanence in Nuer tribes and tribal sections. They are in a state of continual flux, each political unit running into the next one, as it were, and constantly changing in form by splitting up into independent segments or by uniting with some other unit and forming a new and larger group. The fission, or segmentation, which we have noted throughout this essay is due to spacial divisions which are not only to be reckoned in terms of distance, but also by reference to absence of communications, and to extreme climatic variations which place extensive marshes or waterless tracts between a community and its neighbours. But importance must also be attributed to economic influences which militate against dense or evenly distributed population since a pastoral life in these regions would seem to demand sparse population living in areas widely separated from one another, especially during the annual season of drought. For the basic social groups among the Nuer are essentially the cattle-units, the persons who habitually have productive relations with one another. During the rains they live in contiguous homesteads and their cattle share the same pastures. During the dry season they join together to form one big camp and tether their cattle in a common kraal. Necessities of life inhibit prolonged feud within these units. Their economic relations determine to this extent their political relations.

The Nuer clan is totally unlike the type of clan I had met with elsewhere in the Sudan. Here again a comparison with the Zande social system is instructive. The Zande clan is an undifferentiated group of relatives whose genealogical relationship to one another is quite unknown. The Zande knows the genealogical relationship of his near kin to himself but beyond these few people he only knows that there is a vast collection of persons widely distributed throughout Zandeland who belong to his clan since they have the same clan name as he has. To these people he shows preferential treatment if he comes across them and they claim it from him on the grounds of common clanship but he has no serious social duties towards them since he in no way co-operates with them in social and economic undertakings. The Nuer clan on the other hand is a differentiated group of relatives. It can be figured as a tree with branches and twigs and one cannot figure the Zande clan in this way. The exact relationship of every person to one another in the clan can be traced. Hence the Nuer does not normally think of a person as being of the same clan as himself but as being a member of his lineage or of a related lineage. One might say that outside the narrow range of close kin the Nuer still thinks in terms of relationship while the Zande thinks in terms of clan membership. This is seen in the tracing of relationship for purposes of exogamy. To the Zande the fact that X♂ and Y♀ are members of the same clan means that marriage between them is incestuous but the Nuer would rather conceive the bar to marriage in terms of genealogical relationship. The Nuer clan is a genealogical system : the Zande clan is not. The Nuer system has far more in common with the Semitic system. However a complete account of the Nuer clan system will have to be postponed till a comparative study which I have in mind has been carried out. To satisfy a passion for diagrams the difference between the Zande and the Nuer clans in their relation to EGO may be figured thus :—

DIAGRAM No. XXII



Tribe and clan alike maintain their unity by recognition of kinship ties beyond the local limits of the kin as a functioning social and economic group. We have seen how a tribe is built up on a clan framework and we may ask how this framework supports itself. It seems to me that its stability is partly to be explained by the emergence of an aristocracy of kinship, the *diel*. In the confusing network of lineages which intersect one another in a tribe and which lead independent local existences, splitting apart and joining together with a bewildering lack of conformity, there runs a system of more prominent strands which seem to give direction to the whole and to hold it together. These are the strands of the *diel* lineages. Their slight, but common, social differentiation serves as an emblem of clan solidarity where there is little or no direct social contact between its members. This common social distinction appears moreover, only in those clans where the political superstructure gives a reason for its existence for it is only recognised in the limited area of a tribe, or in the case of the Eastern Jekany, of closely linked tribes. A person is not recognised as a *diel* outside the political area where his clan is dominant, or, in other words, this particular assertion of clan unity is only made where the clan is a political as well as a kinship group. And I think that this reacts on the clan itself in that its kinship ties are stronger and more widely recognised in genealogical knowledge when its members are *diel* of a tribe. In a society where most social ties are thought of as kinship ties its political relations are stated in kinship terms. Hence it comes about that the state is presented as a kinship organisation. The Lou tribe and the JINACA clan, the Gaajok tribe and the GAAJOK clan, come to be identified with one another so that, as we have seen, it is possible to speak of Lou and Rengyan being brothers, or Gaajok and Gaajak being brothers, when what is meant is that the founders of the pair of clans which form the dominant lineages in the two tribes were brothers. The political unit is described as a kinship unit.

This is perhaps the action of *diel* aristocracy for its emergence can hardly be accounted for by governmental functions. Leadership is not in the hands of the *diel* exclusively, or even because they are *diel*, though their clan prestige gives a basis for authority. The Nuer are an extraordinarily democratic people and no one admits a superior by birth. The most that can be said is that they will concede slight social priority to the *diel* but in the greater part of Nuerland this concession amounts

to very little. There is in fact no noticeable social stratification by class, and even a Dinka who builds his byre and settles permanently in a village is regarded as an equal. But since any community operations require some kind of organisation and leadership we shall naturally enquire where it is to be found among Nuer communities.

We must realise at the outset that the Nuer tribe does not function as we understand political functioning in Europe. There is no tribal government, no political organisation, no rulers, no secular officials, no courts of justice, no police. The conditions of its existence appear indeed to be anarchical but they are only anarchical in the sense that Nuer society is aciphalous, there being no central government. Political machinery of a kind exists. In the first place there is the clan system which means that kinship obligations are operative between the various sections of a tribe, even if they are weak. Then there is the age-set organisation which is organised on a tribal basis with the result that what right to leadership the senior sets possess is accepted tribally, all members of an older set being the " fathers " of all the members of a younger set in the tribal area and not only in the district where a man is brought up and initiated.

Another biological factor in leadership is sex since political authority is normally restricted to men. Besides age and sex the socio-biological factor of personality and the purely social character of wealth play their part. But the Nuer also have an hereditary leadership which while conditioned by these various influences is based on none of them but arises from the notion of sacredness which attaches to certain lineages and accredits them with ritual powers. These ritual experts are a puzzle to us who are used in our own society to a purely political administration backed by open force. It is difficult for us to understand how a social system can be worked when the sole depositories of authority are men who rely entirely on their sanctity for a hearing and upon their power to curse for obedience. We shall better understand the problem when we realise that the tribal system does not work smoothly and that there are constant feuds between its sections. The tribe is a geographical expression rather than a politically organised state. Its social life is a kind of ordered anarchy in which every section plays the game of feud according to rules. Outside the boundaries of the tribe there are no rules but within you are expected to accept compensation for homicide

and the moral obligation to do so is stronger the smaller the social unit involved. Social necessity compels the hasty settlement of feuds in cattle units but is less compulsive when the two parties have no economic life in common and but seldom partake of joint social action. Through the mechanism of leopard-skin chiefs a semblance of tribal unity is maintained between a federation of sections.

But his authority is never more than the authority of an umpire. He gives his decision in accordance with the age-long tradition of the people but he cannot compel its acceptance. He does not rely upon force but on the traditional holiness of his office, the power of custom, and the self-interest of both parties, to gain consent to his rulings. He is arbitrator rather than judge, peacemaker rather than wielder of executive authority.

In the last fifty years or so powerful prophets appeared upon the scene. They have gained authority by appeal to supernatural powers but in its exercise we discover the development of purely political functions. What the end of this process would have been we cannot tell since the Government crushed the more powerful of the prophets. Indeed it was one of the ironies of the situation that the government should have found it necessary to destroy the only political agents who could have administered large areas in Nuerland. Though my knowledge on this point is far from profound, I venture to doubt whether these prophets in the past ever exercised great political power, even if their social influence was admittedly great, but one may well imagine that they would have established a line of prophets since possession by spirits was hereditary. For one naturally seeks to explain their emergence by referring to some sociological cause and personally I see this cause in the territorial expansion of the Nuer. It is an old observation that " war begat the king." Moreover Nuer conquest of the Dinka broke up clans and lineages to an extent which must have greatly impaired the unifying influence of kinship. I have often noted in this paper the wide diffusion of clans all over Nuerland and their dispersal into small lineages which, as nuclei of political aggregation, were in frequent feud with their relatives and neighbours. This meant that community of living tended to supplant community of blood as the essential principle of social cohesion, though in a society based upon ties of kinship the change took place by assimilating symbiotic ties to kinship ties. Though the tribe and its

sections are interrelated with the clan system, one sees in the close organisation of kinship the main obstacle to political development, and as the kinship organisation begins to break up and to become diluted with foreign elements, the possibility arises of a well-knit tribal unity based on adhesion to a leader rather than on relationship. Conquest leads to wide dispersal of clans and the absorption of the conquered people into their social life. If I had to make a guess—it would be a little more than a guess—I would suggest that in the Lou tribe seventy-five per cent. of the people are of Dinka descent, while perhaps fifteen per cent. are of mixed Nuer descent and only ten per cent. belong to the dominant JINACA clan. In consequence the JINACA like the GAT GAN KIIR and other clans have become divided politically and this has reacted on their clan unity. The semblance of tribal unity based on kinship organisation is there but it lacks reality. The appearance of powerful prophets seems to me to denote a reorientation of the tribe along different principles.

However this may be, as we observe Nuer tribal life to-day, it is the small local group with its dominant lineage which strikes us as the real political unit and not the tribe. This small local and kinship group is also the cattle unit and the revenge unit. The limits of effective community are known by these social functions; the sharing of common area of residence; integration into a common kinship system; the sharing of common pastures, watering places, fishing and hunting grounds; and a common social life which is perhaps best described by saying that those who partake of it are a peace-group or a blood-revenge group.

(*Concluded*)

THE PORT SUDAN WATER SUPPLY.

By Major H. E. Hebbert, D.S.O., M.C.

(PLATES IV—VI.)

THE growth of Port Sudan has necessitated extensive works in the provision of an adequate water supply and it is thought that a history of these works and of the difficulties encountered may be of general interest.

In 1904, the Director of Public Works, Captain Ralston Kennedy of the Royal Engineers, was instructed to prepare an estimate for the improvement of Suakin harbour, and in his report he drew attention to the natural harbour of Sheikh Barghut, now known as Port Sudan, and strongly recommended the construction of a new port there, in preference to an attempt to improve Suakin. As a result of this recommendation, a Commission was appointed to consider the merits of the two ports. The recommendations of this Commission in favour of Port Sudan were accepted and one of the most important considerations was the water supply. The proposals of the Commission were to sink a " series of wells " fed by " collecting galleries," to join these up by " lateral galleries," and to pump from a central well. Captain Kennedy when submitting his estimate, pointed out that this method, if adopted near Port Sudan, would give brackish water, and he recommended that it should not be adopted till it had been conclusively proved that a purer supply could not be obtained by deep boring. He suggested that in any case better water was probably derivable from the hills than from surface wells near the coast, and he emphasised that the distance of the source was not of vital importance provided that pure water was obtained.

Preliminary work consisted of a careful survey of the Arab wells in the neighbourhood, and attempts to improve them, but no success was obtained, except in the case of the " near wells " in Khor Mogg. Here two shafts connected by a heading were eventually made to yield about 150 tons a day, and this was delivered by gravity to storage tanks in the town. The water was unpalatable to Europeans and for some time their drinking water was supplied from an experimental well in Khor Huff, where there was a small yield of water containing less chlorides and sulphates. As the need for more water became acute further expenditure

was incurred, resulting in the Khor Mogg " far wells," about eight kilometres from Port Sudan. Here water appeared on the surface for most of the year, and shafts were sunk, connected by trenches. The water was pumped into surface reservoirs and delivered by gravity to the " near wells." The total capacity was only about 60 tons a day, but the water was fairly potable, and the town was supplied for drinking purposes by tanks transported on the Building Construction Light Railway.

Meanwhile serious efforts were being made to find a larger, better, and more reliable supply. Early in 1906 a contract was made for sinking two experimental bores, one near the European cemetery and the other a quarter of a mile south of the " far wells." The depths of these bores were about 500 and 1,000 feet, respectively, but the deeper they were sunk the more salty became the water. In August, 1905, the Director of Works said that if an efficient water supply could not be obtained from deep bores, it would be necessary to turn to other sources ; he added that the Resident Engineer had been investigating the possibilities of a supply from the khors in the foot-hills. This last investigation had resulted in the discovery of Khor Arbaat which not only gave promise of an excellent water supply for Port Sudan but also of an irrigation scheme of some magnitude. Captain Kennedy gave a short description of the Khor and enclosed some photographs, which are still in existence. In his note for the guidance of the investigating engineers, Captain Kennedy assumed a catchment area of about 1,600 square miles and a rainfall of 18 inches, and proposed a reservoir to impound a sixth of this, or 300 million cubic metres. He suggested that the most suitable site for a reservoir providing a maximum capacity would lie between the upper and lower " gates " of the upper gorge and that the granite intrusion between the " gates " would probably be the best site for the construction of the dam itself. He felt that his rainfall figures were very doubtful and stressed the necessity of obtaining further information. As we now know, his estimate was much too high.

In October of the same year Mr. E. S. Spencer was sent to the area for a preliminary investigation. His report, dated January 20th, 1906, though it does not deal with the main engineering problems, is of historical interest. He reported that the granite intrusion, mentioned above, appeared superficially to be an ideal site for a dam, and gave the capacities of reservoirs formed at this point by dams of different heights. He



KHOR ARBAAT: LOWER GORGE (LOOKING WEST).



VIEW INTO THE UPPER GORGE FROM ABOVE THE LOWER GATE.



PREPARING THE STREAM FOR A FLOW-TEST IN THE LOWER GATE.

considered that a dam, 170 feet high, was possible, and estimated that about 220 million cubic metres of water could be impounded. A dam of greater height would necessitate an auxiliary dam to the south to prevent the water spilling over the valley side. Mr. Spencer's examination of flood marks and his observation of actual rainfall and the floods during the period of his investigation, led him to agree that the volume of water available had been much over estimated. He drew attention to the silt which the flood waters carried and which would have to be dealt with in any storage scheme. Mr. C. E. Dupuis, the Acting Inspector General of the Sudan Irrigation Service, was then asked to inspect and report, and this he was able to do when at Port Sudan for the opening of Port Sudan–Atbara Railway in January 1906. He considered that there was not enough water for the irrigation of more than a very small area. His report included a good general description of the catchment area as follows :—

" Khor Arbaat is one of a series of large and somewhat similar khors draining the mountain range bordering the Red Sea. It rises about 80 kilometres south-west of Suakin, behind the first range of hills, and after a northerly course of nearly one hundred kilometres, turns suddenly east, and breaks through the coast range to the sea. The area drained by the khor and its tributaries is estimated roughly at 4,000 square kilometres, consisting wholly of rough mountainous country. As is well known, the whole of this region is one of light and precarious rainfall, but Khor Arbaat is somewhat peculiarly situated, in that it is in the borderland between two distinct climates ; the Red Sea coast receiving its rain in the autumn and early winter, and the plateau behind the coast range in the summer and early autumn. The rainfall occurs in violent local storms, and though in periods of disturbed weather, such storms may occur simultaneously in several parts of the area, it probably rarely or never occurs that heavy rain falls simultaneously over the whole area. Existing rainfall records are therefore of little value, and such evidence as is obtainable would seem to show that the floods in the lower reaches are almost always of fairly local origin, and lasting only a few hours."

Though Mr. Dupuis considered the khor useless for an irrigation scheme of any magnitude, he was very interested in its perennial flow ; he endorsed Captain Kennedy's recommendation that it should be considered for the permanent water supply of Port Sudan, if the deep borings were not a success. He recommended that the underground

water flow should be tapped at the lower gorge, some nine-and-a-half kilometres nearer to Port Sudan than was originally proposed, as the water that disappeared in the Khor bed at the lower end of the upper gorge must almost necessarily continue its course down the valley below the ground, and would be supplemented in this reach by the comparatively heavy rainfall in the adjacent hills.

Captain Kennedy had meanwhile arranged for a more thorough investigation, and the preparation of a definite scheme with estimates. By this time he realised that he could not count on anything like the rainfall originally mentioned and that all available supplies might be required for the needs of Port Sudan alone ; he still hoped that there might be a small margin for irrigation, but this matter had become of secondary importance. In November, 1906, an outline of the scheme and a rough estimate of £E.253,000 was, with the estimate of £E.458,000 for an additional quay wall, approved in principle, but in May, 1907, Sir William Garstin informed Captain Kennedy that, owing to the financial situation, funds would not be available for both the quay wall and the water supply and that he should give preference to the latter. Captain Kennedy's original proposals may be summarised in his own words as follows :—

" A concrete dam is to be constructed across the Khor Arbaat near the upper end of the gorge, the height being such as to impound sufficient water for all the needs of the town and shipping. From the reservoir so formed, the water is to be drawn off through the dam, and passed through mechanical filters, which are to be built a couple of hundred yards below the dam, on the line of the supply mains. After passing through the mechanical filters, the water will be led to Port Sudan through a cast iron pipe line running down the gorge to the gate, and from thence in almost a straight line to Port Sudan. At Port Sudan two steel towers are to be provided, one on each side of the harbour, to serve the double purpose of storing the water and controlling the pressure of the water in the town mains."

Captain Kennedy anticipated difficulties from silt and instructed the Resident Engineer to make further investigation ; he considered it probable, however, that a reservoir could be constructed sufficiently large to ignore the loss of capacity from this cause within a reasonable period. Mr. Stanley G. Dunn toured and mapped the water shed in August, 1907, and estimated the catchment area as 1,470 square miles with its southern

limit about 40 miles to the west of Summit Station. He reported that the southern area was well covered with trees and that this deep water-filled mass of soil and stone was the reservoir from which Khor Arbaat originated ; the northern two thirds of the catchment area was much more stony and narrow and there was little vegetation. Mr. Watkins and Mr. Inman, between them, were at Khor Arbaat for about nine months, preparing maps, collecting data, and attempting to obtain information for the dam foundations. In this latter, being handicapped by the inadequacy of their plant and the free yield of the gravel forming the valley-fill, they were quite unsuccessful. The minimum recorded flow in the upper gorge was 4,000 cubic metres in the day, and Mr. Inman suggested that, as this would suffice for some years, a weir only should be constructed with a number of wells sited above it. He proposed driving two rows of interlocking piles a little above the most promising dam site and grouting between with cement. The weir, so formed, would not only collect the water for the wells but would, if suitably constructed, give accurate quantity records and permit of easy investigation of the dam foundations. Mr. Inman also suggested that, if a wells scheme only were to be adopted, the lower gorge, nine-and-a-half kilometres closer to Port Sudan, would appear preferable.

Mr. Grabham, the Government Geologist, carefully investigated the possible dam sites, and selected one as likely to be the best. He observed that several dykes on both sides of the valley probably extended under the alluvium, but he did not think that their presence rendered a good foundation impossible, though greater expense might be involved. He pointed out that the climate at the time when the valleys were cut out must have been more humid and the changes in temperature smaller, so that less debris was formed. The streams with the larger rainfall not only kept the valleys free of accumulations but also wore into the solid rock. With the present smaller rainfall and the larger quantities of debris, the district showed a particular topography. The steep valley sides were cut off abruptly by the alluvium, and small hills appeared as islands, while others, smaller still, were completely submerged. For this reason it was difficult, from surface inspection, to define the exact limits of the catchment area. The upper gorge which contained the recommended dam site, was probably due to some line or lines of weakness, as it ran parallel to some well marked joints, and the change of climate

had caused a definite change at its eastern end, where the surface water now flowed to the south-east, through a narrow gorge shown on the plan as the " gate." To the north-east was Khor Hasheit, a broad gravel area which soon began to slope in that direction. The present surface stream was cutting away the higher gravels of Khor Hasheit and carrying them out through the " gate " ; it was therefore clear that the gravels were not deposited under the present conditions. The level from which the gravels had been removed was marked on the enclosing hills by a bench, the line of which sloped up towards the present outlet, thus showing that the stream which had originally deposited them flowed in the opposite direction. It appeared that the surface stream originally flowed along Khor Hasheit, and reached Khor Arbaat again through the north-east opening. When the climatic changes took place the detritus carried down from the hills gradually filled up the open space at the mouth of the Hasheit gorge, till finally the level of the coll at the south-east was reached. As soon as the stream found its way over the coll, the heavily loaded flood water, taking advantage of the east and west joints, rapidly cut the narrow gate. If this explanation was correct Mr. Grabham considered it probable that the actual rock valley still followed the original north-east route whilst the bulk of the underflow naturally took place along the deeper valley. The crystalline rocks in which the valleys had been carved might be regarded as impervious ; and the alluvium or the valley-fill was a very important factor in the Khor Arbaat supply, as a portion of the rain which fell in the catchment area sank into it, instead of running straight off or evaporating. The actual porosity and velocity of flow at any point depended on the nature of the gravels and the slope, but water percolating into the valley-fill at the head of the basin followed the valley bottom, and probably took several years to reach the gorge. It thus formed a vast reservoir equalising the flow in a region where the rainfall was precarious. The surface of saturation was known as the water table, and assuming the voids in the gravel as 30 per cent., there was a submerged stream with a cross section 30 per cent. of the area bounded by the valley bottom and the water table. Where this area was restricted, as in the gorge and at one or two other places, water appeared on the surface. Mr. Grabham supported the scheme for drawing the water from a chain of wells, and emphasized the desirability of using underflow water only. He did not recommend the provision of a weir below the wells,

as an impediment of any kind might injure the filtering properties of the gravels.

As a result of these various reports the scheme was materially altered, and Captain Kennedy summarized the objections to the original proposals as follows :—

(*a*) The high cost of the dam and the problem of its foundation.

(*b*) The difficulty of preventing the reservoir formed by the dam from becoming silted up.

(*c*) The probability of the water in the reservoir becoming fouled by vegetation or otherwise.

(*d*) The necessity of providing filters.

He now proposed to tap the underflow by a series of tube or open wells, suitably protected from pollution and flood. Water from these wells was to be collected in a regulating reservoir about 900 metres lower down the gorge. From here a 12 inch cast iron pipe line was to deliver 2,000 tons of water a day to a 10,000 ton service reservoir on the high ground behind Port Sudan. The pipe connecting the wells with the regulating reservoir was to be 16 inches in diameter and to act as a syphon only if and when required by the fall of the water table.

Sir William Garstin, after a further visit, endorsed the proposal as an engineering project but doubted the necessity of providing for such a large consumption. He felt that, though considerable information as regards quality and quantity had been obtained, it was not sufficient to be absolutely convincing; he recommended delay for at least a year to permit of further investigation.

It appears that the scheme was to have been put forward again in the autumn of 1908, but the financial situation was such that funds would not have been allotted. Mr. Inman was therefore sent to investigate the possibilities of the lower gorge, where the wells are now situated, and Mr. Grabham was asked to report on this site geologically. Below the " gate," the Khor widens out to nearly 2,000 metres and is fed by a number of smaller khors before it narrows again to the lower gorge, which is some nine-and-a-half kilometres below the " gate." Mr. Grabham was satisfied that there was only the one outlet and that all the water from the " gate " and the intermediate area must flow through the lower gorge. The Inspector General of Irrigation, Mr. P. M. Tottenham

and Mr. W. A. Davie of the Agricultural Department, also inspected the delta and finally disposed of the irrigation part of the project by reporting that the ground and water were insuited for such a purpose. In the end, therefore, the further investigations of Mr. Inman and Mr. Grabham were confined to exploring the potentialities of the Khor Arbaat for water supply only. These further investigations extended over a year and included a general topographical survey, the construction of trial wells, pumping tests and systematic analyses of water samples. From these it appeared that the modified scheme for the upper gorge could equally be adopted for the lower gorge and with definite financial advantage. In 1911 revised estimates for a supply from this point were submitted, but again it was impossible to allot funds.

Between 1908 and 1921 many attempts were made to improve the existing supply and to find an alternative less costly than Khor Arbaat. In 1908 Gebel Asotriba, immediately to the west of Port Sudan, was carefully explored but no satisfactory water supply could be found. In the same year, an experimental Desmeureux filter was tried but proved unsatisfactory. About 1910 an additional "near well" was constructed in Khor Mogg and produced 220 tons daily; the quality of the water was poor but the erection at Port Sudan of condensers had ensured a sufficient supply of water suitable for locomotives and for domestic consumption. These conditions continued till the winter of 1921 when, apart from condenser water for drinking, the town existed on a supply with a very bad analysis and which only just met the immediate requirements. The actual domestic consumption was about 280 tons a day in summer and 250 tons in winter. The distribution system was also unsatisfactory, the head insufficient and the supply intermittent; moreover, the consumption, being unmetered, was wasteful. It was apparent that any additional supply of reasonable quality would be of great pecuniary value as it would enable the Railways to economise condenser water.

This situation was discussed, and it was decided that, though an adequate supply along the existing lines could probably be obtained for a few years, a point had been reached where outside advice was required. Mr. Beeby Thompson visited the Sudan in the winter of 1922 and it was, on his advice, decided that the Khor Arbaat project alone gave promise of a satisfactory solution. He proposed to sink a number of shafts or bores across the lower gorge, to pick up the most porous and prolific point,

and to make tests for yield ; a syphon which would lead the water away from a group of coupled wells was then to be sunk in the khor bed. He asked for, and received, a grant for initial investigations, which were carried out under his direct instructions and quite independently of the Public Works Department or the Railways.

The daily consumption of water from all sources in the winter of 1923 was 500 tons, of which about 200 tons was sold in the town. Mr. Beeby Thompson's estimates for a six inch steel pipe to give 780 tons a day into the high level tanks, or an eight inch pipe to give 1,180 tons, were £E31,000 and £E45,000, respectively. As a third course, he suggested the immediate or later inclusion of boosting pumps in the six inch line, at an additional cost of £E10,000, and estimated to increase the delivery to 1,650 tons a day. Although the consumption at the time from then existing sources was known, it was difficult to estimate what increase of consumption could be expected when improved quality was available under more favourable conditions of distribution. The quantities of water which might be taken by shipping and the extent to which the Railways could use the Khor Arbaat water for locomotives instead of condenser water were also difficult of estimation.

Early in 1924 it was decided to accept Mr. Beeby Thompson's first proposal, and to install a six inch steel main. The lower gorge is just over 20 miles from Port Sudan, and is a constricted point in the valley where water often appears on the surface, or can be found at no great depth, at all seasons of the year. It is about 350 feet above sea level, and Mr. Beeby Thompson's suggestion was to deliver water direct from the syphon to the high level tanks in Port Sudan. But the scheme, after having been submitted to a second opinion, was modified so that the outlet of the bores should at all times be well below the level of the water table. This resulted in a direct gravity flow in place of the proposed syphonic system. Two ten inch bores were sunk to the bottom of the " valley-fill," which was here about 35 feet thick, and outlet pipes were connected to these at six feet below the normal water level. The combined outlet had to fall towards Port Sudan but at a lesser slope than the ground, so that the pipe gradually arrived above water level. The trench for this pipe was dug from downstream upwards so that water could flow away down the trench as the work progressed, and an eight inch pipe was laid to allow for future expansion of demand. Water thus flows from the

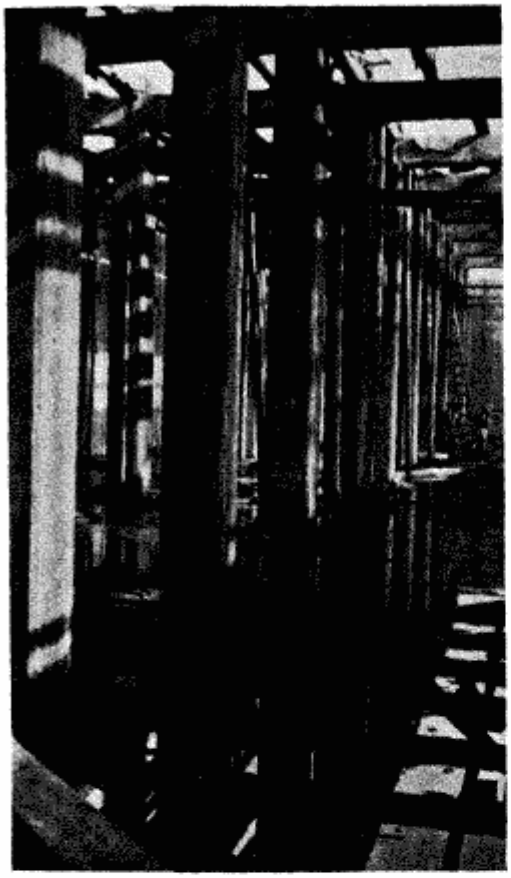
" valley-fill " up the bore and direct down the mains into Port Sudan. It is filtered by its passage through the gravels, and no other treatment is required.

The first pipe line was completed in 1925 and a delivery of 730 tons a day into the high level tanks was obtained. The demand, however, increased beyond all expectations and was never really satisfied, even when the supply was first installed. The writer went to Port Sudan in August of that year, and found that whereas the delivery could be increased to about 820 tons by accepting some water at ground level and pumping into the high level tanks, the immediate average daily demand was 860 tons and promised to be considerably greater in the near future. He suggested various temporary means of easing the situation and recommended the immediate duplication of the main, preferably with an eight inch pipe and also the early provision of the additional storage already under consideration.

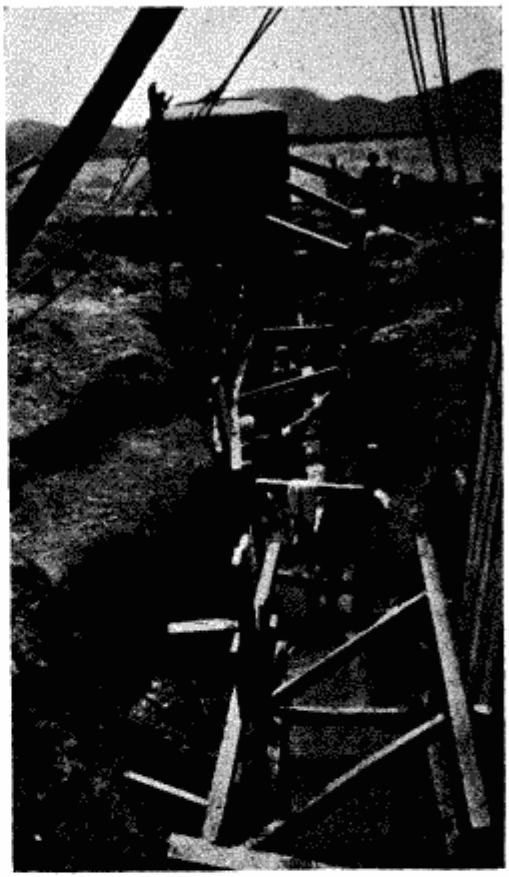
It was apparent, however, that whatever methods were adopted for increasing the supply, the well capacity would also have to be increased. Mr. Beeby Thompson came out again that winter and recommended the sinking of additional intake bores. This and the duplication of the pipe line with an eight inch main were approved, and it was decided that the work should be carried out by Mr. T. L. Scott in the winter of 1926. The Public Works Department were to construct a ground level reservoir and the Railways were to erect an additional overhead tank. Three additional wells were also constructed and connected to the existing headworks and the whole work was completed before the floods of 1927.

In 1929 the water situation again became critical partly owing to increased demand, but chiefly to the impossibility of obtaining the anticipated yields from the wells. The outlets from the wells had been installed six feet below the water table in what was believed to be a normal year, but in 1929 the level fell so badly that it was only just sufficient for the water to flow out at all, and delivery was seriously reduced. It was hoped that the water table at the wells was abnormally low owing to rain shortage and not to the increased draw off, and pending further information on this point, no immediate action to increase the inflow at the wells was proposed. Portable pumps had been purchased and these could be used to deliver water into the mains in the event of a repetition of the low water table.

CONSTRUCTION OF 5,000 TON RESERVOIR IN PORT SUDAN.



VIEW OF INTERIOR OF 5,000 TON RESERVOIR IN PORT SUDAN.



THE PIPE TRENCH.



THE PIPE LORRY.

The water table had completely recovered by the spring of 1930, and happened to be abnormally high while work on the duplication of the eight inch main was in progress. In order to provide for possible extensions and to avoid any necessity of early replacement, a nine-and-a-half inch pipe was installed.

The supply system as it exists at present was completed by the end of 1930. It consists of five bore holes in the gravels of the lower gorge, and these supply water by gravity to the two mains. Both of these are of steel. The one laid in 1924 is eight inches in diameter for the first mile from the wells and six inches in diameter for the rest of the way to Port Sudan. The other, laid partly in 1927 by Mr. Scott and partly in 1930 by the Public Works Department, is bitumen lined throughout, and nine-and-a-half and eight-and-a-half inches in diameter. These mains deliver the water to the water yard in Port Sudan, where, by the manipulation of valves, it can be diverted direct to the high level tank immediately above, or to either of the two high level tanks on the east side of the harbour. There is an underground reserve reservoir which holds 5,000 tons of water, and this can be filled direct or by the overflow from the west side high level tank to which the mains are normally connected. Water can be lifted by an electrically driven pump from this reservoir to any of the high level tanks or into the distribution system. Water for the east side high level tanks is delivered by a pipe carried under the harbour. Ships are supplied from mains on the quays or from special water barges filled from standpipes on the west side of the harbour. A distribution system was provided in 1929 for the new area on the south of the harbour and this is connected to the main distribution system by a six inch cast iron pipe which is carried across the Khor Mogg creek on a timber gantry.

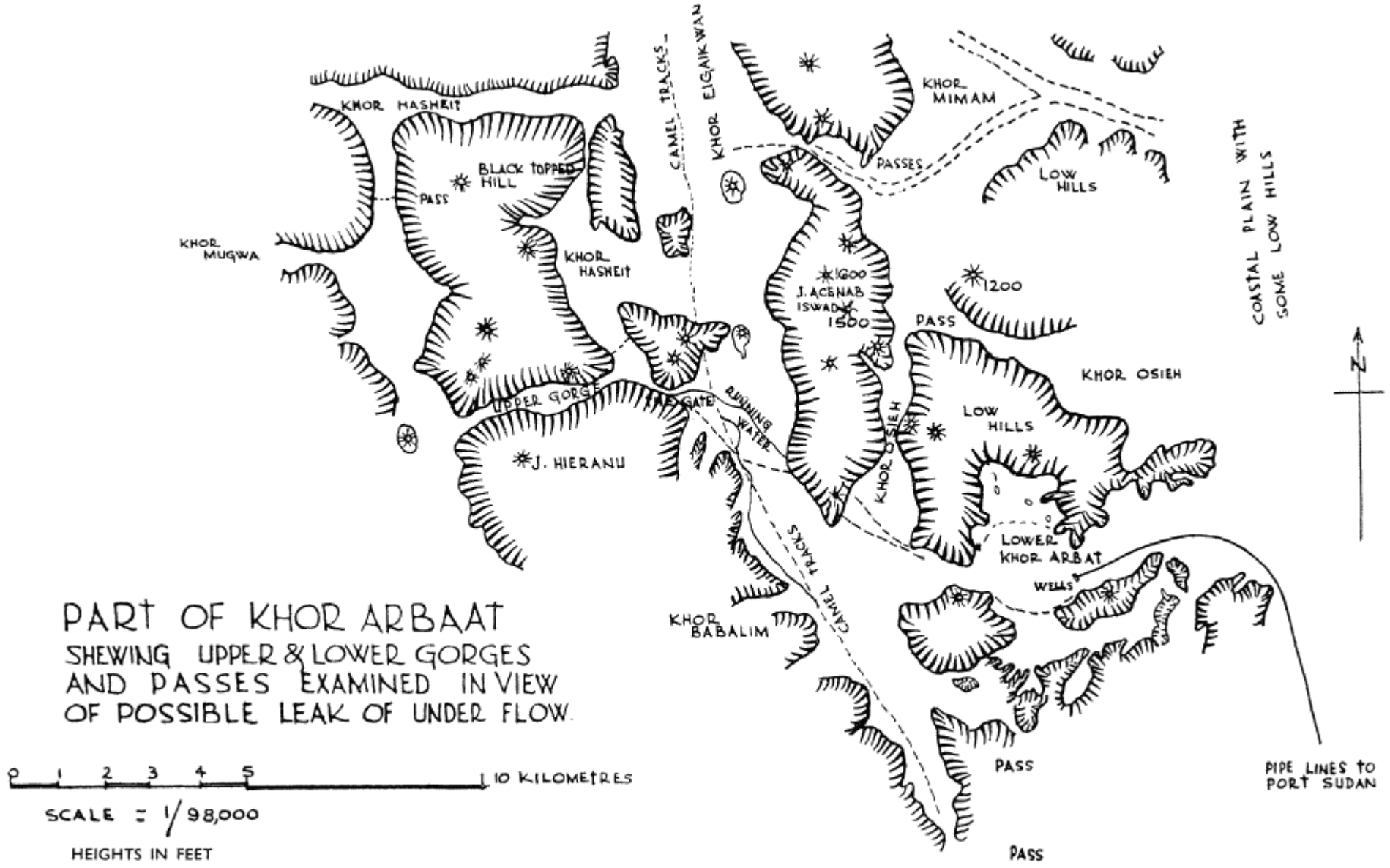
Whereas in 1925 the consumption of water was 850 tons a day, by 1930 it had reached nearly 1,500 tons. During this period, however, the useful consumption has increased by more than is indicated by these figures. The mains in their present condition are capable of delivering about 2,600 tons a day into Port Sudan, but the existing wells are not capable of producing this amount, and the whole question of the supply system as opposed to the delivery system may have to be considered in the near future. Under the present arrangements water may be flowing in the gravels past the wells, but at such a level that it cannot be utilised.

If the water table were as low now as it was in 1929, the present demand could not be met without pumping at the wells.

Little or no information exists as to the quantity of water available from the catchment area itself. The area is wild and inaccessible and it would be impossible to obtain accurate rainfall records without an elaborate system of gauges. Even if these were provided it would be difficult, owing to the mountainous nature of the country, so to locate them that they gave any information of value. The area is large and there can be no doubt that even in the driest years the rain falling within it would, if collectable, provide a full insurance. Unfortunately much of the water absorbed by the ground is subsequently evaporated ; anyone who has seen the khor in flood will realize that the majority of this rainfall runs straight off as storm water. Though there is much uncertainty as to its quantity, there is, undoubtedly a perennial flow, and if the minimum is sufficient for the Port Sudan supply, the problem of collecting it is comparatively simple.

In what is known as the " gate " at the east end of the upper gorge the valley-fill is very limited, and most of the water which flows here appears on the surface. There is some doubt as to whether all the water which reaches the well area passes this point, but there is no doubt that all the water which flows through the " gate " does eventually reach the wells. The measurement of this surface flow is simple and the readings so obtained are on the safe side of the minimum. If this surface flow is found to be sufficient, it will simply be a question of ensuring that all of it is made available, either by extending the pipe line to this point and installing a weir and sub-gravel collecting arrangements, or by some similar scheme at the existing wells. In this latter case, the cost of about ten kilometres of pipe would be economised but the valley is much wider and the weir would have to be longer.

If the minimum is not sufficient for daily requirements some storage arrangement must be provided to make the average flow available. This is a much larger problem and would entail engineering works of some magnitude. Open water in the valley is liable to vegetable growth and rapidly becomes foul. On account of this, and as the silt content of the flood water is very high, surface storage is unlikely to be satisfactory. The provision of a submerged weir on the down stream side of a flat part of the valley would give sub-soil storage in the gravels, or a large


KHOR HASHEIT
BLACK TOPPED HILL
PASS
KHOR MUGWA
KHOR HASHEIT
CAMEL TRACKS
KHOR EIGAIKWAN
KHOR MIMAM
PASSES
LOW HILLS
COASTAL PLAIN WITH SOME LOW HILLS
1600
J. ACBNAB
ISWAD
1500
1200
PASS
KHOR OSIEH
LOW HILLS
UPPER GORGE
LOWER GATE
RUNNING WATER
J. HIERANU
KHOR OSIEH
LOWER KHOR ARBAT
WELLS
CAMEL TRACKS
KHOR BABALIM
PASS
PIPE LINES TO PORT SUDAN
PASS
N
PART OF KHOR ARBAAT
SHEWING UPPER & LOWER GORGES
AND PASSES EXAMINED IN VIEW
OF POSSIBLE LEAK OF UNDER FLOW.
0 1 2 3 4 5 10 KILOMETRES
SCALE = 1/98,000
HEIGHTS IN FEET

covered-in reservoir might be constructed on the high ground behind Port Sudan.

The water from Khor Arbaat, though not comparable with the best European waters, is very good and far better than the majority of waters found in the Red Sea hills. The existence of such a supply must be accounted a very fortunate provision of nature and a great asset in the development of Port Sudan. It is easy to be wise after the event, but when regard is paid to the increase of consumption which has followed the installation of a suitable supply and the favourable development of Port Sudan, it can readily be seen that it would have been better both as regards the scheme itself, and the financial provision of the scheme had Captain Kennedy's modified proposals been adopted in the beginning. The hesitations, which no doubt were warranted by the circumstances of the time, have led to piecemeal construction and the duplication of the pipe line at increased cost. However, comfort may be taken from the fact that Port Sudan has at the moment an adequate supply of good water in spite of difficulties and natural disadvantages which must be almost without parallel.

NOTES ON THE BIRDS OF SOUTHERN DARFUR.

By J. F. Madden.

PART II.—PASSERINE BIRDS.

OF the seven hundred odd species of birds known to occur in the Sudan, some three hundred and twenty belong to the order Passeriformes. The order contains small and medium-sized birds, the largest being the Crows and Ravens; mostly seed or insect eating, and not highly specialized, as, for instance, the Ducks or the Hawks are. Practically all the common small birds like the Sparrows, Finches, Larks and Warblers are Passerine, and in actual numbers of individuals they exceed all the other orders put together. In general too, the birds of this order are not very brightly coloured (except for the Orioles and Sunbirds) but they include amongst them all the true song-birds. No non-Passerine species (at any rate in the Sudan) can boast of anything except a few monotonously-repeated call notes; the real songsters, such as the Thrushes and Warblers, are all Passerine. On the other hand, it is equally true that the order contains most of the species (such as the Spanish Sparrow and the Sudan Dioch—*Quelea æthiopica*) which are destructive to crops; and the native of this country puts more value on his grain than he does on bird-music. But generally speaking, the Passerines are friendly birds of pleasant habits and familiar appearance, which any nature lover would be sorry to miss.

The following list of Passerine birds found in Southern Darfur is certainly incomplete, but it contains notes on all the species observed by me between December, 1931, and March, 1933. The nomenclature, as before, is that of Bowen's " Catalogue " and all measurements given are in millimetres.

ORDER PASSERIFORMES.

Family ALAUDIDÆ. Larks.

Red-Tailed Bush Lark (*Pinarocorys erythropygia*). This is the only common Lark in Southern Darfur, where the country is in general too thickly wooded to provide suitable breeding localities. In my experience the Red-Tailed Bush Lark was confined to the open plains of the eastern

Bahr el Arab, where it was fairly numerous in April 1932. In the field it is a dark coloured upstanding bird such as is described by Mr. Willoughby Lowe (Ibis 1924, p. 696), but the birds I saw were not particularly wild and my bird collector shot two specimens at Safaha, one male and one female. It is a southern species and does not occur in Central Darfur, though Admiral Lynes records two from Zalingei.

The two Sparrow Larks, *Eremopterix leucotis melanocephala* and *E. nigriceps albifrons*, are common throughout Central and Southern Darfur.

Family MOTACILLIDÆ. Wagtails and Pipits.

Pipits, like Larks, are not common in Southern Darfur. I saw a pale coloured plain backed Pipit with pinkish legs at Sibdu on 12th February, 1932, possibly *A. Campestris;* and one specimen (a female) of the Tree Pipit (*Anthus t. trivialis*) was shot on the Bahr el Arab on 26th April, 1932, presumably on its way north.

The White Wagtail (*Motacilla a. alba*) is a widely distributed winter visitor as far south as the Bahr el Arab and seems to be quite at home even in completely waterless localities.

Yellow Wagtails (*Budytes flavus* subspp.) are fairly common winter visitors where there is water. There were many on the eastern Bahr el Arab during the second half of April, 1932.

Family PYCNONOTIDÆ. Bulbuls.

Yellow-Vented Bulbul (*Pycnonotus tricolor minor*). This is the common Bulbul of the southern part of Darfur, whereas the Central Darfur Bulbuls are all the White-Vented species (*P. barbatus arsinoë*). From about 11° southwards all the birds are *P. tricolor;* in Fasher all are *P. arsinoë.* Unfortunately my records for Nyala are scanty, but undoubtedly the ranges of the two species meet at about latitude 12°. *P. tricolor* is slightly the larger bird and gave me the impression of being rather silent compared to *P. arsinoë,* but they are hard to distinguish in the field.

Family TIMALIIDÆ. Babblers.

Kordofan Bush Babbler (*Turdoides plebeia plebeia*). A common bird throughout Southern Darfur up to about latitude 13°. North of this it is replaced by the Fulvous Chatterer (*Argya fulva acaciæ*). Both are noisy birds with harsh unpleasant voices, but *T. plebeia* is less gregarious

than *A.f. acaciæ* and is of a rather variable greyish brown colour with a paler head, whereas *A.f. acaciæ* is of a fairly uniform reddish brown.

One of my Buram specimens of *T. plebeia* was unusually small (wing 102 mm. as against the normal 110–112) and was darker in colour than most; but I do not think it was of the southern race *T. Plebeia cinerea*, since a bird from El Fifi, 70 miles further south, was typical of *T. plebeia* both in size and colour.

Family TURDIDÆ. Thrushes and Warblers.

Grey-Backed Glass-Eye (*Camaroptera b. brevicaudata*). In spite of its rather ridiculous English name this is a small friendly bird, browny grey on the back and greenish yellow on the wings. It is common all over Southern Darfur. Admiral Lynes gives good field notes on this species in Ibis 1925, p. 100.

Crombec (*Sylvietta brachyura micrura*). A very common little bird with a short tail and very nuthatch-like habits. It occurs throughout Southern and Central Darfur and breeds in spring. At that time its song, a short ascending and descending scale, reminiscent of a Willow-Warbler's, but shriller, is one of the commonest bird notes to be heard in El Fasher.

Green-Backed Eremomela (*Eremomela pusilla*). This is a small greenish leaf warbler with grey head and wings. It is fairly common and I collected specimens at Buram and at El Fifi on the Bahr el Arab. Wing measurements were 55–58 mm. I have not yet been able to determine the exact race to which these birds belong.

Whitethroat (*Sylvia c. communis*) and Lesser Whitethroat (*Sylvia c. curruca*). The latter species is very common as a winter visitor and its sharp ticking note is often heard. My only record of the Common Whitethroat is that of a female shot at Buram on March 16th, 1932.

Of the other small migrant warblers the commonest are the Chiff-Chaff (*Phylloscopus collybita*) and the Pallid Warbler (*Hippolais p. pallida*). Both are winter visitors, and the latter may frequently be heard singing. The small race of the Rufous Warbler (*Agrobates galactotes minor*) is a fairly common resident. The wings of two males shot at Buram in March, 1932, measured 79 and 74 mm. and one female shot in May measured 79 mm. The larger migrant race averages 88–90 mm. for males and 84–85 for females.

Tawny-Flanked Longtail (*Prinia m. mistacea*). This little grey-brown warbler is a common resident in the southern part of the province. It does not come up far into Central Darfur. Two males shot at Buram had wings measuring 51 and 52 mm.

Genus *Cisticola*. Grass Warblers.

I have records of four species only from Southern Darfur. The large striped Grass Warbler (*C. natalensis tonga*) is found on the Bahr el Arab, where a male was shot by the bird collector in March, 1932. The wing measured 70 mm. Another species common on the grassy plains on the eastern part of the river is the Rufous Grass Warbler (*C. galactotes marginata*), of which I collected a male and two females in April, 1932. Measurements were: ♂ wing 60, tail 65; ♀ wings 52, 54, tails 50, 55. The tail is strongly patterned; the feathers of the mantle, in my specimens, had browny black shaft streaks and light brown edgings. The head was a slightly rufous brown with faint darker streaks, and the underside white tinged with rufous.

The other two species are the tiny Sandy Grass Warbler (*C.t. troglodytes*) with a wing averaging only 45 mm.; a small reddish brown bird which appeared, as far as I could see, in March and remained for the summer only: and the rather larger Red Capped Grass Warbler (*C.r. ruficeps*). The latter, as its name indicates, has a rufous head contrasting with the back. In winter the plumage is streaked but the breeding dress is plain and is assumed in early summer.

Both these species are faily common and occur throughout Southern and Central Darfur.

The Desert Grass Warbler (*C.a. aridula*) does not, as far as I know, occur in Southern Darfur, but it was very numerous on the eastern plain in August, 1934, performing rapid aerial evolutions with a repeated sharp "zit-zit" note, and evidently breeding.

Darfur Anteater Chat (*Myrmecocichla æthiops sudanensis*). A dark brownish-black bird about the size of a thrush, with a loud piping song heard especially during the spring months, when the bird breeds. It is common in the drier parts of Southern Darfur and northward as far as El Fasher and beyond.

Robin Chats (*Cossypha semirufa heuglini* and *C.n. niveicapilla*). These two handsome species, black and chestnut in general colouring,

really belong to the savanna country south of Darfur but occur sometimes within the province. Heuglin's Robin Chat frequented the small copses on the plains of the eastern Bahr el Arab and one male (wing 107 mm.) was collected there in April, 1932. I never saw *C. niveicapilla* alive, but the bird collector shot one male at Nyala on June 20th, 1932 (wing 98 mm.). Admiral Lynes found *C. heuglini* only in damp bottomed jungle in a few of the gorges of Jebel Marra, where southern conditions are approximately reproduced.

Black Bush Robin (*Cercotrichas p. podobe*). This is the long tailed bird, like a miniature Blackbird in appearance and song, which is common throughout the arid regions of the Sudan. It occurs at least as far south as Buram.

Winter visitors from this family include the Redstart (*Phœnicurus ph. phœnicurus*), the Wheatear (*Oenanthe oe. œnanthe*) and the Black-Eared Chat (*Oenanthe hispanica melanoleuca*), all of which are common. One Nightingale (*Luscinia m. megarhyncha*) was collected at Safaha on the Bahr el Arab on April 10th, 1932, doubtless on passage northwards. The Rock Thrush (*Monticola saxatilis*) is also a rather scarce winter visitor : I saw two in Buram during November and December, 1932.

The Nile Red Breasted Chat (*Oenanthe bottæ heuglini*), which appears to be a migrant within the country, becomes common in June and July throughout Southern and Central Darfur. It is the darkest coloured of the Chats and is easily distinguished as it appears when the others have already migrated to the north.

Ethiopian Thrush (*Turdus libonyanus pelios*). A common resident in Southern Darfur from Kubbun in the west to Taweisha in the east. It has a real thrush-like song, which may be heard in wooded country to perfection during the early rains ; for at this time the birds sing as they do in spring at home, and the new green grass and the Thrush's song make it difficult to believe one is in the Sudan.

Family MUSCICAPIDÆ. Flycatchers.

Nile Valley Silver Bird (*Empidornis semipartitus orleansi*). This Robin-like Flycatcher, grey on the upper side and chestnut underneath, is very common in the less wooded districts of Southern Darfur ; I never saw it in real savanna country such as occurs on the western Bahr el Arab. This, curiously enough, is just the opposite of Admiral Lynes'

experience (see Ibis 1925, p. 123). On the other hand it does not seem to occur much north of latitude 11° and I have no records from Nyala (lat. 12°).

Puff Backed Flycatcher (*Batis minor chadensis*). A little short tailed black and white bird with a dark chestnut (occasionally black) crop band: widely distributed from El Fasher southwards. It has a distinctive bell-like note and in flight its wings make a whirring sound audible at some distance. The male bird has a tinge of rufous on the upper parts, especially on the wing coverts; the female has very little of this: otherwise the sexes are similar. The colour of the crop-band is not a distinguishing mark of sex.

Paradise Flycatcher (*Tchitrea v. viridis*). Fairly common in the southern savanna country, and also in patches of thick trees further north as far as Nyala. There are two distinct types of plumage, in one of which the back and tail are chestnut, and in the other they are white, with the wings black edged with white and no chestnut at all. I collected both types together at Ragaba Zerga on the eastern Bahr el Arab in April, 1932, and also found the chestnut type at Buram in May and at Tarora (south of Abu Gabra) in April, and the black and white one at Sahla on the Bahr el Arab the same month. All the birds had long tails and the head, throat and breast were a glossy blue black. Wing measurement averaged 84 mm. (all were males). Messrs. Sclater and Praed (Ibis 1918, p. 711), consider that the chestnut red tail is a sign of immaturity and that full adult plumage, with white or black and white tail, is not acquired till the third year.

Family HIRUNDINIDÆ. Swallows.

The ordinary European Swallow (*Hirundo rustica*) is a common passage migrant on its way to and from more southerly winter quarters. I saw one, however, north of Buram on January 25th, 1932, but it could only have been a straggler. Admiral Lynes (Ibis 1925, p. 127) also found that the species did not winter in Northern and Central Darfur. Whether it winters in the southern Sudan I do not know: two specimens in the Butler collection (see Sclater and Praed, Ibis 1918, p. 717) from Lado (Mongalla Province) are dated February. British breeding birds have, of course, quite frequently been found wintering as far south as Natal and the Cape.

Of the resident African species the Sudan Sand Martin (*Riparia paludicola minor*) occurs on the Bahr el Arab where there are suitable high sandy banks, and I also found the Wire Tailed Swallow (*Hirundo s. smithii*) at El Fifi in February, but not elsewhere.

The Ethiopian Swallow (*Hirundo æthiopica*) is a local migrant which appears at Nyala in March and reaches El Fasher in April. It nests all over Southern and Central Darfur, and leaves for the south again after the rains. The nest is like that of the common House Martin in England—a half cup of well-worked mud usually stuck against a vertical wall under the eaves of houses. The large resthouse at Um Keddada is a favourite spot for these birds throughout the summer.

The Senegal or Mosque Swallow (*Hirundo s. senegalensis*) is another local migrant arriving at Nyala as early as February. Thereafter until May it is common in small parties, but I never found out where they bred. I have no record from El Fasher, though Admiral Lynes describes the species as a common summer visitor to Northern and Central Darfur (Ibis 1925, p. 130). It is a large bird (wing 147 as against 125 of the Common Swallow) with a deeply forked tail and reddish underside. It has a curious " tin-trumpet " note, as Lynes aptly describes it.

Family DICRURIDÆ. Drongos.

Fork Tailed Drongo (*Dicrurus adsimilis divaricatus*). Very common throughout Southern Darfur. It is a glossy black bird about the size of a Thrush, with a slightly forked tail, fond of perching on high branches and swooping down after insects in Flycatcher fashion. It is also very pugnacious and will attack and drive off hawks and crows several times its own size. Its rather wheezy three-syllabled note is a common sound on trek in the early morning before dawn.

Family LANIIDÆ. Shrikes.

The Shrikes are a numerous family and at least ten species occur in Southern Darfur. Of the Bush Shrikes the commonest is the small black, white and chestnut Brubru Shrike (*Nilaus a. afer*) with its familiar " policeman's whistle " note—a bird more often heard than seen. Also very common is the reddish sandy black-headed Tchagra Bush Shrike (*Tchagra senegala remigialis*), which is equally common further north. It frequently indulges in a form of courting flight, rising vertically into the air from the top of a bush for twenty or thirty feet with rapid and audible

wing beats and gliding downwards to its original perch with a musical piping note. Another very common species is the Gonolek (*Laniarius erythrogaster*) with black upper parts and scarlet breast, conspicuous alike by its striking colours and by its sharp whistling note. This is made by the male and is often answered instantly by the female with a harsh buzz. One specimen shot by my collector at Geddad in November, 1931, had a light orange-yellow top to its head. Traces of similar colouring can be seen in several British Museum specimens, but I could not find any satisfactory explanation of this variation. The species is found well up into Central Darfur wherever there are well wooded khors. Admiral Lynes found it breeding in April at the source of the Wadi Gindi, 7,200 feet up Jebel Marra (Ibis 1925, p. 76).

Grey Headed Bush Shrike (*Malaconotus poliocephalus catheroxanthus*). A large yellowish green Shrike with a grey head, fairly common in wooded country from about latitude 13° southwards. It is numerous along the Wadi Nyala. It has two notes, one a long harsh trill, the other a kind of throbbing whistle, often heard from the lower branches of big trees, which is the usual haunt of this bird.

Sulphur Breasted Bush Shrike (*Chlorophoneus sulfureopectus similis*). A small yellow Shrike with a patch of orange on the underparts and a black line on each side of the head. Not common, and only found in real savanna country, except in the rains, when it occurs as far north as Nyala. My records are from Buram, El Fifi (Bahr el Arab), Kubbun (May) and Nyala (on June 20th, 1932).

Puff-Back Shrike (*Dryoscopus gambensis malzacii*). This is a medium sized dark brown bird with a blackish head, which derives its name from the soft and fluffy nature of the feathers of the lower back. It is fairly common at Buram and Sibdu and southwards to the Bahr el Arab: Admiral Lynes found it breeding near Jebel Marra in June (Ibis 1925, p. 76).

Of the true Shrikes the commonest in winter is the Masked Shrike (*Fiscus nubicus*), a Palæarctic migrant which occurs throughout Southern and Central Darfur. The Great Grey Shrike (*Lanius excubitor leucopygos*) is found only in the semi-arid districts of Southern Darfur (I obtained specimens at Nyala and at Kubbe, 20 miles north of Buram), but the Lesser Grey Shrike (*Lanius minor*) does not seem to occur. Admiral Lynes found it only on migration in the West Basin (Ibis 1925, p. 73).

The long-tailed, grey and black Fiscal Shrike (*Fiscus e. excubitorius*) is a savanna bird, quite common from about 11° southwards, and the Yellow Billed Shrike (*Corvinella corvina affinis*) also a long tailed species, with streaky brown plumage, is fairly common south of Nyala to the river.

Family PRIONOPIDÆ. Helmet Shrikes.

The only species in Southern Darfur is the Nile Helmet Shrike (*Prionops concinnata*). It is a fairly small black and white bird with a conspicuous crest and a yellow wattle round the eye. It usually travels in parties of five or six, and is common all over the bush country.

Family PARIDÆ. Tits.

The small grey-green Sennar Cappoc Tit (*Anthoscopus punctifrons*) is fairly common in Southern Darfur, and I once saw a specimen of the White Winged Black Tit (*Parus niger*) in tall bush near the Bahr el Arab. Admiral Lynes (Ibis 1924, p. 719) met with the latter species as a fairly common resident throughout Central Darfur south of about 13°, but I myself have no record from this area.

Family ORIOLIDÆ. Orioles.

I did not meet with the European Oriole in Southern Darfur, but the African Golden Oriole (*Oriolus a. auratus*) was a common summer visitor to Nyala in June and July, and on arrival at once betrayed its presence by its flute-like notes. Presumably it came to breed, though I have no definite evidence of this.

Family CORVIDÆ. Crows.

The only really common species of this family in Southern Darfur is the so-called "African Magpie" (*Ptilostomus afer*), which is found everywhere from Nyala southwards. It is often seen perched on the backs of animals, and is all black in colour, with a long tail. The bill is black in the adult and dirty yellow or pinkish in immature birds.

The Pied Crow (*Corvus albus*) which is so abundant in El Fasher, is fairly common as far south as the Bahr el Arab, and the Brown Necked Raven (*Corvus corax ruficollis*) is found only in the more arid parts of Southern Darfur north of Nyala. The Fan Tailed Raven (*Rhinocorax rhipidaurus*) is also confined to the arid jebels in the extreme north of the area.

Family STURNIDÆ. Starlings.

Three species of Glossy Starlings are very common, the Chestnut Bellied Spreo (*Spreo pulcher*), which makes untidy looking grass nests in every bush and breeds in the spring; the Green Glossy Starling (*Lamprocolius c. chalybæus*); and the Long Tailed Glossy Starling (*Lamprotornis caudatus*) with its black plumage glossed with green, long rather unwieldy tail feathers, and harsh creaking note.

The smaller species, *L. purpuropterus*, does not seem to occur in Darfur.

Family BUPHAGIDÆ. Oxpeckers.

The Yellow-Billed Oxpecker (*Buphagus a. africanus*) is common locally from about latitude 11° southwards. Its name is derived from its habit of clinging on to the backs of animals and eating any parasitic insects it may find there.[1]

Family ZOSTEROPIDÆ. White-Eyes.

The little greenish-yellow White-Eye (*Zosterops s. senegalensis*) occurs locally on the western Bahr el Arab. Several were collected at El Fifi (wing average, ♂ 58, ♀ 56) in February and March, 1932. I found it nowhere else. It differs from the White-Eye of the Red Sea hills (so common at Erkowit) in having a yellow breast, whereas the Red Sea Bird is white-breasted.

Family NECTARINIIDÆ. Sunbirds.

One southern species, the Violet Backed Sunbird (*Anthreptes longuemarei haussarum*) occurs on the Bahr el Arab, where my collector shot one male at El Fifi in February, 1932. The upper parts are metallic violet, but the wings and sides of the head are blackish brown and there are metallic green patches on the shoulders. Chin and throat are violet, breast white with yellow pectoral tufts. The wing of my specimen measured 78 mm. There are two common green and yellow Sunbirds: one the Yellow Breasted Sunbird (*Hedydipna platura*), with metallic bronze-green upper parts and throat and bright yellow underside; the other the Beautiful Sunbird (*Nectarinia pulchella*) with bronze-green abdomen and a red patch on the breast. The males of both have elongated

[1] In the Catalogue of Sudan Birds, Part II, p. 78, the note under this species should read " Resident—savanna—common," and that under the Red Billed Oxpecker should read " Resident—savanna IV—not common."

central tail feathers; the females lack these and are altogether less brightly coloured. The fourth species, which is also common from Nyala southwards, is the dark coloured Scarlet-Breasted Sunbird (*Chalcomitra senegalensis acik*), with a metallic black throat and vivid scarlet underparts.

I did not meet with any other Sunbird in Southern Darfur.

Family BUBALORNITHIDÆ. Buffalo Weavers.

The Buffalo Weaver (*Bubalornis a. albirostris*) is a stout brownish-black bird with a thick dark brown bill. These Weavers make massive nests of twigs and sticks, and many big tebeldi and heglig trees throughout Southern and Central Darfur are literally crowded with these untidy structures. Although called " white-billed," I never saw one at any time of year which really showed this feature in the field. They are very gregarious and noisy at their breeding time in the early rains.

Family PLOCEIDÆ. Weavers and Sparrows.

This is a large family divided into several sub-families such as the Weavers proper, the Waxbills and Fire Finches, the Sparrow-Weavers, etc. The general name is, of course, derived from the style of nest built by these birds, viz., a covered nest with the entrance at the side or the bottom, made of grass stalks or small twigs compactly woven together. In the case of the Sparrows they are little more than untidy " hay-ovens," as Admiral Lynes aptly describes them, but many of the Weavers build small beautifully woven cups suspended from trees or tall grasses.

The species on which I have notes are as follows :—

Speckle Fronted Weaver (*Sporopipes f. frontalis*). A small light brown bird with the front part of the top of its head grey, speckled with tiny black and white spots, giving a curious scaly effect. Very common —nests winter and early spring.

Chestnut Crowned Sparrow Weaver (*Plocepasser s. superciliosus*). A larger bird than the last; grey brown with chestnut head and conspicuous pale stripes over the eyes. Fairly common throughout.

Lesser Rock Sparrow (*Gymnoris d. dentata*). A small grey Sparrow with some yellow on the throat. Recorded from Sibdu and Buram.

Kordofan Rufous Sparrow (*Passer iagœnsis cordofanicus*) and Grey Sparrow (*Passer g. griseus*). These are the two common Sparrows of Southern Darfur. The first is a small bird (wing 70) with chestnut upper

parts and grey head ; the second is considerably larger (wing 80 or over), also with a grey head, but with the rest of the plumage a plainer grey-brown. Both are also very common in Central Darfur and breed in late summer and autumn.

Emin's Chestnut Sparrow (*Sorella e. eminibey*) is a common though unevenly distributed species, being numerous at Nyala, and also at El Fasher, but very local elsewhere. It is a small bird (wing average 62) : the plumage of the male is a rich dark chestnut and that of the female rufous brown with a greyish head. Admiral Lynes found it common and breeding at Zalingei and El Fasher (Ibis 1924, p. 686), but nowhere else in the central part of Darfur ; and previously it had only been recorded from damp equatorial climates in the southern Sudan and Uganda (cf. Sclater and Praed, Ibis 1918, p. 470).

Little Weaver (*Sitagra l. luteolus*). Common wherever there are suitable patches of trees. It is a smallish bird (wing 64) and the male in full plumage (assumed in the summer) has the face, throat, forehead and ear coverts black in strong contrast to the rest of the yellow plumage. In the off-season, like most Weavers, both male and female are dull " sparrowy " and are not easy to identify.

Vitelline Masked Weaver (*Sitagra v. vitellinus*). Similar in appearance to the previous species but larger (wing average 72) and with a thicker bill. It is fairly common at Nyala.

Sudan Dioch (*Quelea quelea æthiopica*). Another common species, sandy rufous with a thick red bill, which I found at Nyala, Buram and El Fifi (Bahr el Arab). In many places these birds collect together in huge numbers and are very destructive of the ripening crops.

Dura Bird (*Euplectes f. franciscana*). This is the only species of the " Bishop Birds " of which I have any record in Southern Darfur. Others may occur, but are practically indistinguishable in the off season, and, in Nyala at any rate, did not appear in any recognisable plumage up to the beginning of July.

Nile Fan Tailed Widow Bird (*Urobrachya axillaris phœnicea*). A southern species which I only found at one place on the eastern Bahr el Arab in April, 1932, not yet in breeding plumage.

Silver Bill (*Euodice c. cantans*). A very common little greyish-brown bird, with white underparts and a short black wedge-shaped tail. Breeds in winter and early spring.

Cut Throat Weaver (*Amadina f. fasciata*). Another common species so named from the conspicuous crimson line across the throat of the male bird : breeds autumn and winter.

Sudan Pytelia (*Pytelia melba citerior*). Common throughout : breeds in autumn. I found a nest with young at Abiad at the end of October, 1933.

Red-Billed Fire Finch (*Lagonosticta senegala brunneiceps*). Very common throughout Darfur : this is the small pink bird which everyone must have seen at one time or another on the verandah of his house. It breeds in the winter.

Two small Wax Bills, the Grey (*Estrilda troglodytes*) and the Red-Rumped (*Estrilda r. rhodopyga*) occur rather uncommonly in Southern Darfur ; the latter is common further north. The southern Zebra Waxbill (*Estrilda s. subflava*) is local on the Bahr el Arab ; it is essentially a savanna species.

The little blue Red-Cheeked Cordon Bleu (*Uræginthus b. bengalus*) is very common everywhere.

My records of Indigo Finches (genus *Hypochera*) from Southern Darfur are very scanty and are represented by one male in full plumage and one juvenile bird collected at El Fifi on the Bahr el Arab in February, 1932. I cannot even be sure of the species until the specimens are compared with other material.

The Indigo Finches found in El Fasher are *H. chalybeata neumanni* (Lynes, Ibis 1924, p. 669).

The last member of the family is the familiar Paradise Whydah (*Steganura aucupum*) with its broad black tail feathers, over half the total length of the bird, and its jerky dipping flight. Females and immature males lack the long tail and are much plainer in their dress. It is well distributed and fairly numerous in Southern Darfur.

Family FRINGILLIDÆ. Finches.

White Rumped Serin (*Poliospiza leucopygia riggenbachi*). A small grey bird, whiter on the rump, with a sweet canary-like song. Common at least as far south as Buram : breeds autumn (cf. Lynes, Ibis 1924, p. 685).

Yellow-Fronted Serin (*Serinus mozambicus aurifrons*). This is a more southerly species which I only identified for certain at El Fifi on the

Bahr el Arab. It seems to require trees and is not found in the dry bush country, whereas the White Rumped Serin is common everywhere. It has greenish grey-brown upper parts, and the underside, forehead and tips of the wing coverts are pale yellow.

Golden-Breasted Bunting (*Emberiza flaviventris flavigastra*). Fairly common throughout Southern and Central Darfur, breeding in summer. Back, cinnamon colour; breast, bright yellow.

Red-Winged Rock Bunting (*Fringillaria tahapisi goslingi*). A typical bunting with chestnut wings and black and white striped head, common at Nyala, but not further south, owing probably to the lack of suitable rocky country. At the end of June, 1934, I saw one or two pairs at Um Keddada, which from their actions appeared to be nesting close by; but I could find nothing, and the usual breeding time is winter. Possibly, however, they were House Buntings (*F. striolata*) and not Rock Buntings at all, as the two species are very alike in flight. Admiral Lynes found House Buntings common at Mellit (Ibis 1924, p. 681) but not further south.

ADDENDA.

Since writing the first part of these notes my observations in Central Darfur during the early rains of 1934 have shqwn that many southern species have a wider range in the rainy season than I had thought.

The following may be worth recording:—

Hammerhead (*S. umbretta bannermani*).—Four seen at Dirra (50 miles east of El Fasher) on July 5th, 1934, after heavy rain.

Vinaceous Dove (*S. vinacea barbaru*).—One heard at Um Keddada, June 30th, 1934, and one at Dirra, July 5th, 1934.

Black and White Cuckoo (*Clamator jacobinus*).—One seen at El Fasher, July, 1933. Several at Wadaa (Latitude 13°), June, 1934.

Didric Cuckoo (*Lampromorpha caprius*).—A common passage migrant at El Fasher during June. One seen at Dirra, June 29th, 1934.

Broad-Billed Roller (*Eurystomus a. afer*).—Numerous at Taweisha pump (Latitude, 12°, 15′) in the big tebeldi trees, June, 1934. One seen at Khuwei (70 miles W. of El Obeid) in August.

Senegal Kingfisher (*Halcyon senegalensis*).—One seen at Dirra (after heavy rain), June 29th, 1934, and again on July 5th, 1934.

Abyssinian Ground Hornbill (*B. abyssinicus*).—Occurs not infrequently on the Dirra-Abyad road in the rains and in early winter.

Standard-Winged Nightjar (*M. longipennis*).—Seen at Taweisha, June 7th, 1934. One seen at El Fasher on June 27th, 1934, by Captain R. S. Audas, M.C.

Yellow Fronted Tinker Bird (*P. chrysoconus schubotzi*).—Occurs as far north as Wadi Musku (some 70 miles north of Nyala) but this seems to be about the limit of its range in that longitude. Further west it occurs in most big wadis up to the mid-zone of Jebel Marra (Lynes, Ibis 1925, p. 350).

Two further breeding records are of interest :—

Abyssinian Roller (*Coracias s. abyssinicus*).—I saw a pair of these birds at Um Keddada in July, 1934, feeding young in a hole in the soft sandstone rocks. The rocks are honey-combed with such holes, worn out by wind or rain, and this one was not the work of the birds : but usually they nest in holes in trees.

Bateleur Eagle (*Terathopius ecaudatus*).—Mr. G. D. Lampen informs me that he was once given two young birds taken from a nest near Lake Kundi in October. He kept them for a month, and noted that the beak and legs were white, as opposed to the red of the mature bird. If both birds were from one nest the record is unusual, as the normal clutch of the Bateleur is one egg only.

APPENDIX.

Some Arabic names of birds in Southern Darfur :—

abu fīka	Giant kingfisher.
abu musa	Paradise whydah—finch.
abu ngurān	Cattle egret.
abu nkherita	Marabou.
abu rahaywa	Egret.
abu teleih (also ankab) ...	Bateleur eagle.
abu unduluk	Abyssinian ground hornbill.
abu unchelak	Turaco (?).
abu unfisai	The smallest bird (crombec ?).
abu untagag (tagg, to tap gum)	Woodpecker.
alwān	Secretary-bird.

baidaru	Rock bantam.
billesderki (Habbania) ...	Egyptian plover.
buja'	Pelican.
būli	Fish-eagle.
chelluk	African magpie (also used of Oxpecker).
dubdub el agaiz	Nightjar (?).
ebeidalla	Hammer-head.
feki beladawiya	Hoopœ.
gelwa	Stilt (used of most wading birds).
gharnuk	Crested crane.
babeshta	Pygmy goose.
hamra battāla	Coucal.
hud-hud	
ho-ho	Guinea-fowl.
half el kuweir	Francolin.
kairawān	Plover.
kāla	Egyptian goose.
khadāri	Heron.
kheit-kheit	Roller.
kilgoya	Sacred ibis.
kungi	
krēma	Honey-guide.
mangūr el haddadi	Red-beaked hornbill.
um chilēli	Whistling teal.
um ketchuk	Spurwing goose.
um korr	Comb goose.
um kutakak	Bird that pecks cattle and kills them (Oxpecker ?).
um sungadi	Stone curlew.
um chirru	Scarlet breasted shrike.
wad el mairam	Jabiru stork.

DESICCATION OR DESTRUCTION.

Notes on the increase of Desert Areas in the Nile Valley.

By A. E. Robinson.

THE purpose of this paper is to show that many areas which have been abandoned by sedentary populations and are now seasonal grazing grounds for roaming camel-owning nomads* have become desert in modern times. These increases in the desert areas are in many cases the results of human neglect or destruction and not entirely caused by changes of climate.

The recent dust-storm which originated in the "bad lands" and swept eastwards across the North American continent has directed the attention of scientists to the dangers of deforestation. The destruction of the American forest areas for agricultural, industrial or constructional purposes is of recent date. It is now proposed to re-afforest a large and wide belt of territory east of the Mississippi to protect the eastern states, and possibly obviate the great extremes of temperature and rainfall which have occurred in recent years.[1]

As far as I am aware no similar steps have been taken in Egypt to protect the advance of the desert, although the banks of the Suez Canal have been planted with trees to prevent the subsidence and drift of the sand. Some years ago it was considered that the Delta of Egypt was water-logged. In some measure this was due to the excessive use of water by the native cultivators who, after the construction of the Aswan dam, had more water at their disposal than previously. Even then it is doubtful if the total area actually inundated between Khartoum and the outlets of the Nile was as great as it was during the twelfth dynasty or possibly in the Ptolemaic period.

CLIMATIC CHANGES.

These have been dealt with at some length by Miss Caton Thompson and other archæologists lately, and the specialist is referred to them.[2]

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* See Note J (later).

[1] *Daily Telegraph* (London), August 8th and 13th, 1934.

[2] Reports on the Kharga Oasis and Fayoum, by Miss Caton Thompson.
Reports of the Egyptian Surveys Dept., and articles by J. Ball and Dr. Beadnell, etc.
Reports of the Prehistoric Survey Expeditions (Chicago Oriental Institute); Sandford and Arkell.

About 7000 B.C. (Late Upper Paleolithic period) the rainfall in the Sahara diminished to such an extent that it was deserted by the ancient fauna, who migrated with man to areas suitable for their support.[1] This process of desiccation caused the Kharga oasis to be abandoned by its inhabitants c.4500 B.C. as the wells fossilised; the art of cutting deep wells was unknown or impracticable to these neolithic peoples.[2] The rainfall was inadequate to support life and these people with their contemporaries in the Fayoum, where the lake level was 20 feet higher than at present, moved to the Nile where agricultural settlements were already established. The deforestation of Egypt probably began c.5000 B.C. when cultivation was evolved by man being forced to eat grasses and seeds, and he moved to alluvial sites suitable for their reproduction. The domestication of animals is considered to have been a previous stage in the evolution of man, from a nomadic hunter or cattle-owner(A) to a sedentary cultivator.[3] It is extremely difficult for those who have lived among primitive peoples to accept the anthropological view that animals were domesticated for religious purposes and not to conserve food supplies, as both the Bega and the Galla in the Sudan and Abyssinia were not grain eaters until recent times.[4]

Professor Gordon Childe considers that the deforestation of Lower Egypt was completed about the end of the second dynasty when the use of the polished stone celt was discontinued.[5] Possibly some of the now extinct animals, including species of buffalo, elephant and dromedary of which the bones have been found in Algeria, disappeared at that time, as the auroch survived in Europe until medieval times. The forests of Sinai were consumed for the smelting of copper ore, and it is probable that all trees except those bearing fruit had disappeared in the Nile valley between Thebes and Wadi Halfa before the Egyptian occupation of the Sudan in the twelfth dynasty.(B)

(A) NOTE:—The term "cattle-owning" in this paper does not include herders of camels and goats.

(B) NOTE:—Weigall (Report on the Antiquities of Nubia, p. 5) considers that the vessels constructed by Una (sixth dynasty) consumed 500-600 acacia trees. The Nile was treeless as far as Berber by the seventeenth dynasty.

[1] H. J. E. Peake, "The Beginnings of Agriculture" in "Early Man." R. Anth. I.

[2] Miss Caton Thompson, "The Prehistoric Geography of Kharga Oasis," Geog. Journ. LXXX, No. 5, Nov. 1932, pp. 369, etc.

[3] T. D. Peisker, "The Asiatic Background," Camb. Med. Hist., Vol. 1, Cap. XII.

[4] Jas. Bruce, "Travels, etc." 1805 edition. Vol. III, p. 237, *et seq.*, Vol. IV, p. 28 and Vol. V, XII.

[5] "The Most Ancient East," p. 98.

Mr. C. E. P. Brooks has published curves which show the variations in rainfall in Europe and Asia from the Ice Age, and from 250 B.C. in Africa until the present time.[1] There are considerable fluctuations shown by these curves and recent exploration and research in Central Asia and Eastern China would seem to confirm them.[2] It is however difficult to apply a scale of this character to a somewhat restricted area such as the Nile valley. The deforestation must have caused a very definite and distinct difference in the local climate, as the entire absence of any shade increases the temperature of the unwatered earth or pebbly surface and the exposed rocks. At one time it was considered that the blackened rocks were the result of water action during prehistoric floods, but it has been proved scientifically that the discolouration is the result of oxidisation caused by the high temperatures.(c)

Desert begets desert and, although aridity and high temperatures are not conducive to rainfall, there would seem to be insufficient evidence at present to assume that there has been a steady decrease in the rainfall in the Nile valley since 2000 B.C. when canalisation for the purposes of irrigation was introduced into Egypt. I do not consider that the great increase in the rainfall in Europe and Asia shown by Mr. Brooks' curves can be applied to areas in Africa south of Cairo.

THE EFFECTS OF DESICCATION.

Recent geological researches in South Africa have revealed similar climatic and pluvial periods to those traced in the north. At various times and places there have been in recent years serious droughts caused by lack of or irregular rainfall. At the present time research is in progress to connect these periods with the observations of sun-spots. These famine years are not peculiar to Africa, both in respect to the Nile and other rivers, but have been experienced in Arabia, Australia, India, and most countries where our grain foods or cattle are now produced. A special commission[3] which sat in South Africa on the question of droughts found that " there was no evidence for any progressive increase or decrease in the rainfall of the Union during the historic period. The desiccation

(c) Excess of ALKALI has been attributed to SUN-BAKING, OF SOIL.

[1] " From the Ice Age to the Iron Age " (Discovery, Dec., 1925, pp. 470–4).

[2] Camb. Hist. of India, Vol. I, Cap. II, page 38, etc.

[3] " Variations in African Lake Levels " (Discovery, March, 1925, p. 104) ; Wayland, " African Pluvial Periods and Prehistoric Man " (Man, XXIX, 118, 1929).

observable in many parts of the country was due not to diminished rainfall but to the failure of the land to absorb the rain as it fell, consequent on the destruction of the natural vegetation, the resulting erosion of the soil, and the hardening of the surface of the land by sun-baking and trampling of cattle." I may say that this has been most apparent on the Chilterns as the result of the recent drought in England, and in some places the rain has run off the ground as if it were baked clay or cement. If we can imagine this period of drought extended for four or five years through the absence of rain or flood-water it is not difficult to visualise the reasons for the increase in nomadism in such areas as the Isle of Merõé in the Sudan and similar sites in Arabia and Somaliland.[1] In the Nile valley where the rainfall is negligible, deforestation and the subsequent abandonment of any site on which the flora depended upon man for water caused land to revert to or become desert very rapidly. As a general rule the surface soil becomes disintegrated where the herbage is sparse or dead, and as the result of wind action the fertile surface is blown away as there is nothing to bind it. Unless the area is flooded it becomes scoured, and as the barren surface increases it not infrequently happens that the hard stratum becomes covered with loose drifting sand from another site. Hassanein Bey found that the level of Jalo was nearly 200 feet higher than when it was visited by Rohlfs 44 years previously. About 1533 B.C. the sphinx at Cairo, which is attributed to the early dynastic period, was so buried in the sand that extensive excavations had to be carried out by Totmes IV. It is only recently that the buried columns and other monuments of Zoser have been re-discovered by excavation. The excavations at Abu Simbel and Esneh revealed considerable areas of alluvial soil which had been covered by the blown sand from the western desert. Those who have travelled on the Nile steamers must have noticed the sand deposits on the western bank and the scoured appearance of the eastern bank.

In North Africa the hard clay beds of some of the ancient rivers which were hidden under shifting sands have been exposed recently by wind action, and disused ancient wells choked by sand revealed.[2] The

[1] Sir H. B. Kittermaster, "British Somaliland" (Journ. African Soc. Vol. XXVII, No. CVIII); also G. W. B. Huntingford, "The Azanian Civilisation of Kenya" (Antiquity, June, 1933), Capt. G. E. H. Wilson, "The Ancient Civilisation of the Rift Valley" (Man, Nov. 1932, pp. 250, etc.).

[2] Shafts of abandoned Coptic wells were revealed in recent excavations at Hermopolis, by Dr. Roeder (*Illustrated London News*, Jan. 3rd, 1931, p. 22).

drift process continues with the prevailing wind until the blown solid matter reaches some definite obstacle such as a mountain range, forest belt, or wide expanse of water such as the Nile. The bed of this river has risen three metres since the Christian era.[1] Although this desert advance has been noticed for over a century in Egypt it is only recently that the project of a canal in the western desert and the reclamation of some miles of territory has been put forward as a partial means of arresting the danger to Egypt of a catastrophe similar to that in America.

About thirty years ago Capt. Flower, then Director of the Cairo Zoological Gardens, wrote a paper in which he drew attention (supported by figures) to the great increases in the desert areas in Lower Egypt since the Roman occupation. He attributed this to the unrestricted immigration of camel-owning nomads with goats who displaced the agriculturists by destroying the pastorages where the sheep and cattle grazed. He stated that both the camel and goat do not graze but tear out the vegetation by the roots and thus loosen the fertile soil which is blown away from the land. Both animals are particularly destructive to all kinds of trees or shrubs, and the damage caused by these beasts to the natural flora has been noticed in North Africa[2] and in Western Australia[3] where prospectors have abandoned imported camels and allowed them to run wild. For these reasons I am inclined to believe that neither the Jews nor the sedentary pagan nor Christian cultivators adopted the camel.[4] It remained nomadic with its owner and more or less a social outcast until the Moslem occupation of Egypt.

ARTIFICIAL MEANS OF WATER SUPPLY.

Captain Gautier[5] has drawn attention to and illustrated the different types of wells found on the old Sahara routes. The wide mouthed type

[1] Capt. Lyons, "The Physiography of the River Nile and its Basin," pp. 315, etc.
[2] M'Lapie, "Revue de Geograph." Paris 111, 1909 (cited by Dr. Gsell in "Histoire Antique de L'Afrique du Nord."
[3] Sir John Kirwan, "The Empty Land."
[4] The ancient paved or rock cut roads (op. cit., Niebuhr) seem to have been designed for men or hooved beasts. Old irrigation systems were found by Philby at Kharj and Aflaj and a dam at Hirran (Yemen) *vide* his "Heart of Arabia." The walled area of Tayma was three miles in circumference (*vide* Doughty, Arabia Petra, p. 126, etc.). See also Benjamin of Tudela (C.1170 A.D.), page 113, etc.
[5] Sahara-Algerien, Paris 1908, Plate VII. Native attempts to stem desert encroachment are illustrated by Plate XLII, and similar to those at Ramleh and Aboukir in 1905. See also Bond, "S.N. & R.," Vol. II, No. 2, p. 81, and VIII, p. 97. Gsell (op. cit., Vol. IV, p. 139) considers travelling in Sahara before Christian era not so difficult as now as the sand has encroached and in consequence less water is available.

may be natural springs which at one time rose to the surface, but the small rock cut wells are attributed to the Libyans or Romans. The futile efforts of the early inhabitants of Kharga seem to prove that deep rock wells were not cut by a neolithic people. Mr. Philby[1] considers that the rock wells of Arabia were not cut by the Arabs, and those in the Yemen seen by Niebuhr[2] were ascribed by local tradition to Byzantine monks who travelled in the country prior to the Moslem era. The date when the first rock wells were cut in the Egyptian and Arabian deserts is unknown. The depth of the grooves made by the ropes depends so much on the quantity of water drawn from the well since it was cut that it is no criterion of its antiquity. From the fact that it is the custom to cover these wells in Arabia it seems probable that the views expressed to me by some prospectors regarding the continuous use of some of the wells at the deserted Sudan gold fields are correct. One of the early records of well sinking is that of Abraham.[3]

The great well in the Wadi Hammammat, where Rameses IV employed over 8,000 men, is 80 feet deep and has a staircase down to the water.[4] It is possible that it was sunk originally by Seankhka-Ra (eleventh dynasty) as there is an inscription there by him. The well in the Wadi Allaki cut by Seti I (c.1370) was 180 feet deep but it ran dry with disastrous results.[5] The great well in the citadel at Cairo is 290 feet[6] deep and is attributed to the Romans, who also cut underground cisterns at Alexandria to conserve the water supply. There are no traces of permanent re-occupation at Kharga until the sixth century B.C. when the Persians cut rock wells there and the site was developed.[7] There are wells and natural rock cisterns in most of the Red Sea hills and near the old gold mines at Um Rus, the Wadi Allaki, Deraheib, Number Six and other sites(CA), where evidence has been found that the

(CA) NOTE:—The stele of Usertsen III (1879 B.C.) found at Semna mentions that he slew the cattle, seized the women, destroyed the grain and carried off those who had property *from the wells* and burnt their houses.

[1] "The Empty Quarter," pp. 121, 141, etc. Mr. Philby seems to confirm the views of Musil in respect to the untenable nature of the Arabian deserts prior to the beginnings of civilisation except for nomads. He describes the periodical dry periods which have rendered grazing areas uninhabitable in recent years (pp. 142, 175, 361, etc.).

[2] Niebuhr, "Voyage en Arabie, etc." Amstdam edition, pp. 252, etc.

[3] Book of Genesis, Chap. XXI, v. 19 and 20.

[4] Budge, op. cit., Vol. I, p. 531, attributes the well to Menthuhetep tenth dynasty (2100–2000 B.C.).

[5] Budge, op. cit., Vol. II, pp. 333, etc.

[6] Budge, "Handbook for Egypt and Sudan," p. 461.

[7] Miss Caton Thompson (Geogr. Journ. cit., p. 373).

ore was crushed and washed by water on stone tables. The fact that these wells are not frequented now by cattle-owners does not seem to me definite evidence that the wells were not used by semi-sedentary cattle-owning Bega when the mines were worked after the Christian or Moslem eras; there were settlements at El Hejer and Dhyber. In 1891 the roots of date trees which had been destroyed by the action of salt were found at Mallaha (27° 32′ N., 33° 17′ E.) which may be the Ubi Fons Tatnus of Pliny.[1] There were numerous wells, forts and ruins of the old frontier posts of the Ptolemaic and Roman periods in the desert between the Nile and Gulf of Suez. Professor Breasted considered that the ancient Egyptians used the Wadi Hammammat route (of the Ant Rehennu) from Keneh to avoid the desert between Memphis and Sinai.[2] This assumes that there was no water supply at the time on the route taken later by the pilgrims from Cairo to Suez.

Dr. Crowfoot pointed out that there had been no essential change within the historical period in the water supply of the district known as the Isle of Merōé to account for nomadism.[3] The district between the Nile and the Red Sea is subject to violent and irregular rainstorms which vary in their localities. The earliest monuments show water channels and quite recently measures have had to be taken to prevent flood water from undermining the foundations. Pliny[4] stated that throughout the whole district between Merōé and the Red Sea the rain-water was carefully preserved at several places. This has been confirmed by the tanks found at Alem[5] and other sites, some of which Sir Wallis Budge considered could have been put into working order at very little cost if desired. Diodorus[6] has described the Megabarei (? Adiabari of Pliny) as fighting among themselves for the pastures(D). There is no reason why similar dams or *hafirs* could not be constructed in many of the valleys of the Red Sea hills. The flood water has not only cut the railway communications between Luxor and Aswan, Halfa-Berber and Atbara-Port Sudan or Suakim, but the slight embankments have held

(D) NOTE:—The power of the Bega was not finally broken until Aidab was destroyed in 1422 and the survivors massacred by the inhabitants of Suakim.

[1] Report of the Expedition to the Northern Atbai (Egypt. Govt.).
[2] "History of Egypt," p. 190. Cites Gardner and Peet (Sinaitic Inscriptions No. 25) *re* Middle Kingdom.
[3] "The Island of Merōé," Vol. 19. Archæological Survey of Egypt.
[4] "Natural History," VI., 35, Bohn's edition.
[5] F. Addison and Dows Dunham, "S.N. & R.," Vol. V, pp. 39–46.
[6] Diodorus III, 34. They inhabited city of Appolo opposite Merōé.

up wide stretches of shallow water which has enabled *dura* to be raised on sites where cultivation was " unknown within living memory " by the nomads. It is somewhat remarkable that a recently excavated site at Hugga near Sanaa (Arabia) of a stone built Sabæan town, which dates to the sixth century B.C.[1] has arrangements for the conservation of water similar to those found at Mussawarat and other sites in the Isle of Merõé. The date of the construction of the great dam at Mareb has not been fixed but it is considered to have lasted about a thousand years before its destruction in the sixth century A.D.(E)

As to whether the construction of these dams has a racial connection I cannot say but it is obvious from the petroglyphs at Sulb that the Ta-Resu (of Semitic type)(F) who Budge states were in the south were a new element in Asiatic emigration at that period (c.1400 B.C.).[2]

DESTRUCTION AND NEGLECT.

From the earliest times the fertility of the Nile valley and the certainty by which crops could be raised by the annual flood have attracted immigrants and invaders. On the pre-historic palettes two distinct classes of " enemies " can be observed, viz., those who wore the " karnata," and the circumcised who did not.(G) All of these people are described as " northmen " and it is assumed that they inhabited the Delta.[3] During the reign of Pepi (sixth dynasty) a great round-up of the inhabitants of the eastern deserts was made by Una, the governor of

(E) NOTE :—A detailed chronology of the principal events which have affected the Sudan will be found on pp. 55–64 of the African Journal, Vol. XXVII. The period comprised is from the first to the sixteenth centuries of our era. The regeneration of Egypt and the restoration of its prosperity and that of the Sudan date from the recognition of Muhamad Ali as the ruler of Egypt by the Sultan of Turkey.

Dr. Reisner has fixed the date of the destruction of Merõé by the Axumites at 350 A.D., since my chronology was compiled. As the result of a misprint 959 is given as the date of the Fatimite occupation of Egypt, instead of 969 A.D. the correct date.

(F) NOTE :—The term Semitic is used in an archæological sense and not as it should be, linguistically.

In consequence of the mobility of the Blemmyes the Romans raised several camel corps for use in the deserts. Details are given by Dr. Milne in " Egypt under Roman Rule." It is said that the place names of pasturages are SEMITIC and barren sites are Hamitic in the Atbai desert.

(G) NOTE :—As early as the first dynasty (Narmer or Menes), there are records of captures of 400,000 oxen and large numbers of small cattle with 120,000 prisoners.

Weigal (op. cit., Pl. LXV. 3) illustrates a petroglyph of an archaic plumed Nubian archer depicted at Toski.

[1] R. Tungel (*Illustrated London News*, Oct. 7th, 1933).

[2] " Egyptian-Sudan," Vol. I, pp. 609, etc. The temple is attributed to Amen-hetep III.

[3] Guide to First and Second Egyptian Rooms (B.M. 1904), p. 40, etc. Flammand and Maspero give the drawings with greater detail.

the district.[1] He raised a great force of levies from the tribes south of Aswan. Among these were the spearmen and archers of the Sethu and Arthet, with negroids from Tcham (Matcha or Mazoi), Wawat Amam, Kasu and the Themehu (Libyans). They marched into the country of the Aāmu-hera-Shu (Aāmu who lived on the sand) and slew many thousands. Dr. Reisner has described these people as Sinaitic Bedouin but it is clear that they were a sedentary race (living in fortified enclosures probably similar to the fortified oases of the Jews in northern Arabia prior to and after the Moslem era) who cultivated the vine, etc. The Egyptian force razed to the ground the fortifications (depicted in the record) cut down the vines and fruit trees (olive, date, etc.) and burnt everything consumable. It is therefore not surprising that no trace of any eastern oases have been found. The French reviewer points out in reference to a recent archæological survey of the district that " the scientists could not find what did not then exist." I particularly mention this incident as I believe this was one of several settlements which the Egyptians deliberately destroyed to secure a restricted frontier. I cannot imagine the Wadi Hammammat route to Sinai being one of choice. Later records state that the Aāmu-hera-shu attacked the Egyptian ship-building parties on the Red Sea and the expeditions to Punt were abandoned.

The first occupation of the Sudan lasted 400 years c.2000 B.C.–1600 B.C. and during that period agriculture developed on an unprecedented scale in both Egypt and the Sudan. The huge classes of officials, soldiers, priests and craftsmen necessitated a great production of food stuffs from the land. Canalisation is considered to date from that period, and the depressions (natural basins) were flooded and cultivated. Remains of stone walls which it is believed were intended to stem the current and spread the water over a greater area have been found in the bed of the Nile and ascribed to that period. A considerable portion of the Fayoum which had relapsed to desert was reclaimed. The inscriptions at Semneh show that the flood level there at that time averaged 24 feet higher than at present. Sir William Willcocks[2] thought that a dam had been constructed there to counterbalance the release of the water occasioned by the construction of the Aswan ship canal. He assumed that this

[1] Budge, op. cit., Vol. I, p. 517.
[2] " Egyptian Irrigation," and verbal information.

dam was destroyed by an unrecorded earthquake which had overthrown many of the monuments in Nubia and Upper Egypt. The theory of erosion put forward in the last century is now untenable for reasons previously stated. For about a century there was a period of retrogression, and when the Sudan was invaded by Amasis I, c.1580 B.C., the country was exploited as a means of producing funds to meet expenditure in Egypt or to finance her foreign expeditions. The mass of the population was reduced to serfdom and the gold mines were exploited and worked by criminals, prisoners of war, and slaves levied from the various feudal chiefs. The contemporary records show how the tribute assessed by the rulers was collected by means of " razzias " or other forcible means in Egypt and the Sudan.[1] Negroes have been used in the Egyptian armies from an early date.

It is unnecessary to trace the fortunes of the Sudan-Libyan dynasties during their adventures in Egypt and Syria*(H), but it is clear that both the Sudan and Egypt must have been drained to provide the various armies with men. This would necessitate the withdrawal of large numbers of men and women from agriculture. Sir Wallis Budge, who was the first archæologist to visit the Sudan after the British re-occupation, noticed that the desert areas had encroached on land formerly cultivated in Dongola. He attributed the removal of the Kushite capital from Napata to Merōé to the inability of the depleted population to maintain themselves by agriculture.

Since then archæological excavations[2] have revealed that a complete break in the sedentary occupation of Nubia took place from the first millenium B.C. until the Ptolemaic period, when the district as far south as Maharraka was assigned as revenue for the temples at Philæ, etc. It is assumed that the population became nomadic. The date of the stele of Nastasen is controversial as Dr. Reisner's arrangement of the Meroitic kings' chronology is not accepted by all the British authorities, who consider that he attacked Cambysses. For our present purposes the date of his reign is immaterial as it is clear from the record left by him

* (H) NOTE :—Weigall (op. cit., p. 12) says that the local princes of Maam were recognised until Greco-Roman times. In the eighteenth dynasty Maam extended from Deer to Ermenneh and the cartouches of several unidentified (? independent kings) are given. The frontiers of Maam and Wawat do not appear to have been constant through the ages.

[1] *Vide* plates in Lepsius Denkmaler; of which Abth. III, Bl. 117, depicts plumed negroids and non-negroids (? Themehu or Shasu) who are tailed or tied and a native bullock chariot. From the models at Cairo the prisoners may be conscripts for the army.

[2] Annals of Archæology and Anthropology (Liverpool), Vol. X, p. 119.

that the policy of " dog eating dog " had begun, with disastrous results eventually, in the Sudan.

Until further evidence is produced the re-introduction of the camel(J) into Africa can be safely fixed at the third century B.C., and from that date infiltration by camel-owning nomads can be said to have started. These people were probably the Blemmyes.[1] During the Jewish revolt the Nile valley was depopulated as far as Aswan and the great colony at Aswan seems to have disappeared.[2] Pliny has described the state of Egypt under the Ptolemies and this has been confirmed by numerous papyri. It is clear that Egypt never attained such prosperity or wealth again until recent times. After the Moslem era agriculture was restricted to very limited areas in Egypt and the Sudan. The system of levying taxes or tribal tribute by razzias was carried on until modern times; Makrizi[3] described one in 1301 when 16,000 men were slaughtered, all the cultivation destroyed and 24,000 cattle, 4,000 horses, 32,000 camels, etc., looted by a round-up of the sedentary and nomad Arabs north of Aswan(K). The temporary revivals of agriculture by Muhamad Ali

(J) NOTE:—In this connection it is clear, from fossil evidence, that the Pleistocene camel and dromedary were not desert beasts. Desert animals would appear to have adapted themselves to the local conditions in much the same way that the nomadic camel-owners have done.

(K) NOTE:—One of the most striking features of the growth of the camel herds in Egypt and the Sudan has been the dearth of suitable animals to work the *sagias* (Persian water wheels). The *gamūs* (water-buffalo) was introduced by the Zott via Syria in the ninth century. The periodic ravages of cattle plague in Egypt are attributed to the import of animals from Syria, Southern Europe, Tripoli, etc., which were introduced to work the *sagias* at various periods. I do not think that outbreaks of cattle plague prior to the nineteenth century can be reasonably attributed to animals from the Sudan. For some centuries past Egypt has had to depend on imports of sheep and oxen for fresh meat and at various periods has had to commandeer and import hides to meet local shortages.

The African straight-horned sheep seems to have disappeared from Egypt about the twelfth dynasty. Mr. Newbold has drawn attention to the difference in the position of the tails of sheep and goats in certain rock drawings. It is noticeable that French archæologists do not include the goat among the animals depicted in the pre-Arab rock drawings of North Africa. These Sudan sheep had hair (not wool) and have been traced from Abyssinia to the Atlantic (Gsell; op. cit., pp. 22, etc.). There is a rock drawing at Ksar-el Ahmar of one of these animals with a man. The steppe area was much further north in the dynastic period and in the Christian era than it is now. It would seem reasonable to assume that the " *gizzu* " pasturages extended as far north as Aswan but that they have been either buried under or scoured by the sand since the Mentiu occupied the district.

Professor Garstang states that fixed Bedouin camps require an acre for each twelve tents. A clan of 5,000 souls occupy a frontage of seven miles whilst trekking forward seven miles daily. When they camp at night it requires about half a mile square to accommodate each 1,000 persons and beasts.

[1] I do not think that the Blemmyes were the Bega originally as the Blemmyes appear to have been camel-men and the Bega cattle men then, and for some time later.

[2] J. G. Milne " Egyptian Nationalism under Greek and Roman Rule " (Journ. Egypt. Arch. Vol. XIV, p. 231). The Jews were great cultivators and Ptolemy garrisoned his frontiers with them. The colony at Elephantine however existed before the Persian epoch in Egypt.

[3] " Hist. des Sultans Mamlouks," Quatremere's edition, Paris 1842, Vol. 2, Part 3, Book 2, pp. 181, *et seq.*

Pasha[1] and his successor Ismail Pasha are matters of history, but much of the richest land in the Delta had been lost by encroachment of the sea and desert. Some of this has been reclaimed since and large estates such as Kom Ombo now occupy sites which were formerly desert. It may interest readers to know that the Kom Ombo irrigation canal consists of a continuous rectangular open tank of sheet iron which was sent out from England. The reason for this was that the quantity of water available would merely have disappeared in the canal which had been excavated without irrigating the estate in its then limited area.

I have not cited any of the figures regarding the quantity of rain necessary for the barley crops, etc., on the Egyptian coast, nor figures of the rainfall considered necessary for the growth of cereals and maintenance of cattle in Algeria, as I do not think them applicable.

[1] At that time the Arabs were practically independent and continually raided the cultivators. Military expeditions had to be undertaken before it was safe for the cultivators to work on the west banks.

NOTES.

A KADUGLI COBRA TRAP.

By N. L. Corkill.

(PLATES VII & VIII.)

SULEIMAN SALEH, an employee of Kadugli Merkaz is a Kanjari ; he spent his earlier days in the neighbourhood of El Fasher. Latterly he has lived in the civil quarter of Kadugli Town, in a compound surrounded by a thick-set grass fence, the typical accommodation of that quarter, which is situated on broken ground, covered with trees, grasses and rocks, at the foot of a small rocky hill.

On January 2nd, 1934, knowing that specimens of snakes were in demand, he arrived at the local hospital with an Egyptian Cobra, *Naja haje* (LINN.) which had been caught in a trap overnight in his compound and then killed.

The snake was 51 inches long. The general colour of the back was a rose purple, the belly was rather paler and flatter in colour tone, the head and neck were practically black, and the individual small scales of the back were edged with black. Suleiman Saleh said it was an *abu darraga* but that it was also known in the Kadugli area by the name of *abu kurukuru*.

Of its nature he had much to say. A person bitten bleeds from the mouth, nose and " roots of the hairs " including those of the scalp ; further, if not treated at once he will die very quickly. It is a more dangerous kind of snake than the *um shedigat*, which is smaller and therefore has less poison. It lives in the grass of the open country. When moving about it carries its head raised. People, seeing it, run away because it may spring at them. When it wishes to " fight " it darts its tongue in and out and inflates its throat, which becomes filled with poison. It spits at people and blinds them. It often visits houses because of the chicks and fowls' eggs to be found there since these constitute its favourite food.

During the last four months he had often found in the early morning several chicks missing, several eggs missing and semi-incubated eggs

lying about broken. On three occasions he had found, lying dead, full-grown fowls which had been apparently in normal health the night before. After such happenings he had always discovered the track of a snake which had entered and left by a hole at ground-level in the thick-set grass fence of his compound. This track led away into the long grass. The last time this happened he determined to set a bow-trap with the noose around the hole in the fence. It was successful the first night. The cobra pushed its head through the noose, disturbed the release and was neatly caught. He was asked to go back and bring the trap.

In Diagrams I and II the trap is shown unset and set, respectively. In Plate VIII, *figs.* 1, 2 and 3, show the trap photographed with its owner, set and successfully sprung. The two latter photographs were specially staged to show the mode of fixing the trap in front of a hole through which the quarry might be expected to emerge. The cobra shown in *fig.* 3 is the one referred to above.

Suleiman Saleh spoke of his trap as a *fernak* which he said was the name used in Darfur, where he learned to make it and to use it for the catching of rats for eating. He still uses the device regularly for this purpose. He said the Kadugli Nubas call the trap *sherak* (Arabic=trap), and it is in everyday use amongst them for the trapping of snakes, rats and cats, all of which may be eaten. For the last-named animal they use a larger and stronger trap of the same type. He stated also that the Baggara Arabs use the trap, which they call *nubala*.

The wooden bow is made from freshly cut *ganna*, the common bamboo, *Oxytenanthera Abyssinica*, Munro, or 'arrad,' *Albizzia Amara*, Boivin: if not fresh it will be brittle instead of resilient and therefore will be liable to break when strung. The string is either commercial string bought in the local market or is made from *liha* obtained from indigenous plants, or *za'af*, the leaf fibre of the *dom* palm *Hyphæne thebaica*, Mart.

COMMENTARY.

The snake secured was about three-quarters the size to which the species may attain. The largest one on record is seven feet five inches long (Atet, Bahr-el-Ghazal, Dr. J. Bryant, May 11th, 1932). In colour the Egyptian Cobra shows great variety. It may be light grey, brown, yellow or yellow barred with russet, copper-red, rose-red, rose-purple, purplish, reddish black or jet black. The head and neck may be quite

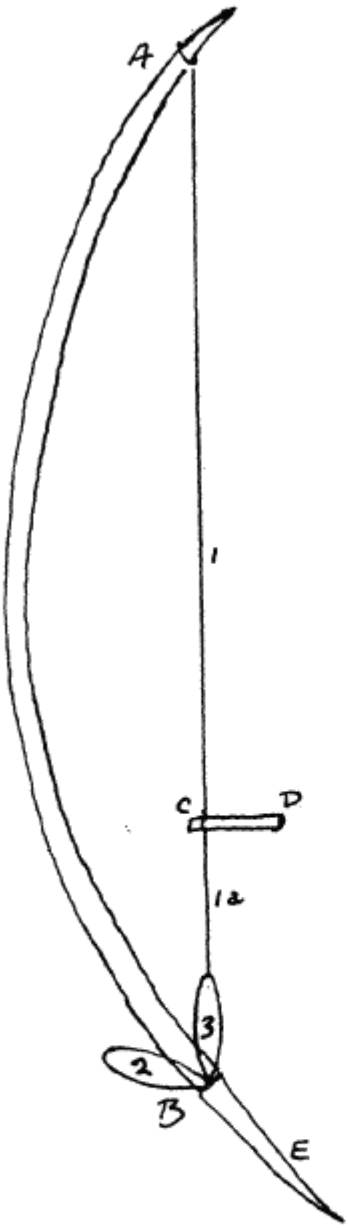


DIAGRAM 1 : UNSET.

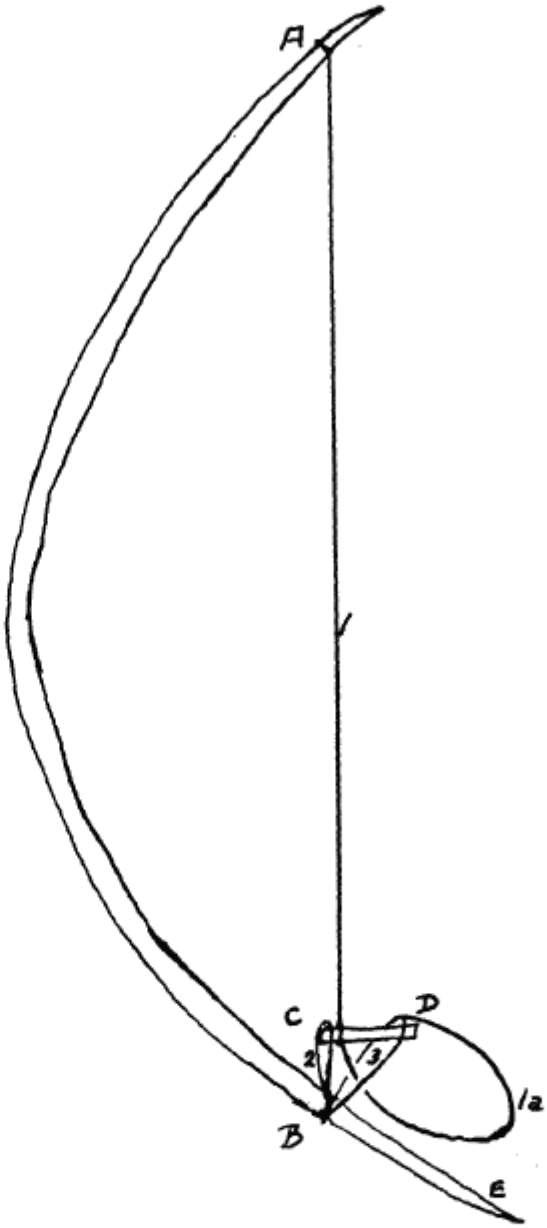


DIAGRAM 2 : SET.

A. KADUGLI COBRA TRAP. A B—Bow. C D—Release Mechanism : a slip of wood. E—Staked end to Bow to enable it to be implanted in ground. 1—Main String. 1a—Its continuation. 2—Loop for Holding C. 3—Loop for Holding D.

black in the paler colour forms, in specimens of all degrees of maturity, and the throat may be banded with white, yellow, brown or black. Certain colour forms suggest the Black-necked Spitting Cobra, *Naja nigricollis* REINH. As a rule (not invariably) it is the larger specimens which are blacker in general effect. These large black forms are very common in the Kadugli area and are encountered frequently on the roads and hills as well as in the market and residential areas of the town.

Abu darraga, i.e., " shield-ness " is the name most commonly used of it throughout the Arab Sudan. The name is inspired by the appearance of the excited snake, which swaying its expanded hood, suggests the hide shield of a feinting and parrying combatant. In the Kadugli area, however, the name *abu kurukuru* is more commonly used. This is sometimes stated by natives to be a mimetic name and structurally this seems likely. On the other hand there is no reference in the literature to any noise resembling *kuru kuru* emanating from a cobra. A more likely derivation is from *karkur* meaning cave. The species is said by the Arabicised Nubas who use this name to be particularly fond of frequenting caves in rocky hills.

Hæmorrhages are not characteristic of cobra-poisoning whereas they are typical of viperine-poisoning. Suleiman Saleh probably was confusing the attributes of cobras and vipers ; such confusion is common in folk-lore. The commonest vipers of the area are *Echis carinatus* (SCHN.), the Carpet or Saw-scaled Viper, known locally as *um shedigat* (" cheek-ness " ; vipers have pronounced " cheeks " due to the housing of the poison glands) and *Causus resimus* (PTRS.), the Green Night-Adder, known locally as *um shedigat at-tin* ("cheek-ness of the mud"). The hæmorrhagic symptoms mentioned are inspired by signs of poisoning resulting from bites by the Carpet Viper. As regards lethality Suleiman is probably correct. No cases of death are on record from bites by the Egyptian Cobra but, having regard to the nature of the poisoning caused by its congener *Naja naja naja* (LINN.) of India, it is to be expected that a person bitten fatally by an Egyptian Cobra would die in a few hours. It seems, however, that the Egyptian Cobra does not often bite humans, or if it does they die before they can be removed to hospital. Certainly no authentic records are to be found of such fatalities, although the species is common and widely distributed. The venom of the Carpet Viper in India is about three times as toxic, weight for weight, as is that

of the Indian Cobra; therefore Suleiman may be considered right (but only in a qualified sense) when he says that the Carpet Viper is less deadly than the Egyptian Cobra, because it is smaller (average size in the Sudan about 18 inches) and therefore has less poison; actually in optimum circumstances the Cobra may be considered capable of inoculating five lethal doses at a bite while the smaller but more poisonous Carpet Viper may inoculate two.

The Black-necked Spitting Cobra, *Naja nigricollis* REIHN., which occurs in Egypt and the Sudan, is the "spitting cobra" *par excellence* but spitting has been recorded also in the Indian Cobra and seems to be a generic characteristic. In the Sudan the Egyptian Cobra definitely appears to prefer spitting to biting as a form of aggression or defence. The writer has been told that it spits in the eyes of sitting hens to drive them off blinded, thus leaving their broods uncovered. They are certainly egg-eaters for the writer took several fowl's eggs from the belly of a snake of this species which was associated with a case of blinding, by spitting, a native of the Sennar area in 1931. Other than eggs and chicks, a favourite food of the species is the frog.



FIG. 1.
SULEIMAN SALEH WITH HIS FERNAK TRAP, SET.



FIG. 2.
THE TRAP SET WITH THE NOOSE ENCIRCLING THE EXIT FROM A HOLE IN THE ROCKS. STAGED.



FIG. 3.
THE TRAP SUCCESSFULLY RELEASED AND NOOSING THE COBRA, A SPECIMEN 51 INCHES LONG. STAGED.

THE SUDAN CAMEL STAMP.

By Colonel E. A. Stanton, C.M.G.

(Reprinted from the *Royal Engineers Journal.*)

NOW for over 35 years in use, the Sudan Camel Stamp came into being under somewhat unique circumstances which may have interest for others besides stamp collectors.

It is not often that a British officer on active service finds himself called upon to design a stamp for use in the country he is engaged upon conquering, more especially as a painting outfit forms no part of an active service kit. Possibly the reason for the honour of having been selected to make a design was due to the fact that, shortly before, I had furnished Headquarters with various desert road reports which I had embellished with pen and ink sketches in the margins to relieve the otherwise drab appearance of miles of rock and sand. These reports evidently met with approval, judging by the official letter of appreciation that I received for my efforts. However little these sketches added to the military value of the maps they, at any rate, proved I had actually reached the wells and points depicted, and had not based my reports on Arab hearsay.

Towards the end of 1896, the Sirdar of the Egyptian Army, Sir Herbert Kitchener, having reconquered the large province of Dongola from the Dervishes, was anxious to have a postage stamp different from the Egyptian ones in use, and instructed his staff to communicate with a British artist, then travelling on the Nile, with a view to submitting a design. In due course the artist submitted a really beautiful design of the great rock temple of Abu-Simbel, the value of each stamp to appear on the doorway, adding that his terms for the same if accepted were 25 guineas.

Whether it was the 25 guineas, or the fact that this temple was on the fringe of the Sudan boundary, then not demarcated, that did not meet with approval, the design was rejected, and I received orders through Sir Herbert's A.D.C., a personal friend, to send one in instead.

I replied that I would do my best, but could not hope to produce anything as artistic or good as the artist's drawing, and would the Sirdar say what kind of design he required.

The reply stated that the Chief was shortly coming to Korti, where I was stationed with part of Macdonald's Sudanese Brigade, and that on his arrival I was to see him and ascertain his wishes.

" K," as we called him, arrived in due course. The interview was brief. " I want you," he said, " to go on drawing designs till you produce something I like, but remember there is to be no caricature of myself or anybody else on it. Good morning." As I saluted and was leaving he said he was returning in five days' time, when something was to be ready for his inspection.

Three days had gone by and I had not thought of a suitable subject, and my brother officers began tormenting me on my fate if I failed to produce something satisfactory before " K's " return. I really got very worried about the design. Suddenly the mail, several days late, appeared, but not by the usual sternwheel steamer but on a camel, and I was saved !

Being at that time in charge of the local friendly Arabs in addition to my regimental duties, I at once got hold of the Sheikh of the Howawir tribe, made him put on his war kit, and with four sacks filled with chopped straw to represent the mailbags, trot his camel to and fro before me while I sketched him.

On a piece of office foolscap with my one and only rather large paintbrush I produced a drawing of the camel, and further to brighten up its rather dull appearance in sepia, I drew a set of stamps in colours underneath, but my brush being too large for fine work I had to make these some three or four times larger than the average stamp. I also added with a fine pen to the bags the words " Khartoum " and " Berber," the two largest towns at the time in the Sudan, still hundreds of miles away from us and not then conquered, and trusted to luck that this piece of justifiable bluff would not be discovered. Somewhat in fear I approached the great man on his return and submitted my drawing. He looked at it critically for a few moments and remarked, " That's not so bad ; that I think will do—Good morning."

Feeling a great relief and load off my mind, I returned to my duties and thought no more about the matter.

In March the following year at Berber, which had been reoccupied, the new stamps suddenly appeared, and to my surprise I found the engravers had not only discovered my piece of bluff, which was faithfully

reproduced, but had also actually reproduced the stamps on the large size I had painted my examples for want of a smaller brush, though I fancy the combinations of colours had been slightly changed to fall in with the Postal Union usages.

Feeling distinctly elevated that my design had really been accepted and the stamps produced, I wrote to my friend the A.D.C.[1] and told him that, although my terms were not 25 guineas, I should very much appreciate a set signed by Sir Herbert Kitchener to the effect that I had designed them. The reply when it came made me burst with laughter; whether my friend "Jimmy" was pulling my leg or not history has never revealed, for it stated: "'K' says certainly, old boy—provided you pay for the stamps"!!

However, very shortly afterwards I duly received a complete set signed by Sir Herbert Kitchener that they were designed by myself, and so far as I am aware their value, some 4s. 6d., was never deducted from my pay. I still have them.

[1] Colonel Jimmy Watson Pasha, C.M.G., D.S.O., etc., at that time Bimbashi Watson of the 60th, attached to the Egyptian Army.

HORSE-BREEDING AMONG THE SHANKHAB.

By A. Paul.

THE Shankhab, and more especially the Nas el Hag sub-section, are almost the only people among the Baggara of the White Nile Province who take more than a casual interest in the breeding of horses, though their knowledge is little enough when compared with some of the Darfur tribes. (I have been helped in the compilation of these notes by some of the Beni Helba on the Aba Island, but where they differ radically from the Shankhab, I have adopted local usage.)

The *siyasa* or points of the horse, as understood by the Arab, are those of colour and markings, and shape, paces and general set have little to do with it.

They do, however, recognize "character," in however slight a degree :—

Fi jawed hil el Sheitan,
Wa jawad lil Rahman,
Wa jawad hil el Insan,

a summing up which speaks for itself.

A bright reddish bay is the favourite colour, the redder the better, though a black has many admirers, and to ride a black used to be the prerogative of a chief, a custom which is said to have come down from the Fung kings. There is also a superstition, which applies also to cattle, that a black is unlucky to buy but fortunate to own. Preferences for a colour are put in a nutshell by the following little rhyme :—

Bakhit Akhdarhin,
Semeh Ahmarhin,
Sultan Azraghin,
Gerrai Ashgarhin.

They know little of such colours as Ablag, etc., but a roan (biddi) with a red tinge is known and approximates to Akhdar.

Much more important than colour are the various combinations of markings, and these are fairly well known by a series of doggerel couplets, which keep the buyer straight, rather like the rhyming rules of Latin Syntax. A really horsey man, however, who knows what he is about, will not consider buying before he has examined the position of the lean of the coat at the point of the thigh, where it generally finishes in a small

whorl or crown. It is essential that this should be distinct and not too high up in the flank, as otherwise the animal would be uncomfortable to ride. There should be other distinct " crowns " on the forehead, on each side of the belly, in the armpits, on the front of the breast, and behind the ears above the halter strap. In a perfect horse all are clearly and distinctly marked, but the really important ones are those on the point of the hip and behind the ears. After that it is easy and one has only to remember the rhymes.

(1) *Haǧlana* or *Sila' :* used only of a mare with a stocking on the left hind and a star :—

Hiǧla warra isara,
Ghurra dinnara,
Tishbah aulad el um,
Kan saba' fuggara.

A much coveted beast, for, like seven little Fikis born of one mother, it is a sure sign of luck, and this is easily the best known of the rhymes.

(2) *Matlug Yamin :* the odd stocking on the left fore is said to indicate a big hearted and courageous beast :—

Matlug yamin,
Markub el salatin,
Ma ǧu fogo muta' anin,
Kan tawyan yesbug el Samin,
Kan samin yesbug el Kamin.

(3) *Mukhammas* or *Sultan :* four stockings and a blaze show good temper and amenability, an indication too well known to need a rhyme, and a *Mukhammas* is always considered a good investment.

(4) *Kurdum :* unmarked. Called " *el beit el musattar* " or " the closed house " as there are no markings to give any indication of character.

(5) *Matlug isar :* the odd stocking on the right fore, is a horse to be avoided, except by the extremely brave :—

Matlug isar,
Ya'akil illa gubar.

(6) Stocking of fore and near hind : much sought after, as the raising of the leg over the near side stocking in mounting is said to bring luck to the owner :—" tarkeb bayad wa tadell bayad."

(7) Blaze or Star with no stockings : a poor-spirited animal, which it is a mere waste of good forage to keep :—

Ghurra bi la higl,
Shakh el tour (cloudburst) fog rigl.

(8) Two stockings, fore : nicknamed "*el muhafir*" because of its unreliability and lack of surefootedness. Anyone foolish enough to ride it would be well advised to start digging his own grave.

(9) A stocking only : a useless encumbrance, fit only to feed to the hawks.

Higl bi la ghurra,
Lil sugr tegurra.

(10) *Wahlan* or *Mitwahhil* (from *Wahl* (mud)) : considered to lack pace and to have a vicious temper. They say of it "*kan tarkeb la titrud*" and a "*wahlan*" is most of all to be avoided, but only if a stallion. A mare is nearly as highly prized as a *Sila'*.

(11) *Shukal :* a stocking fore and hind, either left or right, called "*el sugu el Mayil*" for obvious reasons. For ordinary riding purposes is not considered of any great value, but in a race under certain conditions definitely becomes an asset. It is essential to get an outside position with black legs to the horses and the white ones to the "*khalla.*" Black is an unlucky colour in the Arab mind and a "*shukal*" so placed has such devastating effects on its competitors that it is unbeatable. A Shankhabi of the Um Gibbah section of the Nas el Hag who owned such an animal gained a first and a second in successive years at the Abu Rukba meeting, and is lamenting the fact that there were no races this year.

(12) *Gabras :* stocking off hind and near fore, the opposite of No. 6 and considered unlucky.

Provided that the markings are propitious, and that the whorls in general, "*nakhl,*" are in the right place and well marked, "*mitlawi,*" very little else appears to matter, although markings should not be too pronounced. Stockings should be more in the nature of socks, and face markings not too big, though paradoxically enough a "*saila*" (race) is preferred to a "*dinnara*" (star). *Ghurra,* as far as I have been able

to identify it, is roughly the equivalent of a blaze. A horse with out-size markings is called a "*jurri*" and is not popular as being rather second rate. Shape and action do not appear to be important, though preferably a horse should be "*ashfag*," i.e., broad in the flank with a comfortable see-saw action. Other good points in the Arab eye are medium height, narrow fore quarters (this also applies to cattle) an arched neck and a straight or slightly concave bridge to the nose ("*aftes*") but all these are of secondary importance.

CUSTOMS.

Custom in regard to ownership differs fairly widely. Partnership is common, the partners either having equal shares or else three-quarters to a quarter. In the latter case this applies to a mare only and the owner of the quarter share is said to possess "*kura' a wahid*" or one leg. This is increased to a half share or "two legs" of all offspring. He has really no rights in the original property and is not even allowed to ride it and his share amounts to little more than the goodwill of his partner should the mare give birth. Where the shares are equal each partner keeps the horse for a year at a time. If properly looked after, it is reckoned to eat six or seven ardebs of grain per annum, and each partner watches the other carefully to make sure he is not saving the forage. Partnership in a mare follows similar lines, and the partners go shares on a money value basis on all offspring. A foal naturally eats less than a full grown horse, and the partner who looks after it contributes proportionally to the upkeep of the mother. I have also met with an arrangement whereby one partner is responsible for the mare and the other for her foals. A foal is sold in its second year and the price is divided, so that the division of expenses is roughly—1 mare equals 1½ foals.

The owner of a stallion gets a "*mukhlaya*" of grain, a rotl or so of "*atrun*" and the "*salaba*" and "huğal" used in the service, for every mare served.

The Arab recognizes four main forms of horse-sickness :—

(1) *Nigma*, for which there is no sovereign remedy, but charms are very commonly used, and are said sometimes to be most efficatious. In the early rains the owner takes a grain of wheat to a Fiki who shreds it up into a coarse powder in the palm

of his hand. He then spits on it and the concoction is put in a "*hiğab*" and tied round the horses neck.

(2) *Um Gargura*, a form of nasal catarrh.

(3) *Habub*, any internal complaint which denies diagnosis, and which is relieved by doses of cow's milk and simsim.

(4) Ǧigeil (Epizootic Lymphangitis—*Serraga*) said to be very common in horses and donkeys. It is generally fatal in the long run, but is sometimes cured by firing.

BONGO MAGIC.

By Captain M. G. Richards, M.C.

(PLATE IX.)

THE Bongos of Tonj are small and of sturdy build, and not outstanding for good looks, but as agriculturalists, hunters, devotees of the Divorce Court, soothsayers and magic workers it would be difficult to find their equals.

Some means of establishing who it really was that brought " black arm " to the sesame plot last year, of ferretting out and placing on record the person responsible for the death of a much prized child, or of being in a position to hale the right man before the Chiefs Court for " alienation of affections," is to them the only magic worth consideration. A person who possesses the faculty of spotting such delinquents without having recourse to dreary legal processes, or of coming to a short and decisive conclusion without permitting such niceties as an established alibi to influence guilt, is held in great respect.

As side lines such magic workers can always be depended upon to produce the odd shower of rain when asked in the right way, or to ensure that a hunter will return from the chase with a selection of titbits from a 100 lbr. elephant. Woe betide that hunter if the magician should, from some underlying motive, confuse the particular magic to be employed on the occasion ; he had far better abandon his spear and bow and arrow, and take to a hoe for the time being.

As remarked by Mr. Evans-Pritchard, in " The Bongo " (*Sudan Notes and Records*, Vol. XII, Part I, 1929), it is extremely difficult to probe their beliefs in magic and witchcraft. They will only talk around the subject, but it is true that they are more imbued with these beliefs and immersed in witchcraft than most tribes.

Some of their witchcraft is of the so-called " black " variety, which is known amongst them as " Togbo Togbo." They are accredited with the occult power of being able to transmit the sound of drums to a far distance to call others of the sect to forbidden rites or dance, that same sound being made inaudible to any persons in the middle distance who might interfere with the drums or proceedings.

From time to time cases arise, and are heard in the Chiefs' Court, of deaths or illnesses attributed to poison, for here again the Bongo leads the field. Should guilt not be established by non-circumstantial evidence, the Chiefs *may* adjourn to see what the famous Bongo magic stones (see " The Bongo," Section IX, pp. 20–28) have to say in the matter, for they constitute the most formidable of all oracles amongst these people.

The Dinkas adjoining the Bongo country say that the Bongos are dreadful fellows, with powers of magic far exceeding their own more conventional formulæ, and if they wish to convey the impression of an undersized, coarse feeding, licentious and cattleless dabbler in medicines, they refer to him as a " Dor," i.e., Bongo. But even among the more standoffish Dinkas the fame of the " Bongo Stones " has travelled far, and among such tribes as the Zande, Jur, Golo and Belanda of the neighbouring countryside they are regarded as infallible.

Evans-Pritchard says : " It was difficult to estimate their qualities well, especially as they were thick with dirt and age. However, they were certainly primitive stone implements. There were five axe-heads, one of which appeared to be in a flaked condition, and the rest ground, finished, axe-heads. They were from about two to about four or five inches long. There were also two round stone balls, perhaps some nine inches in circumference, which had possibly been used as stone hammers. There was another small stone which was also probably an axe-head." They are kept in an earthenware cooking pot under the eaves of a hut belonging to one Surur Bolo, the pot being kept dry in the dry season, and half full of water during the rains, presumably to encourage the stones to secure a regular supply of water for the crops.

Surur Bolo, the " invigilator " of the oracle, is an estimable " oldest inhabitant " and conducts his functions in a most scrupulous fashion. A Bongo of the Bongos, he was enslaved as a child and given his first name in the old slave traders' zeriba of Jur Ghattas—now Tonj—and while he was making himself useful in preparing coffee and looking after the wives of the " Gellabas " his father was working up a big practice with these same stones in the hills to the south-west of Tonj, where the remnants of the one time powerful Bongo tribe had found refuge. Surur must be very old now. He represented his tribesmen when General Marchand called upon the Bongos to supply labour for the building of a Post at Tonj, and he was deputed to welcome the British forces on their landing at

Meshra er Rek in December, 1901, but beyond a very venerable appearance, there is no real clue to his age. No better man could be in charge of his very potent magic for he combines tact, courtesy and grasp of essentials, with straight-forward business-like efficiency.

In view of recent misgivings concerning the possibility of British and Indian codes of justice, in their strict letter, being out of place in tropical Africa, it may be noted that if given full sway, these stones are a code unto themselves, in so far as assigning guilt for any offence is concerned. No native, sophisticated or otherwise, mission trained or stark naked, will dare to swear to an untruth upon them. It is generally known that direct misfortunes will come to pass should he or she be so unwise. All relations will be struck down to the grave, herds and flocks will perish, huts will catch fire from spontaneous combustion, crops be locust ridden, and the prevaricator himself will catch a cold.

A loving and jealous husband, with his weather eye upon the unnecessary attentions being lavished by a fellow tribesman upon his wife, will go to his Chief, and, if he has nothing more to say than that " he has just been round offering to lend a hand in the garden," or " only yesterday he gave her a fill of tobacco," then the Chief, snowed under by similar cases of discord, may say : " Tell him to come to the stones to-morrow morning when the sun is just over the trees." May be the attentive one will fail to turn up, but that, of course, gives rise to greater suspicion and on the following morning he will be haled before the magician on time.

Surur may or may not be out of bed on their arrival, but in either case, on seeing the proffered hoe, spear or P.T.5 piece—the stipulated fee for such professional services—in the hand of the supposed outraged husband, he soon bestirs himself and proceeds to swear the interloper on the eight stones, in the following manner.

The would-be trespasser seats himself on the ground with the stones in a line alongside him, Surur then places a sort of necklace of crude looking roots and bones on his brow, and tells him to pick up the first stone. On that one stone he may have to swear—at the suggestion of the Chief— " Oh, stone, if I have ever harboured any naughty ideas in connection with my esteemed neighbour's virtuous wife, then let me be struck down together with my goods and chattels." Taking up the second stone he may have to repeat, " Oh, stone, if I had any ulterior motive

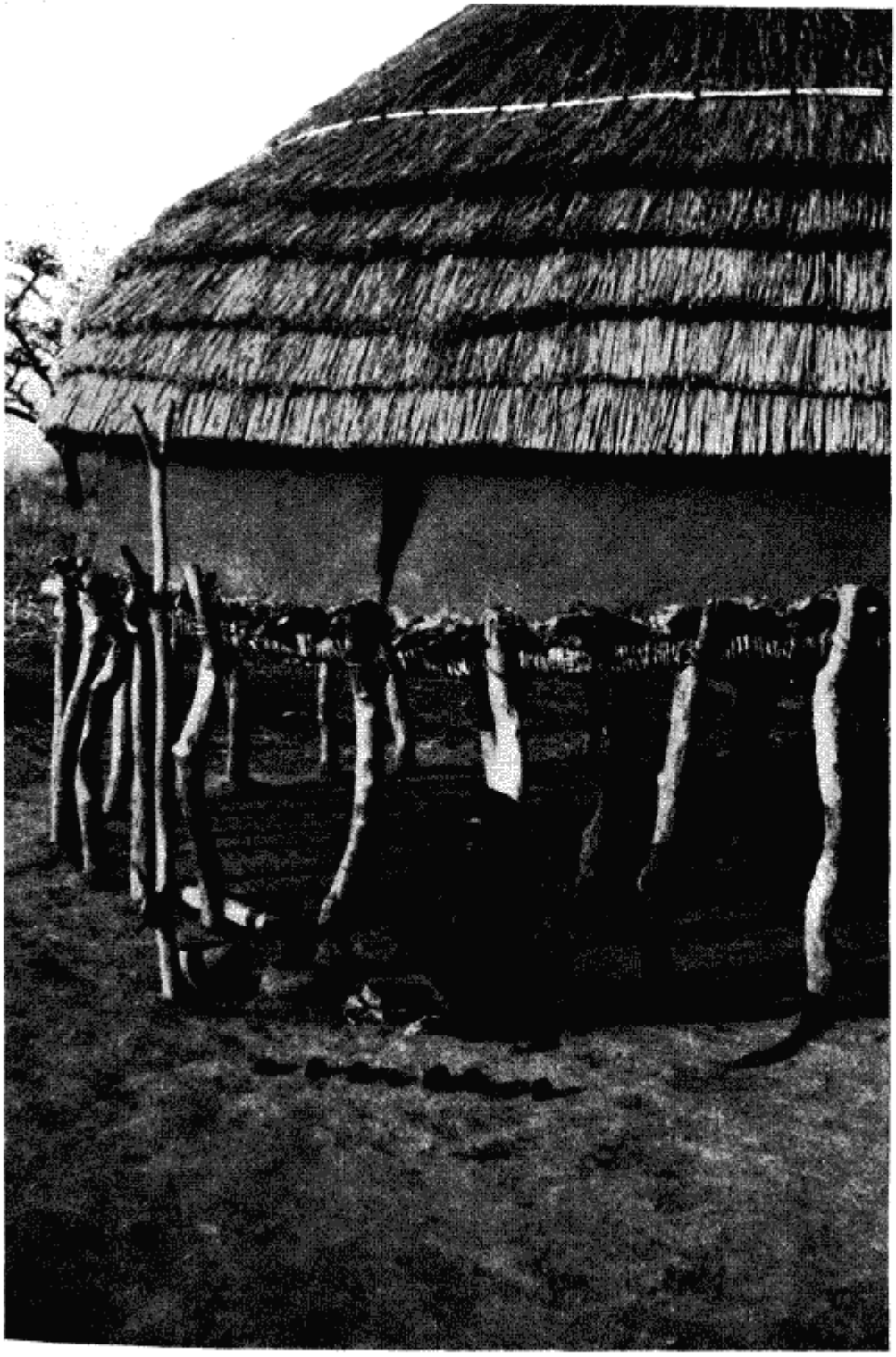
whatsoever in giving her that fill of tobacco, let me become a leper" ; and so on to the last stone. But, as a rule they give in before they confront the stones. The fee—hoe, money, or spear—is left lying at the foot of the cooking pot, as Surur, perhaps from a sense of pride or complete security, does not appear to worry in the least about it, and he may well feel sure for no one would dare to steal it.

As an authentic instance of the power and occasional real value of the stones the following case may be quoted. One evening in 1932, after sunset, a Bongo couple were seated at a fire outside their hut in the forest, when an arrow came through the darkness and pierced the woman in the thigh. There was no sound and there was nothing to indicate the miscreant responsible. The husband shouted to his rather widely dispersed neighbours, and on their arrival search was made and footprints discovered. Meanwhile the local handy man had made an incision in the leg and had pulled the arrow out backwards. Into the large wound he plunged leaves—known to be the antidote to the poison on the arrow. Had the woman been taken at once to the Government dispensary at Tonj she might have lived, but she was kept for three days in the forest whilst her relations discussed the matter, and then, on her way to the dispensary, she was carried to the Chiefs' Court to give evidence. Later she died at the dispensary.

But nothing could be established by the Chiefs as to the guilty person. No suspicion rested upon anyone, and it was only when the Head Chief stood up with some of the soil from one of the footprints in his hands, and threatened to take this soil to the Bongo stones that a Bongo sitting in the back row of the listeners called out :

" No, don't do that, I confess."

In the investigation of the case it was established that the killer had been driven frantic by his certain knowledge that the wounded woman had killed his only child by nursing it and at the same time placing an evil spell on it. He had consulted " Benge," the powerful Zande oracle, twice and each time the answer received was that this woman and no other had killed the child. He also stated that after the child's death he had met the woman at a dance, and a-propos of nothing, she had gone up to him and said, " I am not the one responsible for the death of your child." That convinced him that there would be no peace for him and his until this woman was out of the way.



There is no evil, or " black " magic, attached to these extraordinary stones, and, if anything, they are an influence for good. In any case they constitute a form of appeal which the native can really understand and respect.

Surur himself has one complaint against his stones. They are so much feared and respected that now, the wife of his youth having died, he cannot get another girl to marry him, and he claims that this is very hard when he does so much for other married folk. However, there is a lusty son who will presently step into his revered father's buffalo hide sandals.

CORRESPONDENCE.

FUNG ORIGINS.

K. D. D. HENDERSON.

I refer to recent articles on this subject by Messrs. Chataway, Nalder, Arkell, and Robinson.

THERE seems fortunately to be little doubt as to the main outline of events in the area in question during the interval between the fourth and the fourteenth centuries. There were three Christian kingdoms strung out from Egypt to Abyssinia and engaged throughout in a losing but amazingly obstinate struggle against Semitic Islam. In the north the Kingdom of Dongola was the result of an infusion of Nubian nomad blood into the body of old Napata. Further south the Kingdom of Soba seems to have been a revival of Meröe on a foundation of Black Nuba (Hillelson's Group B). To the west and east of Dongola were the Red Nuba and the Bega respectively. To the west and east of Soba were the Blacks whom the Arabs have called indiscriminately "ANAG," TURUG, NUBA, or HAMAG*, and the Abyssinians apparently SHENGALA, and we, for want of a better name, can call "Group B Nuba." These latter were divided by the Nilotic thrust north from the Sudd, of which the Shilluk were the spear head. Arkell seems to imply that they were north of the Sudd early enough to acquire from Meröe the king killing custom (which had been abolished in Napata by Ergamenes in the Ptolemaic period), the stool, and the worship of Osiris. Certainly the Troglodytes described by Diodorus sound like Nilotics, but this seems a very early date for the arrival of the Shilluk, the peak of whose invasion was reached during the seventeenth—nineteenth centuries A.D. Their Dinka cousins certainly seem to have remainded south of the Sudd until the last few hundred years.

In the fourth century A.D. the Group B Nuba invaded the country of "the Reds and the Blacks" (e.g., Dongola and Soba) and were ejected by Aizanes of Axum, the man who introduced Christianity into Abyssinia. Aizanes defeated these "Nuba who dwelt in reed huts" and recaptured

* HAMAG.—The use of the term by the Arabs in the West as quoted by MacMichael and Arkell seems to show that this was an Arab general term localised to the Gezira, just as the term Turug has been localised in the Dago hills.

Aloa and other "towns of bricks which the Nuba had taken." His army then marched north and cleared them out of the Nile Valley as far as the frontier of the Red Nuba.

From this expedition dates the revival of the two river kingdoms, and it seems not unlikely that Aizanes was responsible for the establishment of Christianity as their official religion.

In the seventh century the Patriarch of Alexandria intervened to settle a dispute between the kings of Axum and Nubia which might have endangered their resistance to Islam, but thereafter Abyssinia under the Zagwe kings seems to have left the river kingdoms to struggle unaided.

During this period, as pointed out by Chataway, large numbers of friendly Arabs settled down along the river and intermarried with the indigenous elements, producing in the north the Danagla and Barabra and further south the Ja'aliyin. There seems no reason for supposing that they went no further south, and there must have been a few colonies at Sennar or beyond. These are Chataway's Group "B."

In the fourteenth century Dongola fell and let loose the nomad Arabs (Chataway's Group "C"). These people seem to have left Soba severely alone. There was plenty of room for them in Kordofan and the Butana where they could oust the disorganised indigenous peoples without needing any organisation themselves.

However, after 150 years or so, Soba fell and was succeeded by a new dynasty at Sennar and a new Arab dynasty at Kerri, close to Soba.

The rival theories about these events may be summarised as follows :—

(i) A body of Shilluk from the While Nile allied themselves with the ANAG of Soba against the nomad Arabs. The Arabs proceeded to sack and destroy Soba but were subsequently persuaded to acknowledge the suzerainty of the Shilluk, on condition that the latter were converted to Islam.[1] This done the Shilluk

[1] As compared with the Nuba and other Sudanic negroes the Nilotics have displayed a remarkably uniform resistance to Islamic influence and the Shilluk proper seem to have shown no leanings that way. The Ngork Dinka again, who have lived for years in close proximity to the Baggara and might strike a casual observer as Arabicised, show no signs whatever of abandoning their own religion and regard such a suggestion with considerable amusement.

procured for themselves so formidable a pedigree that it deceived the Sultan Selim into thinking they were Arabs. Presumably it was their Arab genealogist who put the ignorant Shilluk up to this, after telling them who the Sultan was and what he was likely to do.

The Shilluk then decided that they must change their name and finally chose to call themselves by the same name as they called the Arabs, viz., strangers.

Finally in 1870 Zubeir son of Abdel Gader Pasha wrote up a largely fictitious account of the origin of the Fung which deceived subsequent historians until his son let the cat out of the bag to Arkell.

This theory, as has been pointed out by Chataway, is open to objection.

(ii) Chataway's theory is that the original Fung king was a vassal of Axum, who was sent down to try and save Soba for Christianity. He was too late to do this but managed with the aid of the riverain Arabs to defeat the conquering nomads and reoccupy the Gezira, whereupon his people embraced Islam and endeavoured to become independent of Abyssinia.

Some of the difficulties about this theory have already been indicated by Nalder :—

(i) These Group " C " Arabs don't make any prominent appearance in the tales, except possibly as allies and auxiliaries of 'Abdullah Gamaa', the Group " B " leader—(just as the Shilluk may have been employed by the Fung).

(ii) Abyssinia was at this time in the throes of that terrific struggle with the Moslem kings of Adal which had occupied her with varying success for 200 years and was between 1530 and 1540 to threaten her very existence. Furthermore by 1500 the Gallas were already invading her south-western borders, so that it does not seem very probable that she would be in a position to send help to Soba.

(iii) The Fung dynasty won the Gezira and yet chose to be Muslims and converted their Hamag subjects. In subsequent years it is rare to find the Fung and the 'Abdullab at peace until

the Hamag rebellion when they are again in alliance against the sons of Mohamed Abu Likeilik.

Surely a third explanation is possible :—

After the fall of Soba we find a riverain Arab dynasty established a few miles from its site and wielding its power. In Sennar is a negroid Sultanate whose royal family claims Arab blood and the claim is acknowledged by the Arab *mangil*. The rest of the Gezira is still inhabited by the tribes of Soba, now known indiscriminately as Hamag, and from them the conquerors took their horned caps and *mangils* and stools and any other Meroitic custom which may be discovered in their midst.*

As regards the position and origin of the kings at Sennar, surely it is exactly parallel to that of the Sultans of Darfur, Wadai, and Bornu and the Meks of Tegale, to say nothing of the Hamitic Kings of Songhai and the Macdonalds of the Isles. A nucleus of superior intelligence settles down amongst a sturdy if slow witted indigenous population and produces a powerful kingdom. If the Fung had not got this nucleus then they are the only Sudanic tribe that ever founded a kingdom without it, for even Mansa Musa is said to have had Hamitic blood in his veins.

The supposition is, therefore, that a riverain Arab near Sennar married into the family of a local potentate and began to build up for himself a kingdom of blacks, which may have included greater or lesser bodies of Nilotics who had wandered across to the Blue Nile and were conscripted for their fighting qualities, much as Nuba from Tegale were conscripted later on.

His rise somewhat naturally clashed with the old order in Soba and the riverain Arabs round about Khartoum and the two rivers joined him at J. Segadi[1] or elsewhere. Together they sacked Soba and set up a new Islamic Kingdom on much the same lines—The Sultana Zerga, which is precisely what the Baggara call the Kingdom of Darfur.

The Hamag seem to have retained the Gezira with the old system of private ownership of land, and to this day all landed property in

* Such as the alleged killing of kings and the surviving Ja'ali custom of marking infants with the sign of the cross.

[1] There may have been hafirs at Segadi during the rainy season. They fill up and disappear soon enough if not dug out at frequent intervals.

Managil is held by grants from them made after the rise of Abu Likeilik. Side by side with the Arab capital at Kerri and the Fung Capital at Sennar there grew up near Hassa Heissa the flourishing city of Arbagi, which although it contained numbers of Arab merchants and Hadareb from the Red Sea, seems to have been largely a Hamag town and the original headquarters of the Abu Likeilik family. It would be pleasant to conjecture that Mohamed was a lineal descendant of the old Soba kings.

When Arbagi was destroyed in 1784 during the war between the sons of Likeilik and those old allies, the Fung King and the Kerri *Mangil*, the Hamag resistance was concentrated on Abud, near Managil, and in the subsequent fighting between Nasir and Idris the man who held Abud held the Hamag allegiance. It later became the headquarters of Mohammed Ibrahim and the military rendezvous of Mohamed Adlan. In 1822 the old Sururabi Wazir Daf'allah attempted to raise a revolt there and the town was entirely destroyed by the Turks.

Then and not till then did the Abu Likeilik family move south of Sennar. The descendants of Hussein are still *Omdas* at 'Amara, just south of Managil, and although the term Hamag has been applied generally to all the Fung subject races it seems clear enough that the family who are particularly associated with it as national heroes were of Northern Gezira origin and quite probably had the touch of Gamuia blood to which they laid claim.[1]

DAVID REUBENI'S JOURNEY.

PROFESSOR PAUL BORCHARDT of Munich has favoured me with a number of annotations on David Reubeni's journey (*Sudan Notes and Records*, Vol. XVI, p. 55 ff.) which I reproduce in the hope that they may prove of interest.

With reference to Reubeni's statement that his home was in the desert of Khabor, Professor Borchardt writes :—

" The place intended is Habur, a town of some importance situated 95 km. to the north west of San'a, about which very little is known.

[1] I remember being told in Managil that the *Mangil*ate at El Aiss was established by Mohammed Abu Likeilik to hold the bridge head when he conquered Kordofan. The *Mangil* was also known as " *Sheikh El Aiss* " and was " *Muwazif min Muwazifin el Towagi*," and the most famous holder of the office was Dom Tilis, the Shatirabi.

This Habur has often been confused with Khaybar, a town situated to the north of Medina : it is the place erroneously read Khaibar in editions of (the Jewish traveller) Benjamin of Tudela which the latter mentions in conjunction with Taima and Tanai. Benjamin's Taima is the place of that name, also spelt El Teim, which is referred to by el Hamdani, while his Tanai corresponds to Karsten Niebuhr's Tanaijim situated a few miles to the south east of San'a in the Khaulan hills. The confusion between Habur and Khaybar is due to the fact that, in editions of Benjamin of Tudela, Hillah has been read erroneously instead of Hayl . . . .

" There is no doubt that Reubeni landed at Suakin ; it should be noted however that the crossing from Jeddah to Suakin takes only a day, whereas Reubeni spent three days on the Red Sea. In these circumstances it is possible that Hodeidah should be read for Jeddah, especially as a scribe might easily misread the group ḤDDH as JDH, and in view of the fact that the distance from Habur to Hodeidah fits in with Reubeni's statement that he accomplished the journey in ten days. The expression ' by way of Harrah ' might be translated ' by way of the mountains.'

" Reubeni's caravan travelled from Suakin to 'Asha or 'Asa, a place left unidentified by Hillelson : it corresponds to El Hassa to the north of Berber at the end of the old caravan route from Suakin to the Nile.

" Al Mamah (p. 62) is intended for Gebel Mamah at the Khalfah cataract near Oqmeh, which was the old northern boundary of the Funǧ kingdom and at a later period marked the frontier between Baṭn al Ḥaǧar and Dar Sukkut. Al Khabir is not the modern Hafir (as Hillelson suggests), but Al Khaibar situated 80 km. to the north of Dongola on the eastern bend of the Nile, at the point where the old Kerma railway reaches the river.

" Ataqqi (p. 61) is the modern Qaqi at the foot of Gebel Tuqaqi 35 km. to the south of Abu Hamed on the Nile, whence Reubeni travelled by the direct desert route to Al Khaibar which is at the beginning of the route to Selima and thence to Rifah (p. 65) and to Girgeh."

I have not been able to check Professor Borchardt's identifications and hope that some resident in northern province may be able to comment on them in the light of personal knowledge of the localities referred to.

S. HILLELSON.

THE DRY CROSSING OF THE NILE.

CAPT. G. P. CANN.

(PLATE X.)

IN view of the interesting article by Mr. C. J. Wayland, in the first number of the *Uganda Journal* entitled, "A Dry Crossing of the Nile," a visit to this crossing was made on May 11th, 1934, during the Session of Nimule Border Lukiko.

The party consisted of Mr. H. B. Watney, D.C., Gulu District, Northern Province, Uganda, Mr. F. J. Lattin, A.D.C., West Madi Sub-District of Gulu District, and Mrs. Lattin, and Capt. G. P. Cann, D.C., Opari District and Mrs. Cann.

Great difficulty was experienced in obtaining a guide willing to lead the party to this crossing, as it forms a simple means of communication across the Nile for the Madi Tribe, who are divided by the international Uganda/Sudan boundary, and owing to stringent Sleeping Sickness Regulations are unable to interchange visits with their relatives across the border except illicitly, and the Madi were, not unnaturally, averse to leading their D.C. to their secret route.

The party left the Juba-Nimule road near the southern end of Asswa Bridge and after walking along elephant paths for one hour and forty minutes, over rolling country, stony and lightly bushed, suddenly came upon the Nile which at first sight resembled a red sandy dried up river bed surrounded by patches of papyrus and grass; on reaching the crossing (or crossings, for there are two) the conditions were found to be as follows:

The length of the block up and down stream is about 150 yards, and while the approaches from either bank were (on that date) inclined to be soft, as the vegetation gave slightly beneath one's feet, there was no current of water on the surface; the water only appeared in two small lagoons in the block on the Eastern half where the water bubbled up only to subside again and pass once more under the surface.

The Nile at this point is about 100 yards wide with sharp hills rising up from both banks, while there are rocky formations both up and down-stream of the block.

The block in the midstream is thick, and a walking pole was thrust through the sandy soil to a depth of seven feet without reaching water. That the block is weight resisting is proved by the tracks of elephant

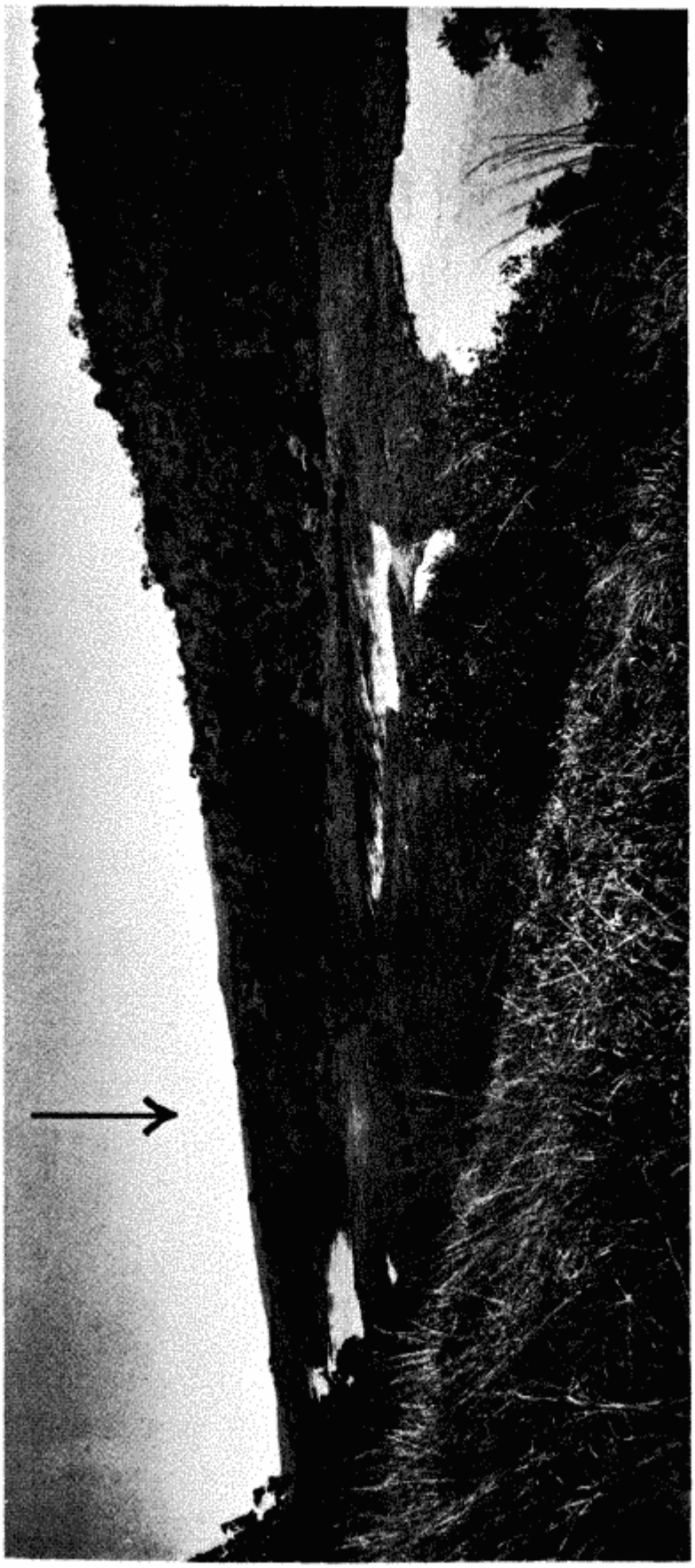
which only sank in for three or four inches in the resilient soil, though they had sunk deeper in the moist vegetation near the bank.

Very little papyrus was seen in the block and the chief form of vegetation appeared to be a coarse kind of convolvulus creeper.

The block is situated about one mile south of the mouth of the Asswa River, and within three miles of the ruined fort of YAMBA.

It is curious that the presence of this dry crossing does not appear to have been recorded by Sudan Government officials or Medical officers of Sleeping Sickness in the past, but inquiries through natives, who served with the Belgians while they were accustomed to occupy YAMBA Fort, seem to prove that the crossing is periodic and disintegrates at times of exceptional flood only to form again when conditions happen to be favourable. The present dry crossing is said to have existed for three years.

Some interesting photographs were secured of the crossing by Mr. H. B. Watney and Mr. F. J. Lattin, and I attach a composite photograph showing most clearly the appearance of this natural bridge across the Nile.



REVIEWS.

THE STUDY OF CHANGE IN AFRICA.

"THE AFRICAN TO-DAY."

By PROFESSOR DIETRICH WESTERMANN.

(*International Institute of African Languages and Cultures. Price 7s. 6d.*)

THE widespread interest in the mandatory principle is shown by nothing more clearly than by the successive appearance of authoritative books on African problems. Among these Professor Westermann's "The African To-day," will rank very high. Few people can be better qualified to write on Africa for, as Lord Lugard tells us in his preface, he first gained the closest practical experience of the African native as a missionary on the West Coast. Thence his linguistic ability took him to a professorship in Berlin, and of later years he has visited almost every part of British Africa to advise on linguistic problems. He came to the Sudan in 1928 to attend the Rejaf Language Conference. A striking feature of the book is the close applicability of his description of tribal life and institutions, mostly based on the West Coast, to the tribes of the Southern Sudan.

The principle of Indirect Rule has been recently subjected to slashing attacks by Sir James Currie and others on the grounds that its main object is to make the native "stay put" in his age long stagnation, and anthropology has shared in the criticism as an arm-chair science concerned only with the past, and so reactionary, of little value to the practical man. To that criticism the contents of the successive volumes of "Africa," the journal of the International Institute of African Languages and Cultures, would seem to offer sufficient refutation, and in particular its Five Year Plan of research inaugurated in 1932. The objects of this are stated as follows ("Africa," Vol. V, pp. 1–3) :—

"The fundamental problem arising from the interpenetration of African life by the ideas of European civilisation is that of the cohesion of African society. African society is being subjected to a severe strain, and there is a danger that the powerful forces which are entering the continent may bring about its complete disintegration, the results of which must be calamitous for the individuals who compose it and at the

same time render impossible an orderly evolution of the community. It is proposed, therefore, that the inquiries fostered by the Institute should be directed towards bringing about a better understanding of the factors of social cohesion in original African society, the ways in which these are being attacked by the new influences, tendencies towards new groupings and the formation of new social bonds, and forms of co-operation between African societies and Western civilisation. . . . .

" The aim of the Institute is to study these processes of change in a purely objective and scientific way. Its object is to provide, through disinterested study of the facts, a scientific sociological basis for dealing with practical questions of administration and education. By enlisting the aid of scientific method and technique it will endeavour to place in increasing measure at the disposal of administrators, educators, missionaries, and those engaged in industry and commerce, and of the native leaders of African society, the exact knowledge which will assist them in determining the right relations between the institutions of African society and alien systems of government, education and religion, in preserving what is vital in the former and in eliminating unnecessary conflict between the latter and African tradition, custom and mentality."

Nothing could be less static or reactionary than that. The present volume is a large scale study of the problems to which the Institute is trying to supply material for the answer : each of the chapters is a statement from some particular angle, social, religious, educational, agricultural, economic, governmental, of the difficulties which are arising from the interplay and, as Professor Westermann emphasises, the interdependence of African and European, with suggestions for the requisite lines of enquiry and for possible solutions.

It may be urged that this is by no means the first time that two alien races and cultures have been brought into close contact and that in numerous cases mutual adjustment has been effected without all this self-conscious discussion of principles : that the Romans did not talk about native administration for the Britons (though in actual fact they probably gave them a considerable measure of it) and that the Normans were not particularly considerate towards the Anglo-Saxon and his institutions, but that nevertheless the resulting fusions were indispensable in making the British race what it is. The answer lies surely in the relatively insignificant difference between the two conflicting factors.

We take the presence of ourselves and all our works in Africa so much for granted; we are so accustomed to seeing the African riding a bicycle or keeping complicated government accounts that we are apt to forget that less than a century ago the African of the interior had made no direct contacts with the outside world and was as far below the Britons of Kent as we in technical achievement are in advance of Cæsar's legions. The history of the Caribs and the American Indians gives a truer perspective: and it may be doubted whether any disinterested observer can view the native question in South Africa without alarm.

In the Sudan we are in some respects fortunate. All authorities are agreed that the quickest way to disintegrate African society is to deprive the African of his land. In the Sudan there is no prospect of "White settlement" on any scale, so that difficulty we are spared. Nor have we the immense mining development which causes such acute labour problems in South Africa or the Belgian Congo. Nevertheless change is at work and it may be convenient to examine, in the light of Professor Westermann's book, the essential characteristics of our tribes and the way these are being attacked.

In the first place the clans or family groups are the bricks of native society. Owing to the fact that they are not, according to our own ideas, an essential feature in administration, they have tended to be overlooked, but they have a very real and corporative existence for the native. Professor Westermann stresses their importance again and again. The individual is a member of his group first and an individual afterwards. His habit of mind is conditioned by his sense of membership of his group which gives him a sense of security and self-assurance, a feeling of being surrounded by friends on whose help he can rely. It is the clan that owns the land, the cattle are marked with the brand of the clan, not of the individual.

But, prior to our advent, the bricks were just bricks, they were not parts of any definite structure. There were exceptions: the Avungara had welded the Zande into an effective tribal unit just as Chaka had welded the Zulus: but in general, though village communities had a certain corporate existence, of the tribe as a whole there was, and is, little practical conception. The ease with which neighbouring tribes, even of apparently different stocks, can amalgamate by intermarriage is remarkable.

So with the Chief. To the office of the Chief, Professor Westermann ascribes a very high importance in the native mind. This is hardly the case in the Sudan and the Shilluk are unique in the possession of their paramount *Ret*, though his functions were as much magical as political, and prior to our advent the executive chief did not exist. In some tribes certain rain-chiefs commanded respect and veneration over a wide area, but not effective executive authority in our sense of the words. Crisis or individual ability might bring an outstanding personality to the fore for the moment, but only for the moment. Tribal, or more generally village affairs were directed by the elders in council ; but although public opinion might enforce their decisions as against the individual in criminal matters, they depended ultimately on general consent which might be lengthy or impossible to achieve, and there was no machinery for enforcing their decisions or coercing the recalcitrant. For example, the elders frequently failed in preventing the young men from raiding. In other words, society outside the clan was democratic to the point of anarchy.

All tribes, to a greater or less degree, has a system of age grades, youths, warriors, elders, etc., by which the individual's rights and duties are regulated, and initiation into manhood, into membership of his group, was the most important event in the individual's life. In many tribes, especially among the Nilo-Hamites and Nilotics, the age grades are supplemented and emphasised by the fighting organisation of the age classes, formed successively at more or less regular intervals and each class having its own position in battle and in many cases its own particular ornaments and array. Professor Westermann while realising some of its unpleasing elements admits the many educational and moral values attaching to initiation and states that the natives regard its decline as a mark of the disintegration of tribal existence.

Marriage, in which polygamy is the ideal, was essentially an inter-clan matter, and the payment of the bride price by the one group to the other the essential feature of a licit union. In origin no doubt, as Professor Westermann suggests, it had the double idea of compensation to the group for the member it was losing and of guarantee for the permanence of the marriage. But he is undoubtedly correct in thinking that it generates a good deal of avarice, as the father may need his daughter's bride price for his son's marriage or for a second marriage of his own, and this again may lead to infant betrothal and its attendant evils.

Technically the girl's consent to her marriage was generally considered necessary, but this was usually more theoretical than real, and extreme physical violence might be employed to coerce the disobedient.

Agriculture was on a subsistence basis, that is to say, each family grew enough for its annual needs. Men and women each had their own traditional tasks in the fields : each wife had her own plots, for the cleaning of which she was responsible, and her own grain stores, in which she kept their produce, though the partial economic independence which Professor Westermann describes as occurring in the West had not come into being. Hired labour was unknown, as was slavery, except for the occasional war captive who was treated very much as one of the family. Sheep and goats were the normal medium of barter. There was no individual wealth. Cattle were the only form of riches : but they were held on trust by the head of the group and used only for marriage purposes. This tied the individual closely to his group and ensured that, providing they remained attached to their clans, all men were more or less equal.

All activities of life had a strong religious background. There was a creator high god, very imperfectly apprehended : having created the world he had ceased to affect it greatly though it was from him, through the rain maker as an intermediary, that the rain came. The cults of the forces of nature and of natural objects described by Professor Westermann hardly existed : for happiness or the reverse in the ordinary affairs of life the ancestral spirits were chiefly responsible. Their placation by offering and sacrifice formed the active side of religion : it was the spirit doctor's function to determine whether illness and misfortune were due to physical or spiritual causes and to prescribe the remedy. Harmful powers could be wielded by the living also, either unconsciously or consciously, by the evil eye or the wizard, and it was equally the function of the spirit doctor to detect their origin.

Into this primitive world European advent has introduced three entirely revolutionary factors. Of these the first is Government itself, a hitherto unknown conception, strong enough to enforce obedience to its will on tribes and individuals alike. Of necessity it interferes in every direction with tribal life and institutions, by stopping tribal war and so depriving the warrior class of its raison d'être : by improving communications and security and so making possible tribal contacts and individual movement on a scale unknown before. To prevent sleeping sickness

it compels the people to live along the roads. It forbids the smelling out of witches and the spearing of wizards.

The second revolutionary factor is money and the possibility of earning it. The old subsistence, agriculture, is gone with the appearance of money crops. Professor Westermann tells us that the whole of the West African cocoa crop, half the world's supply, is produced by native growers, and that the native grown exports from Tanganyika in ten years were worth nearly fourteen million pounds. In Uganda, the coffee grown by the Bugishu is the highest priced in the Colony. We have so far nothing to compare with this, but even here cotton and coffee are making small beginnings and the native is beginning to realise the possibilities. Or, if he does not grow a money crop he can earn money by his labour. The result is that the individual is no longer so tightly bound to his group. The young man is no longer dependent on his relations for his bride price. And, on the other hand, money introduces possibilities of social inequalities previously unknown.

But of all the new factors to which tribal life is exposed, missionary enterprise is certainly the most destructive. Temple, in his "Native Races and their Rulers," posed the question whether indirect rule was compatible with the presence of missions, and a perusal of the author's very interesting chapter on missions does little to dispel the doubt. He describes the two schools of missionary thought, the one whose attitude to African cultures is negative, seeing them as barbaric and worthless and believing that the sooner they disappear and are replaced by European institutions and customs the better; the other, the assimilative school, whose aim is to bring the Gospel, not the forms of European civilisation, and who are prepared to take pagan customs with an underlying beauty and value and give them a Christian value and significance. This latter school he believes to be gaining ground, but it is clear that it is the other which has so far predominated. The emphasis of Christianity is on the individual rather than on the community; education must create a gulf—though perhaps only temporarily—between the young generation and the old. Most important of all the missionary's object is, ex hypothesi, to destroy the whole religious background which influences almost every native activity. Polygamy in the eyes of the missions has become a test of religious faith rather than an economic and biological symptom. Professor Westermann, while appreciating the many arguments in favour

of it in the present state of native society, and the fact that its suppression would almost certainly lead to prostitution, can see no likelihood that the missions will accede to any relaxation of their views. He sees many educational and moral values in the initiation ceremonies, but doubts whether it can be retained. One may suppose that the cult of the ancestral spirits will be condemned instead of being assimilated. And these things are often all the cement which holds African society together.

Professor Westermann is a warm supporter of the principle of indirect rule. He believes that it can and should be progressive ; that it should attract the educated class and give them scope for using their capabilities in the service of the community (and one may observe in parenthesis that it is well shown in Uganda that native administration is not incompatible with intense economic development). But faced with the wholesale destruction of native institutions by economic, missionary and governmental agencies, which the author admits are unavoidable, the administrator must inevitably ask what then can be saved, from what point are our evolutionary processes to begin, especially where, as in the Sudan, the chieftainship has neither the scope nor the prestige which Professor Westermann ascribe to it in West Africa.

Still, chieftainship in the Sudan is not entirely a foreign conception : the rain-chief provides an analogy, the village headman is the chief in embryo and the attempt gradually to invest the chieftainship with far greater scope and prestige than it possesses now would appear to be justified and hopeful. Where tribal or village affairs were in the hands of a council it is reasonable to suppose that we have the germ which may develop into native authorities of the municipal council type.

On the social side there is one factor which may perhaps be found to supplement most strongly the political ones. It appears to me that the aim of the exponents of indirect rule can be summarised by the phrase " preservation of social solidarity " ; that the African has an instinctive and essential need of " membership " and that the danger is that European influence will destroy his natural affiliations, the clan, the age grade, the tribe, leaving him adrift without anything to replace them, an isolated individual alone in an unfriendly world. Dr. Evans-Pritchard has put forward an explanation of this nature for the popularity of secret societies among the Zande, where the clan seems to have lost its significance and the reduction of society to a mass of individuals seems to have gone very

far. It is interesting to find that among the Latuka where the clan does not play the rôle it does elsewhere there has been a spontaneous development of village " sections " with very strong corporative life and loyalties. May not this need for membership be the explanation of the extraordinary multiplicity of separatist native churches in South Africa—there are three hundred—where the native is particularly " déraciné " ?

It may not be entirely fantastic to suppose that an astonishing spontaneous demand for bush schools which has occurred in one district of Mongalla is also symptomatic of the same thing. The European, though he smashes, consciously or unconsciously, the native's social institutions, does not admit him into his own, except into the Christian church which does not always seem to fulfil his needs, perhaps because it is too big, or, as Professor Westermann suggests, because it is not African ; hence again the separatist, native, churches, and their innumerable splitting. After all, our own social memberships of schools, universities, regiments, clubs, mean a great deal to us.

If the above is correct, what the exponent of indirect rule is preaching is not that all native institutions are necessarily good in themselves or necessarily permanent, but that if they go the native must have something else instead. Here it is possible that the clan, the importance of which Professor Westermann repeatedly emphasises, may provide a useful bridge. Not forming any part of the administrative machinery it has tended to escape notice and to be regarded as important merely as regulating exogamous marriage. But enquiry shows that in some parts, at any rate, of the Sudan, the clan retains great vitality and a strong sense of corporative existence. In some places the experiment has been tried of making the clan the basis of poll tax assessment and payment, with very great success. Seasonal grain cultivation is on a family basis and the communal cultivation of annual crops is rare, if not unknown, but it seems likely that the clan will provide a most useful basis for the native ownership of such permanent assets as coffee, and village fuel areas. I do not suggest that the clan is necessarily permanent but that its recognition may possibly be of great value in preventing the premature reduction of native society into a mere mass of individuals, which, apart from its sociological effect, is most inconvenient administratively.

Space forbids examination of the many other points raised in the book, arts and crafts, language, religion, the negro mind and intellect,

and especially education, on which the author has much to say of great value. It is hoped, however, that it will be plain from the above, that this is a book for all interested in African problems to buy and read for themselves. L. F. N.

"DIE BEDEUTUNG DES RINDES BEI DEN NUER."

By P. P. CRAZZOLARA.

(*Africa*, July, 1934, pp. 300–320.)

FATHER CRAZZOLARA discusses Nuer pastoral activities under the following headings: A.—*Economic Importance of Cattle: (a) Care of the Cattle*—a description of work in kraal and byre and of herding; *(b) Uses of Cattle*—a description of milking and the uses of milk, butter, and dripping (Schmalz); of bleeding and the use of blood; and of sale of cattle or their exchange for corn. B.—*Social Importance of Cattle.* This section describes the great interest Nuer show in all matters relating to their cattle. It gives an account of division of labour, division of milk among members of a family, duties of herdsmen, building operations, life in byres, bullock-names, bride-wealth, terms denoting cattle colours, and referring to the herds, their mode of life, uses for man, and daily and seasonal movements. The final heading is C.—*Magico-Religious Importance: (a)* An account of the cattle-expert, cattle taboos, the byre as a site of ritual, cattle of the spirits, and cattle as offerings. Father Crazzolara's paper is an important contribution to our understanding of a still little-known people. E. E. E-P.

"THE HUMAN BODY."

Book I, parts 1 and 2.

Some Nuer Terms in Relation to the Human Body.

The American Mission, Nasser, Sudan, October, 1931, 79 pp.

THIS dictionary of Nuer anatomical, physiological, psychological and pathological terms, should prove of great value to all Europeans in Nuerland, especially to medical men. It adds greatly to our knowledge of Nuer language and customs; knowledge which has been built up largely by members of the American Mission at Nasser. It is more than a dictionary of terms, for interesting accounts of customs are often given, e.g., in connection with menstruation, pregnancy, birth of twins, etc. Can the authoress be persuaded to compile a similar dictionary of terms relating to cattle and veterinary practices? E. E. E-P.

Sudan Notes and Records.

Vol. XVIII, 1935.

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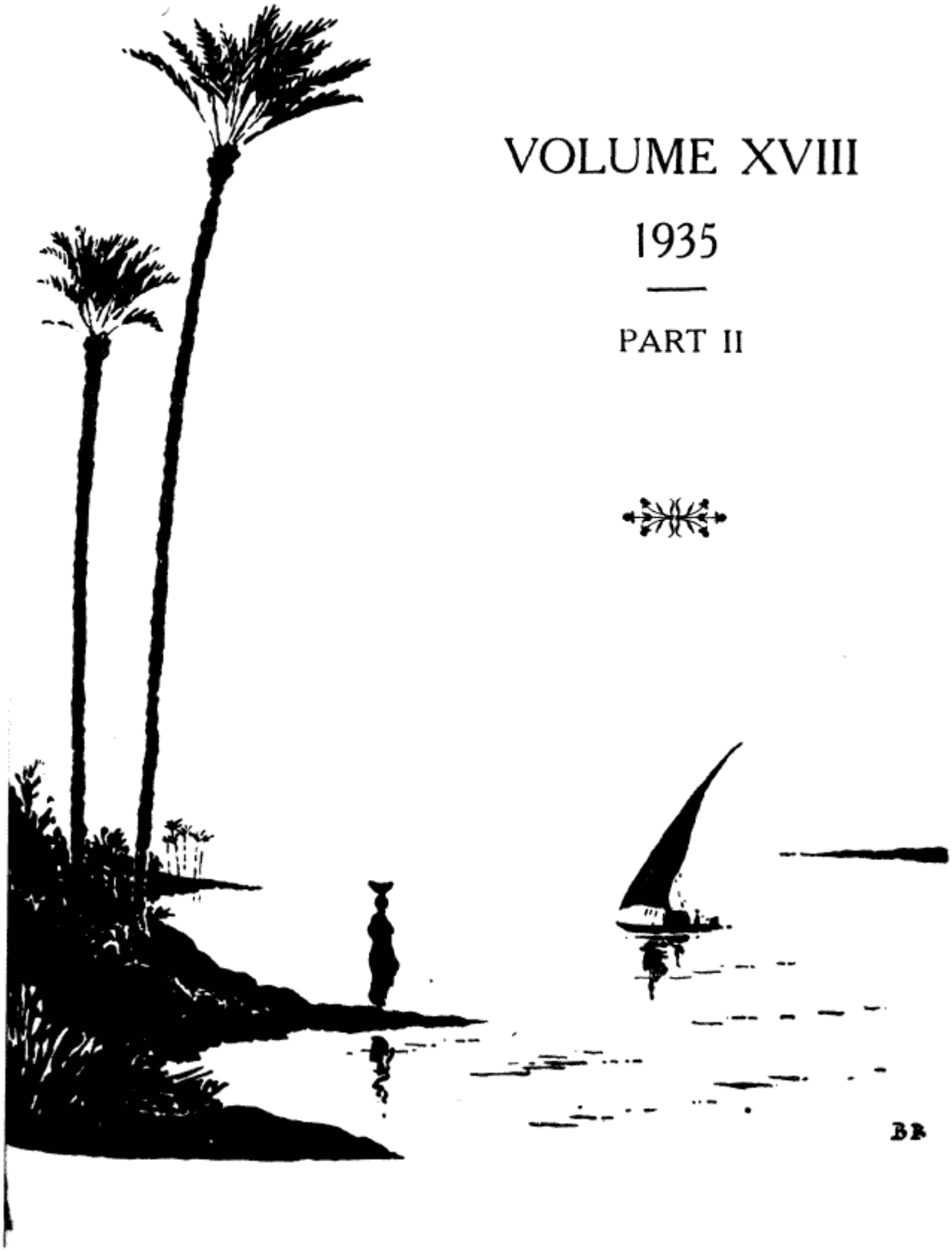
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Transliteration of the Arabic Alphabet

adopted by the Editors of *Sudan Notes and Records.*

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

VOWELS.				DIPHTHONGS.
fatḥa	a,	lengthened	ā	ـَي —ai (as in aisle).
kasra	i,	„	ī	ـَو —au (as in mauser).
ḍamma	u,	„	ū	

The ل of the article always remains *l*.

The silent *ة* (ă) is omitted.

NOTES.

1. The system is not applied to well-known names, such as Khartoum, Omdurman, etc.

2. The vowel sounds of *e* in "get", and *o* in "hot" with the corresponding long vowels (*a* in "gate" and *o* in "home") which occur only in the colloquial are expressed by e, o, ē, ō.

e.g. beled, Moḥammed, bēt (or beit), ḥōsh.

Eĭ may be used as an alternative to ē.

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SUDAN NOTES AND RECORDS

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EXTRACTS FROM THE DIARY OF A SUBALTERN ON THE NILE IN THE EIGHTIES AND NINETIES.

By Major-General B. R. Mitford, C.B., C.M.G., D.S.O.

ON 26th November, 1885, a Transport from the Far East dropped anchor just after mid-day in Suez Harbour. Presently a pinnace steamed alongside, and a Naval Transport Officer, a Major of Marines in resplendent staff kit asked for our C.O. and informed him that we were to disembark at 1 p.m. next day, and proceed to Cairo to take the place, as a temporary measure, of a battalion ordered up the Nile.

Suez Harbour looked very different from what it did some three years previously. Then, as the aftermath of the '82 campaign, it was full of men-of-war and transports. On board one of them, H.M.S. "Carysfort," a C-class corvette, were three evil-looking Arabs awaiting trial for the murder of Professor Palmer,[1] Lieut. Charrington, R.N., Captain Gill, R.E., and their two servants. The Quartermaster in charge of them said to me, "We 'opes to 'ave the 'anging of them soon, Sir:" I believe he got his wish.

Another note of those days mentions the fine comet blazing in the early morning during my outward journey; then, one had heard nothing of the *fiki* far away up the Nile, who hailed this star as the harbinger of his divine mission to restore the spirit of the true Muslim faith.

[1] Professor Palmer was one of the most distinguished Arabic scholars that England has produced; he had also considerable personal knowledge of Sinai and Palestine, as he had been employed on several expeditions in those parts; so it was not surprising that, when in July 1882, the British Government wanted to get in touch with the Arab sheikhs east and south-east of the Canal, they selected Palmer as their agent. He made a three weeks' tour of the desert, revisiting former acquaintances in the tribes between Jaffa and Suez, and arranged for a meeting of the sheikhs of that district at Nakhl, some 70 miles due east of Suez in the desert. Early in August, accompanied by Charrington, Gill and two servants, he left to attend this conference. He took no escort, and as guide he took a man he knew nothing of, one Metr Abu Sofia, who represented himself (but was not) an important sheikh. Palmer had in his baggage 3,000 golden sovereigns, which Metr must have been aware of. They had not gone halfway to Nakhl when, through Metr's connivance, they were ambushed in the Wady Sudr, and next day all five were murdered in cold blood, being shot through the back.

Next day, 27th, we went alongside the quay and set to work getting the baggage out of the ship. As we were only going to Cairo as a stop-gap for a short period, those officers first for leave were permitted to proceed home. Those going to Cairo were to take active service kit only.

Cairo was reached at 7 a.m.; there was no one to meet us; the stationmaster was annoyed at our arrival, as we took up all the platform, and he was expecting a train from Alexandria, and had no place to berth her. We marched away from the station at 8.30, vague as to our destination until a military mounted policeman met the battalion and told the C.O. that we were to go to the Citadel.

The officers were quartered in the Bijou Palace, which had not been occupied for some weeks; the shutters had been left open, and the floors were a foot deep in fine dust; the men were in the nearest block of barracks to the Palace. The following night was an uncomfortable one; but when dawn broke I soon discovered the trouble, as whole regiments of bugs were manœuvring in the curtains. The men suffered equally, and also from cockroaches. That Sabbath day was spent in a campaign against these insects; time did not allow of all the officers' rooms being operated upon, so several of us were told we could eat and sleep at Shepheard's. I was one of the number, and had to sleep in a bathroom, as the hotel was crammed to overflowing. Next night I slept at the Bijou Palace, and slept undisturbed.

We quickly got into the routine of the garrison life; brigade parades at Gezireh; for subalterns, duty on the main guard, which was at the Opera House. The officers' guard-room was the green room behind the scenes, the white walls of which were adorned with some very well-executed pictures in black, and in colour, of various kinds, landscapes, local incidents, and caricatures of well known personages, British and Egyptian; very much after the style of those in the Malta guard-room.

There was polo at Gezireh several afternoons a week, and at sunset every one, Generals down to subalterns, congregated on the verandah of Shepheard's Hotel. Uniform was compulsory, either khaki or cloth clothing, so it was rather an interesting sight, especially as there were still many officers in Cairo that had served in the Nile Expedition or at Suakin, and whose units had gone home.

On the morning of the 7th we received orders to proceed to Assuan on the 11th, and on that afternoon we marched the 6 miles to Boulak

Dacrour Station, left at 7 p.m. and reached Assiut at 8 a.m. next morning, cold and dusty.

Headquarters started off at 3 p.m. in a steamer towing four barges, while two companies (mine and a senior subaltern's) under the second in command, were to remain until General Stephenson and his staff had arrived from Cairo and we had loaded up his steamer. They did not arrive until next morning, 13th, and went south in the Khedive's yacht.

We left at 2 p.m. in a small paddle steamer, the "Mahmoudieh," towing one barge with 150 men. On the steamer were we three, two medical officers bound for the front, and 35 of our men. The other subaltern and I took it in turns to be on the barge all day, generally from just before dawn until just after sunset. We sat in the bow without any shade and got nicely grilled. It was a relief when one stopped to coal, or some calamity happened, like the rope attached to the barge breaking, or the running down of a nuggar (which happened once). The average run was about 22 miles a day; an irritating rate of progress, but to a newcomer, like myself, it was extremely interesting.

We reached North End at Assuan at noon on 27th December. The battalion was in mud-brick huts at Tagug Heights. The huts were complete as to their walls and roofs, but they had no doors, window shutters, or the fittings for them. However, we were issued with old sacks, which we rigged up to keep the dust and wind out, and were permitted to indent on the R.E. for wood for permanent doors and windows provided we found the labour. At the stores I found a very useful foreman of works, or perhaps he was an interpreter, a civilian named Charles Neufeld, who administered to one's requests; hinges, French nails and such like.

Assuan was, then, a picturesque native town with a character of its own. Moored to the bank, within a distance of nearly half a mile northwards from the railway station, were some nine or ten dahabiehs used as quarters by various officers. The Brigadier, General Wallie Green, late 42nd, dwelt in one, his staff in another; and near their's was Cortessi's Club dahabieh, where the humble subaltern could rarely find a seat, it was so packed. North of the dahabiehs, were native boats of all descriptions, great and small, unloading supplies either for the Commissariat Stores about a mile north of the station, or for the ordnance stores under Fort Duncan and close to the river; the bank alongside these nuggars and gyassas was generally impassable by day from the camels being loaded

up or awaiting their turn. There was no regular main track along the river bank ; in places, buildings and walls were so close to high Nile level that a flood, a little above the ordinary, carried them away. At the south end, a hundred yards or so from the station, not far from the ruins of a stone building, said to have been a bath, a large rock formerly obstructed any movement along the bank, and had caused the route to make a détour of 200 yards, or more, inland ; then a tunnel of some seven or eight yards was cut through the rock, just large enough to permit a loaded camel to pass through. This spot was known to all as " the hole in the wall." This disappeared in '89 or '90, when a road or track was laid out along the bank and all obstructions removed.

At that time the gunboat " Kirbekan " was lying upside down in the eastern channel of the Nile between the Ordnance Stores and Sehal Island. She was being brought down the cataract last October, when the reis turned the wheel hard over to avoid a rock, so it was said, and the current caught her broadside on and turned her right over in deep water, only about a foot of her hull being visible. All the crew were saved except one Sudani stoker, who was not to be seen. Presently a knocking was heard to come from the coal compartment in the hull ; tools were obtained and a plate cut out of the bottom of the hull and the missing man was recovered. He had had a near squeak, as the water was up to his chin.

The troops in Assuan, including Shellal, comprised a cavalry regiment, camel corps, three battalions, details, and the depots of all units south. I was appointed District Instructor of Signalling early in January, and two men from twelve different units came to me for instruction. Signalling was simple in those days, only the flag, the lamp, and the helio.

On 30th December the battle of Ginnis was fought and won, and soon Assuan became very congested with surplus troops from Halfa and south: now it became possible to buy ponies, and there were frequent gymkhanas.

The battalion at Shellal had frequent cases of enteric. They were a young battalion, but the cause was assigned to their C.O. forbidding water to be taken from the Nile for drinking or cooking purposes. They were encamped just east of and behind the village, and here he had had wells dug, from which they got their water, which was presumed to be contaminated, and very probably it was.

On the river bank at Shellal were some 400 whalers.[1] When the troops returned from up Nile in the summer of '85, they handed over their whalers on reaching Shellal. The river was then high, and as it got lower these boats gradually became high and dry as the mooring ropes were never slackened; the result was that, exposed to the wind and sun, their seams opened, and the next high Nile broke them all up.

General Grenfell, the Sirdar, had quite recently opened out the entrance to some tombs of an early dynasty, some 100 feet from the river under Kubbet el Howa, and, sad to relate, the cooks for several days received as their firewood broken-up mummy cases. I collected some very fine pieces out of the ration; though I don't know what could otherwise have been done with this wood, as the well at the end of the entrance gallery was full to the top with these fragments.

Professor Sayce was in Assuan at the time, and was most instructive and interesting; one day he took half a dozen of us over to Grenfell's Tombs, and we learnt more from him in a few minutes than we could in hours from books. I remember asking him who discovered that the world was made 4004 B.C. (which I thought must be correct, as it was in print), and he told me not to believe everything I read in the first chapter of Genesis!

He was a wonder: he walked about in the middle of the day in his clerical coat, a tarbush on his head over a very red face, and never seemed to feel the heat; even in the month of September he would spend the whole day out in this kit. The natives took him for a Copt, and "el Kassis" was well known to them. In the autumn of '90 or '91 he was grubbing about some ruins on the west bank of Assuan, and got bitten by a serastes (asp). One of his boatmen came over and informed us that the "kassis" was half dead. On hearing what had really happened, Lewis, a medical officer, and I went over with a bottle of whisky as "first aid." He was brought back to his dahabieh and made comfortable, but it was

[1] I recently saw in some publication the Nile Expedition whaler described as "flat-bottomed and unmanageable"; so it may not be out of place to give some particulars of these boats.

Eight hundred of these whalers were specially built, each to carry 12 men, their arms, ammunition and rations for 100 days; they therefore carried nearly 4 tons. They were 30–32 feet in length, 6 feet 9 inches to 7 feet in beam, and 2 feet 6 inches in depth. Sharp bows and sterns, both similar; had two masts, a lug-sail on each. The cost averaged £85 each.

Of the 800 whalers, 600 carried troops up the river; 200 were employed on the lines of communication. After the Expedition, each station and each unit had several on charge, and they were most useful.

several days before he had quite got over the effects. Some rival Egyptologists started the story that the asp never recovered from biting Sayce.

1886.

In the middle of February I was relieved of the District signalling. I then started company training ; a grand country for it all to the south of Tagug to Shellal, and to the east of the valley below. Now and again I managed to go on a patrol with the Camel Corps.

In the battalion there was a sprinkling of men accustomed to pulling an oar, so soon we had very fair crews for the three whalers we had on charge ; we would go about the islands or some way down the river, and then sail back. We could not get up to Shellal, in fact there were orders against attempting it.

Generals Stephenson, Grenfell and Butler had arrived from the Front on 14th January, and were at Assuan some days. General Grenfell was there for more than a month, his dahabieh being moored on the west side of Elephantine Island. General Valentine Baker was also here most of January ; he always had a very smart guard of Sudanese Gendarmerie under a young Turkish officer (who ten years later was Sagh of the XIth) at the gangway leading into his dahabieh : they were much admired.

Early in March, much to our surprise, we received a draft from England of 150 men ; and three officers, who went home on leave from Suez, also came out. It did not look as if we would be going home for some time, so I thought I had better go when I could. I left on March 15th, and went straight to Alexandria. Here I, and half a dozen others had to wait a week, and eventually we got away on the 27th in a steamer that had brought out some stern-wheelers in sections and was returning empty. We reached the docks at North Woolwich in the evening of 9th April.

Four days later I received a telegram from the Sirdar informing me that he had applied for my attachment to the E.A. The necessary sanction from the War Office came through in a week's time, and I reached Cairo on September 2nd. General Grenfell was on leave, and Colonel Hallam Parr, the Adjutant-General, was acting Sirdar, and when he posted me to the IXth Sudanese as junior Bimbashi he said that in that unit I would be sure to see anything that was going on. Colonel Parr originally raised the battalion in 1884 at Suakin.

The E.A. had a mess and quarters at the Blue House, Abbassieh; the two last raised Egyptian battalions, the 11th and 12th, were in the barracks close by, the Artillery, Cavalry, and a Company of Camel Corps, and about the same number of British units. I was put up at the Blue House until the 10th, when I left for Halfa. We reached Korosko at 8.30 a.m. on the 17th; here were quartered an Egyptian battalion, the 6th, and a company of Irregulars of the Shagia tribe under an old Kurd, Ali Bey, who, as a boy, went to the Sudan in 1820 with Ismail Pasha. Here I first made Messedaghlia Bey's acquaintance. Next day, 18th, we reached Wadi Halfa at 4.30 p.m. Rundle, then a Brevet-Major, was in command of the outpost garrison, consisting of three battalions, 1st, 8th and IXth, two squadrons Cavalry, one Camel Battery, and two companies C.C. We numbered nine British officers when all were present.

Halfa is properly the name of a district, the northern part of which is Debarosa; then came Angash, where was the station of Ismail's Sudan Railway: some 3 miles south was the Omda's house, and that part was Halfa proper. A mile or so further on was sometimes called Sukoi. There was no demarcation between any of these sections: palm-trees and houses extended along the river for 5 or 6 miles.

The British troops had all retired to Assuan from Halfa in May. Angash had been selected as the cantonments for the Egyptian Force, and about Angash five redoubts had been built, in mud brick; No. 1 redoubt to the south, and No. 5 to the north, were on the river bank, with a field of fire of barely 100 yards, palms and houses being within a stone's throw. Rundle had been agitating for permission to clear all ground so as to have a clear field of fire for 1,000 yards. There was a difficulty in Cairo about obtaining the money to compensate the owners of the houses and trees. At last, on 20th September, a telegram came sanctioning this very necessary clearance, and next day all hands were turned on to cut down the trees and flatten the houses; by sunset the demolition was complete, and all that was required was a certain amount of levelling of debris and removal of stumps. Two hours afterwards a telegram from Cairo directed that no action was to be taken on the previous telegram for the present! At the same time the straggling hamlet of Angash was being turned into a fortified camp: 300 yards north of No. 1 fort the outer wall started from the river bank: as the river receded a loop-holed stockade of the trunks of palms was added to extend into the Nile.

(When the flood came down the following summer, this stockade so influenced the current that it carried away a large portion of ground at a bend near Argin south, some 4½ miles away, on the west bank.) The wall ran eastwards for 150 yards and then turned gradually towards the north, took in the station building with 100 yards to spare, then, when west of No. 4 fort, was curved round to join up with No. 5 fort on the bank. Inside this area a broad track from north to south was made, palms and huts removed, depressions filled in. Some huts were turned into barrack rooms, wherever conveniently situated. The right defence, from the south wall to the Commandanieh, was occupied by the IXth : their harimat was between No. 1 fort and the south wall ; the palms had not been cleared from that area. The centre defence was from the Commandanieh to about 300 yards from No. 5 fort, and took in the station house ; the 1st battalion was responsible for this defence. The left defence occupied the area up to and including No. 5 fort and the north wall. The IXth occupied Nos. 1 and 2 forts, and the 1st, Nos. 3 and 4. It was not until the end of October that the Lines were completed. The Barabra called the camp " El Geiga."

So when I joined the IXth in September I tumbled into the middle of endless fatigues. Hunter, nominally the C.O., was in England, not yet recovered from a wound he had received a few days before Ginnis. Borrow was acting C.O., and, a month or so later, was promoted to the command. The battalion was very strong, some 1,000 all ranks, as we took on all likely men and passed them on in batches to Assuan, where Smith-Dorrien was forming the new XIIIth.

Borrow went sick a few days after I had joined. One evening, after fatigues had been dismissed, while riding in the desert, I came on a party of natives under a N.C.O. of the Ordnance Stores carrying out a varied assortment of old tents, pieces of wood, etc. The N.C.O. told me that everything of any value had gone to Assuan and these things were not worth the transport, so were to be burnt the next morning. I rode back to the lines, collected some men and took them out to the condemned pile ; it was then dark, but with good luck selected three E.P. (European privates) tents, a couple of bell tents, some wooden balks and planks. The E.P. tents were made quite serviceable on being repaired with material from the bell tents, and were an inestimable boon to the battalion for the next five years—and perhaps longer.

The IXth was the Cinderella of the Frontier just then ; we could not get any clothes. There were only 27 pairs of boots in the battalion, and they were kept for the men on guard. When the new guard faced the old guard and the usual compliments had been paid, the latter grounded arms and proceeded to take off their boots, which were handed to the new guard, who put them on while the N.C.O.'s were handing over the odd-ments in the guard-room.

For uniform we had blue football jerseys, white drawers and blue puttees. Equipment, belt and bayonet, and two bandoliers carrying each 50 rounds M.H. ammunition, one round the waist, and the other slung over the left shoulder. These bandoliers the men made themselves ; when a recruit joined he was given an ox hide, or part of one, obtained from the meat contractor, and he had to make it himself. Some of the men were very clever in that work, and turned out quite ornate ban-doliers. The other units in the station had their clothing complete, so our men rather resented not receiving a like issue, but a few chaffing remarks were enough to turn their thoughts.

Every man was entitled to one wife, and for her keep she drew a piastre a day ; the man got 2½ piastres a day. Unless a man came in with a wife he was not allowed an official wife until he had served three months, and his soldierly qualities and his character had been reported on by his company commander. Fairly often a man was brought up in the orderly room to see the Bey, as " Mazlūm." He was promptly asked " Owz gowz ou owz gasmah ? " and almost invariably it was the want of one or other he was unhappy about. We had half a dozen desertions, all due to the want of boots. Just before Christmas we received all our issues in full, which made the battalion very happy.

At that time Yusef Pasha Schudi, who in the early days of the E.A. was the Brigadier Commanding the Battalions 5th to 8th, was in Halfa representing the Turkish High Commissioner, Ghazi Mukhtar Pasha. He lived in a dahabieh just south of the Commandanieh, and had as his S.O., Bimbashi Ali Bey Haidr. There was some idea that peace proposals might come from the Sudan, and in that case he was to safeguard Turkish interests. The situation south of Halfa now was that the nearest large force of Dervishes was at Kerma, under Osman Azrek, who from time to time sent raiding parties north of Akasha, and the railway as far as

Ambigul had been destroyed. Small detachments of about 150 footmen were at Suardeh and Ferket under Nur el Kanzi. We had a cavalry post at Gemai, 15 miles south, and the armoured train ran out to Sarras, 32 miles, once or twice a week. Deserters from Ferket or Kerma came in frequently, in ones or twos, occasionally 5 or 6 at a time—mostly Sudanis or Dongalowis, perhaps a woman or two.

At the end of September two of our men, an Onbashi, Khamis Braish, and a private, Faragalla Sultan, were despatched in the guise of deserters to spy out the Dervish dispositions and endeavour to glean what their plans were. Unfortunately they tumbled into a Dervish camel patrol from Kerma just after passing Akasha, and were then taken to Ferket. There they were kept two days with nothing to eat, and fell in with two of our men who had deserted a fortnight before; they bemoaned their fate, and would have returned but that they had taken their rifles with them, and so were liable to be shot. Our two spies were taken on by a party of 5 or 6 footmen towards Suarda. The night after leaving, Faragalla Sultan speared the two men responsible for their keep, stripped them of their jibbas, belts and drawers; he and the Onbashi then made off to the hills, and lying up by day got back to Halfa in safety. They brought back some quite useful information.

On the 18th October, the two gunboats, "Metemma" and "El Teb," arrived from Shellal, to form part of the garrison, and next day came Generals Stephenson and Hon. F. de Montmorency and Colonel Chermside (now in command of E.A. on the frontier) on a tour of inspection. On the 20th there was a parade of all the troops—we fell in at 4.30 a.m., manœuvred nearly all the way to Khor Musa, and dismissed at 8.30 a.m.

On the 21st they went out in the armoured train to Sarras, and found the line broken up for several hundred yards just beyond: it had only been destroyed within the last twenty-four hours. They all departed on the 23rd.

During the month of October there had been several false alarms of raiding parties coming down on the villages south of Halfa, and we had been out some four or five times with no result. There were constant rumours just now that a British battalion was coming up from Assuan.

On 2nd November spies reported that the advanced party of the Dervishes had reached Ambigul, and two nights later at Khor Musa the cavalry outposts (withdrawn the week before from Gemai) had a terrific

battle about midnight. The armoured train went out, and 200 of the IXth walked out; but when dawn came we could not find any traces of an opponent.

On the 5th, the 4th Battalion and the XIIIth from Assuan were placed under orders to proceed to Halfa. They arrived in the course of the next ten days, and were quartered, the 4th in the centre defence and the XIIIth in the left.

On the 10th, Rundle made a reconnaissance towards Sarras; the cavalry and C.C. left at 1.30, the armoured train, and another with Borrow and 200 of the IXth at 3.30, and all met at Gemai at 6 a.m. The infantry remained at Gemai, while the mounted troops pushed on to nearly six miles from Sarras, where the railway was found destroyed for some distance.

On 12th November Colonel Chermside arrived to take over command and make Halfa the headquarters of the Frontier Field Force. That day we had news that Nur el Kanzi with 1,000 men was at Gemai. So next morning Chermside went out with the mounted troops and the armoured train, and on reaching the Khor about 6.30 a.m. came on some Dervish scouts, who gradually fell back on a party of some 250 footmen. Meanwhile we were ordered out and, on reaching the extreme southern end of Halfa village about 9.30 a.m., were set to work to put the end house in a state of defence, and clear the ground round about it. The owner was intensely indignant. This building became known as Khor Musa Fort. From now on there was always a garrison at this post.

Messedaghlia came up from Korosko to take over the duties of Intelligence Officer of the Frontier Field Force. Also the Shagia, who were put for patrolling purposes on the west bank opposite the centre of Halfa Lines: they were mounted on camels. About this time there came to the Frontier Valentine Baker's battalion of black gendarmerie, commanded by H. A. Macdonald, with H. W. Jackson, both subalterns in the Gordon Highlanders: they were encamped at the south end of Debeira, 6 miles north of Halfa. They were a very fine lot of men, and we envied them their blue Zouave dress with yellow piping, red cummerbunds and white spats. They drilled magnificently, and Jackson, a capable musician himself, had worked up their bugles and drums to a high state of proficiency.

Early morning of November 18th the hamlet on west bank opposite Khor Musa was raided, and the young women, cattle, and all their stores were carried off.

On 24th a raiding party came 600 yards south of the Khor and then commenced breaking up the line. Mounted troops and the IXth went out at 4 p.m., and on nearing the place saw some 40 or 50 men on camels retiring up the slope south of the bridge, with whom the cavalry were exchanging shots. We went as far as the top of the slope, but it was almost dark and there was nothing to be seen, so all returned to Halfa. About 1,000 yards from, and south of, the Khor, close to and on the east side of the railway line were the graves of three bluejackets who had died during the '84–'85 expedition. Over their graves were crosses made out of wood from whalers, with their names roughly painted on them. These crosses were carried off to-day, and I always regretted that I had not copied out their names.

On 27th Nur el Kanzi moved to and formed a camp in the middle of Abka plain. We learnt this on 28th, and next day the mounted troops went out to locate them and ascertain their numbers. On crowning the heights east and north of Abka they had a good view of the camp, and on their presence being known there was much beating of drums, and the Dervishes fell in, some 200 moved out towards our force, while the remainder retired towards Gemai: there were about 1,000 in all. Some shots were exchanged, and then the mounted troops retired.

On 30th the IXth were hurriedly sent off by train at 1 p.m.; 5 miles beyond Khor Musa the line was destroyed for 150 yards, and we were set to work repairing it; on another couple of miles, and another break to be repaired. Abka plain was deserted; we encamped there, cavalry, C.C., Shagia and the IXth. We always went out on these jaunts with 2 days' biscuits on each man, another day's on mules, and the British officers had some food in their haversacks, and more on a mule shared with some companies' officers. This night we had to feed everybody British out there.

Next morning General de Montmorency arrived out, and assumed command. The C.C., the Shagia and the IXth marched off at 8 a.m. through Gemai to Morshed (9½ miles). The line was damaged in many places, and the going was nasty, as one had to march on the track, there being no space either side of it, for on one side was the cliff overhanging the river, and on the other side the rock came sheer down.

We remained at Morshed all day, taking up positions on the ridges: patrols went out, and news obtained from the villagers was to the effect that Nur el Kanzi was at Sarras, and part of his force now at Murrat. We started at 6 a.m. next day for Sarras, but at Segada (3½ miles) received orders to halt, and during the afternoon learnt that all forward movements were to be abandoned. Segada was a nice little hamlet then of some thirty small huts, and a thick fringe of palms between the line and the river cliff. On the north side of the Khor was the Kubba of Sittah Haggah, with the small hut of the fiki in charge close by. This holy person was said to be a black woman, a native of this hamlet long before the Turks came to the Sudan. She went to the Hajj, and on her return was resorted to by women who wanted an increase in their family, and prayers at her tomb are still very efficacious. The Dervishes had not worried these people at all, but the inquisitive black, bored with nothing to do, turned his eye on a number of freshly made graves in the little cemetery on a ridge to the east, and passing there I was horrified to see some dozen men prodding the graves with their bayonets; then a chuckle, and tearing away the earth with their hands up came a large jar full of dates; then another, and yet another. They were delighted, but Borrow was not. The "Fall in" was sounded, and we had 1½ hour's drill to keep them out of mischief. The villagers, Garrarish, said that they had hidden their dates and grain to prevent the Dervishes getting them, and now our blacks were worse than the Dervishes. But they were well compensated.

We returned to Abka next day, and here we found the 1st, half the 4th, half the 8th and the XIIIth under Lieut.-Colonel Holled-Smith, who had been brought up from Assuan to command the Infantry Brigade; but the IXth were to continue separate as divisional troops.

On 4th we had a parade of all troops, and attacked an imaginary Dervish camp. Then General de Montmorency inspected the Infantry Brigade and gave them rather a doing.

Next morning we had another parade, and then returned by train to Halfa: the Brigade marched.

All these last days we (i.e., the battalion officers) had no idea what we were supposed to be doing, or what the Dervishes wanted to do. It was unlike the latter to scuttle away when they saw the mounted troops on 29th. We learnt that they retired by Murat to Okma on the Nile, and so

to Akasha, where they stopped a few days, and then retired to their base at Suarda; nor did they molest the villagers.

In the middle of the month we at last received our clothing, boots, etc., and all hands were busy fitting themselves to turn out smart for the Sirdar's inspection. General Grenfell and staff arrived at 8 a.m., on 18th. Divisional troops were inspected that afternoon, the Brigade next morning, and that was followed by a parade of all the garrison. On the 20th the Sirdar, etc., went out to Abka, and in the afternoon held a Levée of all officers of the rank of captain and senior. They left for the North next morning.

Though reports were often received that the emirs at Dongola, Mohamed el Kheir and Wad el Nejumi, were busy making up a force of 4,000 men to attack Halfa, their advanced posts were now weaker than they had been for some months, and there was a respite from forays and excursions. So the opportunity was now seized to put all ranks of the IXth through a course of training. This was very necessary; during these last months a great many recruits had been obtained from the other side. A man was a Dervish one day; the next day he was in the ranks and probably went out to fight against his late emir without training of any sort, his neighbours in the ranks putting him in the way he should go.

The first thing we taught them was to number down. Hitherto a company on parade numbered down one, two, one, two, and so on down a front rank of 80 to 90 men. Many men could not number beyond two, others went as far as five, and most of them found the numbers between ten and 100 most complicated. In batches they were taught up to ten; then one batch of ten was put behind another, and "hedasher" was explained as one-ten, "etnasher" as two-ten, and so on. They eventually grasped what the "ten" system was, and the N.C.O.'s had to practise them up to a hundred when off parade. Even then one often heard some wild shot when a company was numbered, such as "three and twenty" followed by "seven and forty," and a subdued guffaw from someone who knew better.

They were very good at keeping their rifles in first-rate order, and in looking after their ammunition. Each man had 100 rounds in his possession. It was a bit of a shock at first to see a man with his Martini-Henry all in pieces on his blanket; but one never found that any

damage was done. But one heard weird explanations about the back-sight : why the bullet went further when the slide was raised.

We retained the blue jersey and two bandoliers for marching order, with the khaki trousers. The cartridge pouches issued were very hard leather ; it was difficult to get the rounds out ; and if the flap was not buttoned down they fell out when the man was lying down or doubling—so they were discarded.

It was unfortunate that at this period a reduction in the E.A. had to take place ; it seems that during the '84–'85 expedition there had not been much control over the expenditure of the money voted for its maintenance, and when the accounts for that period came to be scrutinised it was found that there was a very big balance debit. Consequently the newly raised 11th and 12th battalions were disbanded, the strengths of other units were decreased, and some half dozen British officers were struck off. We had to get rid of some 60 men—some of them were very old—and it was time they went, but they were not entitled to any pension. Some of them drifted to Cairo, where at Abbassieh a settlement of old blacks was gradually formed and yearly increased in size. In later years, whenever I wanted news of some old officer or man, on going there I usually got on the track : and they were wonderfully up-to-date about the latest battalion " gup."

Nos. 1 and 2 Companies had most of the men from the relieved garrisons, and of the men that came down from Khartoum in Nushi Pasha's steamers : these were mostly Shilluk, Dinka, Shuli, Nuba : Nos. 3 and 4 had a majority of Fur, Pongo, Nyam Nyam, Fertit. Two officers and some 60 men, if not more, had received the Khartoum Star issued by Gordon, but only three men were actually in possession of them at this time.

The various tribes got on very well together ; one never heard of one lot making a set against another. But they were fond of poking fun at the Nyam Nyams, and No. 3 Company had a song about " The Nyam Nyam's wife wears no clothes," but as the other ladies' walking-out dress was extremely scanty, it was almost a case of pot and kettle. One heard jokes directed at the Nyam Nyam and their neighbours, Fertit, Mongbutto, etc., for their cannibal tastes. Soon after we got our khaki drill I was inspecting the guard, and asked a man what he had got in his trouser pocket to make it bulge out ; someone in the rear rank in a loud whisper said, " A man's leg ! " and I saw the man I had questioned had his teeth

filed to a point, as the Nyam Nyam usually had. Our English Sergeant, Instructor Healey, 79th Highlanders, had a mongrel fox-terrier bitch which occasionally produced a family. Men of these tribes used to come and ask him to let them have a puppy when of a size to provide a decent meal. I had many talks with these men ; many of them had been taken from their villages when children, and knew nothing of tribal customs except from hearsay ; others, however, had been initiated into the rites connected with full manhood, before the slave-trader or the Arab had swooped down and carried them off. From what I heard from them it would seem that man-eating was only on special occasions, such as after a battle as a means of disposing of their superfluous prisoners ; or when their parents were old and ought to die, they were taken for a walk in the forest, knocked on the head from behind, and then carried back to provide a feast. Some men said that a dog was always preferable to a man for eating purposes.

Their *fantasias*, or *dilukas* were interesting, and I much regret I never noted the different formations : some were square-shaped, some circular ; some danced with spears, others with axes or *nabuts*. Some allowed their women to join in, others kept their's at a distance. On special occasions, when *buza* or *merissa* had been sanctioned, they would keep it up for eight or nine hours on a stretch.

Some of the headdresses worn at " *dilukas* " were very striking, particularly those of the Shilluk and Fertit tribes. I thought they were purely fancy until Messedaghlia told me that they were copies of what they wore in their own districts in their wild state.

Colonel Holled-Smith used to send the malefactors of his brigade over to the ruins of a small temple near a fragment of what must have been a high mud wall, on the west bank about two miles south of Halfa, where on Thursday afternoons and all Friday they worked away at clearing the sand. On December 30th, the last Thursday of '86, an Egyptian corporal on this fatigue came over about 4 p.m. to Palmer, H.S.'s S.O. to tell him they had come on a " Sanduk." I and others were with Palmer at the time, and (H.S. having ridden north to Debeira) we went off in the whaler and, there being a good wind, we were soon there, in expectation of finding great treasures. The first sight of the " Sanduk " was disappointing, the wood looking very new. Closer examination showed that the lid was fastened

down with French nails. The lid was prised up and removed, and to our dismay we saw an unmistakable something wrapped in a Union Jack; the folds being loosened there was revealed the head of a man with red hair and a red beard, the face of a mahogany or chocolate hue, dried up and hardly shrunken. We rearranged the flag and replaced the lid: a grave was dug about 150 yards north of the temple between three old gnarled sunt trees, and a small cairn of stones from the ruins erected over it. There was no clue of any sort as to who this man was; but someone at Halfa heard from H.S. the following autumn that Lady Baker thought it must be the body of one of Sir Samuel's engineers, who was taken ill at Korosko in 1871, and had been moved to a hospital at Halfa, and had there died. Lady Baker added that he had not got a beard. But Sir Samuel and Lady Baker on this occasion proceeded to Khartoum by Suakin and Berber, while their steamers in sections and other heavy gear went by the Korosko-Abu Hamed route. He might have grown a beard during his last illness. I last saw General Sir C. Holled-Smith in 1914 (he died in 1925), and this incident came up; he could not remember what the man's name was, but he was a Scotsman.

I should have mentioned before that the rolling-stock of the railway was under charge of a Scotsman named Baird, an official of what was vaguely known as the Sudan Bureau. He had a very meagre staff, the carriages few in number and dilapidated, and a certain number of trucks, meant for carrying material for construction purposes, in a better condition. There were three engines obtained from the Cape in the summer of '84, with C.G.R. (Cape Government Railway) in large letters on each side, named Gorgon, Typhon, and Phlegethon; they were in good condition, and did great service. There were some five or six older engines, perhaps dating from the time of Ismail Pasha, in various states of decay. Opposite the station, above high Nile mark on the river bank, were four or five boilers with fire-boxes; they had been lying there for years, and were usually said to be parts of railway engines, but they were meant for a sugar factory which was to have been erected somewhere south of Angash, where it was intended to put a large tract under cultivation for sugar-cane.

Old Baird one day received a telegram from Cairo, "Can you dispense with your local mobile." After puzzling over it he took it to Rundle, then Commandant, for enlightenment. Rundle declined to solve the

problem. Baird then replied, " Your local mobile not understood if you mean me—certainly not." He heard no more.

1887.

At the beginning of 1887 there were sixteen British officers at Halfa.

On 1st January we gave a farewell dinner to Smith-Dorrien, who was leaving the E.A. to go to the the Staff College. Kempster, from the reduced 12th Battalion, took command of the XIIIth in his place. The IXth now sent down a party of 20 men, some volunteers from the battalion, and others recruited, to join Stanley's Expedition for the relief of Emin Pasha at Wadelai. Only three came back. We had three peaceful winter months, and they were a Godsend. We had lots of drill and musketry, and the IXth became very smart and proud of themselves as being distinct from the brigade; and that feeling they always maintained. Colonel Chermside was an excellent trainer in drill and manœuvres; he set us situations in attack or defence, which had to be met with little hesitation. Now, too, we were able to get our lines properly shipshape.

Occasionally a tourist boat arrived; they came on a Thursday and left either Friday evening or Saturday morning. Rather awkward, as on Fridays the river bank was thronged with nude figures, blacks and Egyptians, washing themselves and their garments.

One visitor we did not approve of: he was a member of Parliament, who afterwards became noted. His arrival was heralded by many telegrams, and the post-boat was expedited so that he should have three clear days at Halfa. Friday he was taken to Abusir Rock, and then to Khor Musa; Saturday round the lines, and into the desert. That evening at dinner at the Commandanieh he told us that he had come up to see that England's money was being properly expended; that we were fortunate in living in such a charming climate; and that everyone was paid too much, and so forth. Everyone got very annoyed, except his host, our Chief, who, while in no way agreeing, replied in most courtly and diplomatic terms. But the elements had marked him down. Next morning at 7 a.m. there was a parade of all the troops for his edification. The weather for several days had been superb, but as we marched out to beyond the Kubba, 1½ miles south, eddies of wind began to whirl, and increased in strength. He was taken down the line, and up the rear rank against the wind and the dust; then the march past in column, returning

in mass—after that an advance in Review Order. The last two movements were executed in a veritable *haboob*. He couldn't have seen much for the clouds of dust. Then we moved off south for a tactical exercise, but after some minutes the " Halt " was sounded, and we received orders to break off and return to barracks. Our visitor had expressed himself as very pleased and had seen quite enough. The dust-storm continued all day, and his steamer left in the evening, instead of remaining until next morning. We heard no more of " Padgett, M.P."

In March, Baker's Black Gendarmerie returned to Cairo, whither Colonel H. Smith also went to take up another post. Our news from the south was not interesting until the end of the month, when it seemed likely that Nur el Kanzi at Ferket might attempt some raids on both banks north of Halfa. Nejumi at Dongola seemed occupied in countering raids from Saleh Bey of the Kababish, so he was a negligible quantity for the time being.

Towards the end of this month some 50 or 60 Kababish arrived from their Sheikh, Saleh Bey, to receive a present of some rifles and ammunition from the Government. They were encamped on the west bank a couple of miles north. Coles and I sailed down on the 31st to see what they were like. A good lot of men, but their camels were in poor condition. I bought a shield, oval in shape, and a curious weapon, a " trombash," which I was told came from the Mongbutto blacks. Among them I was surprised to come on the R.E. Foreman of Works, or Interpreter, Charles Neufeld, who said he was accompanying them out west to purchase gum and ostrich feathers. He had with him an Abyssinian girl as his servant, and, as it happened, it was lucky for him that he had taken her.

This party left next day and reached the wells at Selima without incident, so we heard three weeks later. There were conflicting stories about what then occurred. One was that Nejumi sent out to Selima and caught them all there ; another was that Neufeld had run short of water, and the party were diverging to go to a well in the Wadi el Kab, when they were intercepted ; and a third that after they had left Selima for Lagia their guides led them astray. With the exception of Neufeld and the girl the whole party was massacred ; the two were sent to Omdurman where Neufeld was a prisoner until 2nd September, '98. It was currently believed, I know not on what authority, that Neufeld, after transacting some business with Sheikh Saleh, had the mad idea of going to

Omdurman to get in touch with some of the European prisoners and to work their escape! A few weeks later Sheikh Saleh himself was slain by the Dervishes near Om Badr, towards the confines of Darfur.

Early this month, too, arrived at Assiut a caravan from el Fasher by the Arbain road. The first one since 1883; their journey had been uneventful, and they had only lost 120 camels en route, out of some 1,500.

On 12th April four Dervishes, bearing letters from the Khalifa to the Queen, the Sultan and the Khedive, arrived at Halfa. They were sent on to Cairo, as they were to deliver the letters personally. They were all couched in the usual strain, so they and their letters were sent back to el Bokka.

On 13th came in reports that Dervish patrols had been seen at wells in the Atbai, and that the emir Ez Zain was meditating forming a post at Murat.

On 26th rumours were afloat that some Dervishes were on their way to Sarras to make the Sheikh, one Tahir, an emir. He was in our pay, and we had been depending on him for a great deal of our intelligence.

These rumours seemed to be true, and Chermside decided to turn them out before they were comfortably settled. At 2 p.m. on 27th, 100 cavalry, 30 C.C., 60 Shagia, and 2 guns camel battery marched off under Rundle. At 5 p.m. 450 of the IXth, all that a train could accommodate, left for Abka, where we arrived at 7 p.m., having been much delayed by sand drifts. Here we found the mounted troops. We shortly moved off and reached Gemai at 9.15, where we had an hour's halt. Then we had a horrible 9 miles' walk in single file along the wrecked railway line, sleepers, rails, and telegraph wire forming an entanglement all along the route, which we could not escape, the scarped rock being on the left hand, and the edge of the river bank, there very sheer, on our left. It was most difficult progress for horses and camels. Immediately in front of us were the Shagia, who were following the Camel Corps, one of whom, rider and camel, fell with a crash into the river bed, 20 feet and more below, and I heard old Ali Bey, who did not love Egyptians, call out "Praise be to God! there's a waled Arab dead." But the man escaped unhurt, having hit on a sandy patch. The camel was damaged, the man's rifle and saddle smashed to smithereens. At Segada we watered, and halted four miles beyond, at 2.30 a.m. The day had been extremely hot, the hottest that

year. During our march from Abka we had heard men on the islands, and ahead of us on the banks, calling out to each other up the river; so we very much doubted that, if there was anyone at Sarras, they would be there in the morning

28th April.—We had two hours' halt, and moved off at 4.30 a.m., Rundle taking the mounted troops on. The men were rather done, but at 5 a.m. some shots were heard, and everyone perked up and the pace was quickened.

Presently a trooper came with a message to us and the two guns to press on, and we reached to within 400 yards of the station hut at Sarras at 6.30 a.m. The Dervishes were holding two round stone *sangars*, or breast-works three to four hundred yards to the east of the station. Each of them was held by 10 or 12 Jehadia, native riflemen. There were other small parties of riflemen on the hills east and south, and the main force was invisible behind a ridge to the south, just in front of Khor Ahmed Sherif; but ten flags were obligingly displayed well above the ridge, so that there should be no error as to their position. We did not know their strength. The two little camel battery guns, 6 centimetres, were in action some little way north of the station. Each had taken a *sangar* as their objective, and their commander, Bimbashi Mohd. Eff. Bakir, made very pretty shooting with one gun, making a breach from parapet to ground level, and killing or wounding all the defenders. The two guns were then turned on to the main position. The dismounted men of the cavalry, C.C. and Shagia were on the hills to east, working round towards the Dervish right flank.

At 7 a.m. the IXth moved off to attack the main position. Between the station hut and the steep river bank there was little space, so up to that point the battalion marched in fours. But No. 3 Company, under a little Turkish captain, Ahmed Eff. Kelusi, and with whom went Sergeant Instructor Healey, were some way back directed unobserved down the steep bank into the dried-up bed of the river, which varied in breadth from 50 to 120 yards. It was by no means good going, as it was strewn with great rocks. But the foreshore found a covered approach to the Dervish left flank.

The leading company, No. 1, when clear of the station, was "front-forming" at the double when the Dervishes from behind the ridge showed

themselves, and rushed silently in a compact line towards us. When halfway, about 300 yards, a mounted man spotted No. 3 Company below the bank; he called out, and the Dervishes, like a flight of sparrows, swerved round, were down the steep bank in a moment, and fell on the left flank of No. 3 Company, who were in a loose formation owing to the rocky ground. Borrow took the next company, No. 2, and went down the bank to assist No. 3. Some 60 Dervishes remained on the top of the bank, and small parties dribbled down from the hills; these No. 1 countered. Meanwhile the situation in the river-bed was very much mixed. The Dervishes and our men were broken up into small parties among the rocks, and the fighting developed into hand-to-hand combats between these parties. Then another bunch of men would join one side or the other. The Dervishes had some rifles down there (at least 60 were picked up afterwards), but they discarded them and used their swords and spears. Our men did more damage with bayonet than with the bullet, their snap-shooting round rocks was dangerous to friend and foe. So, telling the O.C. No. 1 to hold the top, and consider his company in reserve, I took No. 4 down the bank, and advanced them in line of sections into the area where the fighting was going on.

Gradually our bunches of men joined hands, and we slowly advanced up the river-bed from one clump of rocks to another, and although our superiority in numbers was beginning to tell, on several occasions three or four Dervishes got through our line unobserved, and charged down on our rear. All was over a little before 8 a.m. Nur el Kanzi, the Dervish leader, galloped to and fro on a dark chestnut horse: no one bothered about him until near the end, when he was shot tearing up the bank. But another rider on a white horse received a dozen bullets at an early stage, and fell in the midst of some men of No. 3.

Ahmed Kelusi got a sword cut on the head, and a spear wound which just penetrated the lungs; his revolver had jammed, and he was cursing it fluently in Turkish when he spun round and dropped in a faint. Mul. Tani Mohd. Eff. Abu Shaila of No. 4 Company had a broad-bladed Kibs spear right through the muscle of his right arm; most painful, but the wound healed up remarkably quickly. Onbashi Bakheit Ahmed of No. 3 Company was attacked by two men when he was in difficulties with his rifle, the bayonet being embedded in a man's stomach to over the bend and beyond the foresight; so he let it go, picked up the man's sword

and sliced the top off the head of the leading man as cleanly as if it had been a turnip. The other man drove a small spear through the fleshy part of his shoulder, but was accounted for before he could do further damage. Sergeant Instructor Healey was attacked just as he had emptied his revolver, and before he could draw his sword. He received a nasty cut across the head, partly saved by his helmet, and would have had another probably had I not shot the Dervish. Just towards the end Almas Morsi, Bash Shawish, of No. 4, and myself found ourselves isolated among some rocks, against one of which I was leaning. I had just refilled my revolver and my sword was hanging from my left wrist by the sword knot, when an arm came round my neck from behind and I was seized by the throat; mechanically I grasped my sword and put it up to protect my head, and as I did so a blow came down the blade on to the hilt, and at the same time I had pushed my revolver over my right shoulder until I felt something soft, and then pulled the trigger. I found afterwards I had blown half his neck away.

During the latter part of the fighting one had noticed Dervishes streaming away southwards from Khor Ahmed Sherif; there, it seems, were people from Sukkot and Mahass under Sheikh Taha, who thought it was time to go.

The Dervish losses were a little over 200 killed and ten flags, which fell to the IXth, who had 13 killed, and 3 officers and 36 wounded; 3 of the latter died, and 5 had to be invalided out of the service on account of their wounds.

At noon that day, 28th, a dust-storm commenced and blew all that day, that night, and all 29th, when we had a most horrible march back to Gemai, our wounded being carried on stretchers. Next day we marched to Abka, and thence by train to Halfa.

On night of 17th–18th May the village of Allaki was entered by some Arabs, who rode through it firing shots, and cut the telegraph wire. But the villagers were not molested. Some days later Saleh Bey Khalifa, chief of the Melikab Ababda at Korosko, reported Dervishes at Murat Wells, on the Abu Hamed road, and that it was from there that the intruders into Allaki had come, under Bahr Karrar, an Ababda and first cousin to Beshir Bey Gubran at Assuan.

Monday, 23rd May, Ramadan commenced this evening, A.H., 1304. Rundle, Coles and I were dining at the Brigade Mess, a well-built hut of

British construction on the river bank west of the station. As we were walking back towards the Commandanieh at 10.35 p.m. there went up what we thought was a rocket from the Shagia Camp on the west bank, for they had signal-rockets to fire in the event of their being attacked. But the light went up and up, increasing in brilliancy, and before it had reached its zenith it illumined the sky as if it was day. Its general direction was roughly E.N.E. About two minutes after its disappearance there came a loud report, which rumbled all round the N.E. We went to the telegraph office and enquired from Korosko if they had seen or heard anything of this meteor, but they had not. The Debeira villagers all turned out, and were much alarmed. Some months afterwards the spot where the meteor fell was located about 2½ miles N.E. of the petrified trees in the desert, 3 to 4 miles from Ishkait. The hole it made was estimated to be 10 feet by 12, and 10 feet deep. I never saw it.

Colonel Chermside had proceeded on leave, and on 4th June Lieut.-Colonel Wodehouse arrived to command during his absence.

On the night of 10th, Bahr Karrar came down on the village of Erminieh, 40 miles north, killing one villager and putting spears through two others. They cut the telegraph wire in several places, but did no looting.

On 15th, between 11 and 12 noon, one saw distinctly the crescent of the waning moon in the bright sky, and almost between the horns was a star, or rather a planet. The men all said it portended good fortune to the Government !

During the last week of June, on four occasions, small Dervish patrols from the Sarras direction came down on Ishkait, Debeira, and the hamlets between Khor Musa and Abka: they looted, beat the people and killed a couple of men. At 11 p.m., on 1st July, Colonel Wodehouse received news that another raid was likely to come off next morning, so sent me off at 4 a.m. on 2nd, with 60 troopers to patrol to Gemai, on a wide front, and to use my discretion about proceeding any further. Beech, the P.V.O. of the E.A., was at Halfa inspecting, and he asked me if he might come too, and I was only too glad to have his company. We reached Gemai without seeing anyone, and came on no fresh tracks: the villagers could not, or would not, give us any information. I thought the fiki at Sittah Haggah's tomb might be obliging, as I had several times talked to

him and given him cigarettes; so hardened my heart to traverse the horrible *agaba* of 8½ miles. Taking six men with us we made our way there: as we entered into Segada we saw three camel men wearing jibbas, riding away out of the other end at a smart pace. Beech was all for riding after them, but I knew the ground, and he did not. Sending a couple of men to watch the south entrance, and leaving the other four under cover of some huts, Beech and I galloped up to a low ridge behind the village. When our heads showed above the crest we saw some twenty or more camels "burraked" among the rocks under the hill 150 yards away, and their owners standing or sitting about them. They spotted us and seized their rifles; Beech waved his hand and called out, "Salaam aleikoum!" They had a good look at us, and then four or five bullets came whizzing past. Our last hurried glimpse of them was some men running forward, and some saddling their camels. We got safely out of Segada, and were glad to pass Khor Sila at Morshed, as there is a round-about track there from Segada, as there is also to Gemai, where we waited prepared for them, in case they were following us up. We returned to Halfa without incident. It seems that there were 80 Dervishes at Segada; after our brief visit they went south.

The next two months were extraordinarily peaceful, so we had a number of gymkhana meetings and aquatic sports, sailing and rowing; our boats, of course, were the Nile Expedition whalers.

I was down at Debeira one afternoon calling on Sheikh Mohammed of Ginnis, a refugee from the Dervishes. There was a Berberine wedding going on, and he took me to see the bride all dressed up. On her head she had a most curious erection; the cap part of it fitted her head closely all round just above her ears: from the top of it, but all in the same piece, rose up straight a stiff narrow cylinder about three inches in diameter, and two feet nine to three feet in height: the top of it was slightly rounded. This headdress was closely studded with cowrie shells, so that one could not see the material or ascertain what it was made of. A year later I saw an identical headdress at Abu Handal, near Korosko, on the occasion of the marriage of one of the family of Saleh Bey Khalifa.

There were three British officers' messes at Halfa: the Commandanieh, the Brigade, and the IXth. Between sunset and dinner we usually met in each other's houses and gossiped. Somehow the talk generally

turned on the Sudan, and all the incidents connected with it were thoroughly, and no doubt inaccurately, thrashed out.

When I joined the IXth in '86 there had recently come to the battalion as Sagh, Ali Iffat, an Egyptian, and a well-educated man, who had done good work in Marriott's Camel Corps, during the Nile Expedition. He told me that until he took part in the fight at Kirbekan, he firmly believed that our bullets would have no more effect than drops of water. "But there I saw it was not true." His belief had always been that a fiki had supernatural powers, but he had never had the opportunity of seeing those powers tested.

The riverain folk would sometimes let out in their talk that they attributed our withdrawal, after the fall of Khartoum, to the magic of the smiling man with the cleft teeth. They could not understand a force, that had come from so far, and had toiled up the river in many "little boats" loaded with stores, returning with nothing effected. They had seen the boats going up, and had seen them coming down. They had a hazy idea that we wanted to take Khartoum, but had no notion why we had not, so ascribed our retirement to the spells of the Mahdi.

The other considerations which acted as propaganda for Mahdism were our withdrawals. Gordon's announcement to Hussein Pasha Khalifa at Berber that the Sudan was to be evacuated, our retirement to Dongola and then Akasha ; then again after the victory at Ginnis, back to Sarras and Halfa. These withdrawals handed over to the Dervishes long strips of country and their inhabitants, who, to save their own skins, had either to profess or acquiesce in Mahdism. The people between Halfa and Shellal sometimes asked one if the Government were going to retire to Assuan, and even after Toski one of our Intelligence Arabs told me that there was some fear among the refugees at Debeira that we would go back to the first cataract. We won a fight at Ginnis and went away ; now after winning another fight, we might go away again.

The Ababda in the Atbai had our sympathy. Excepting their Sheikhs, few of these desert men knew what was going on and they only wished to be left alone. In the Nile Expedition the personal influence of Kitchener and Rundle worked on the Sheikhs to co-operate with the advancing troops, but when the retirement took place our influence waned, while that of Mahdism was on the increase. Like the riverain folk they

had to think of the uncertain future and their own skins, knowing quite well that we would not send out troops to assist them to hold their wells far out in the desert. The "give-and-take" policy, common in Arab warfare, was, to some of the "powers that be," considered treachery: to them it seemed natural. Minshetta Bey was made the scapegoat, and was tried and sentenced to be shot, but he was no worse than any of the others. Just after his trial Ahmed Bey Khalifa said to Dunning and myself, with a twinkle in his eye, "Poor Minshetta is now finished! To think that he should have been such a fool as to go against the Government!" We told him he was an old humbug, and no doubt was no better than Minshetta. Of course he protested.

(To be continued.)

THE AMARAR.

By G. E. R. Sandars, M.B.E.

(MAP.)

THE following account of the Amarar tribe is based on a note compiled by Mr. J. W. E. Miller in 1923. This, so far as I am aware, was the first record made of the history and organisation of the tribe, and since it was written, although detailed notes have been prepared from time to time dealing with individual sections of the tribe, there has been no attempt to describe the Amarar as a whole. During the last ten years a good deal of further information has been collected, especially by Mr. J. F. Madden, and a revision and expansion of Mr. Miller's original note is now possible.

The early history of the tribe has no authority beyond that of tradition, and even as late as the first half of the 19th century very little seems to have been known of it. Only during the Mahdia did the Amarar become prominent as one of the factors in the Eastern Sudan situation, but by that time it was only possible to get into touch with a small percentage of them. Later, after the re-occupation, internal dissensions and the difficulty of visiting the remoter sections were responsible for a certain lack of interest in the tribe on the part of Government. Burckhardt makes some reference to them in the account of his journey along the coast from Suakin to Makawwar Island, near Mohammed Ghul, in 1813. Linant de Bellifonds heard of them when at Halaib in 1833, but did not visit them. The histories of the Suakin campaigns, however, contain frequent references; of these, "Mahdism in the Eastern Sudan," by Sir R. Wingate, "'83 to '87 in the Sudan," by A. B. Wylde, and "Osman Digna," by H. C. Jackson, have been used for the present note.

No account will be given here of the tribal customs of the Amarar, which do not differ essentially from those of other Bega.

I. Present Day Tribal Divisions and Areas.

Before starting to trace the emergence and growth of the Amarar it is useful to define the principal divisions of the tribe in its present state and to describe the country which it inhabits.

The name Amarar is the combination of two Bedawiet words "Amar" and "ar"; the former is a proper name and the latter is the plural form

of the word " or " meaning " a son." Amarar, therefore, which is pronounced with all three vowels short and having the same emphasis, means " Sons of Amar." Although this is the name by which the tribe as a whole is officially known and by which it has been referred to for some considerable time, within the tribe itself and to some extent by common Bega usage the name Amarar is now confined more particularly to the Fadlab and certain sections grouped with them. The rest of the tribe are called Otman for reasons which will appear later.

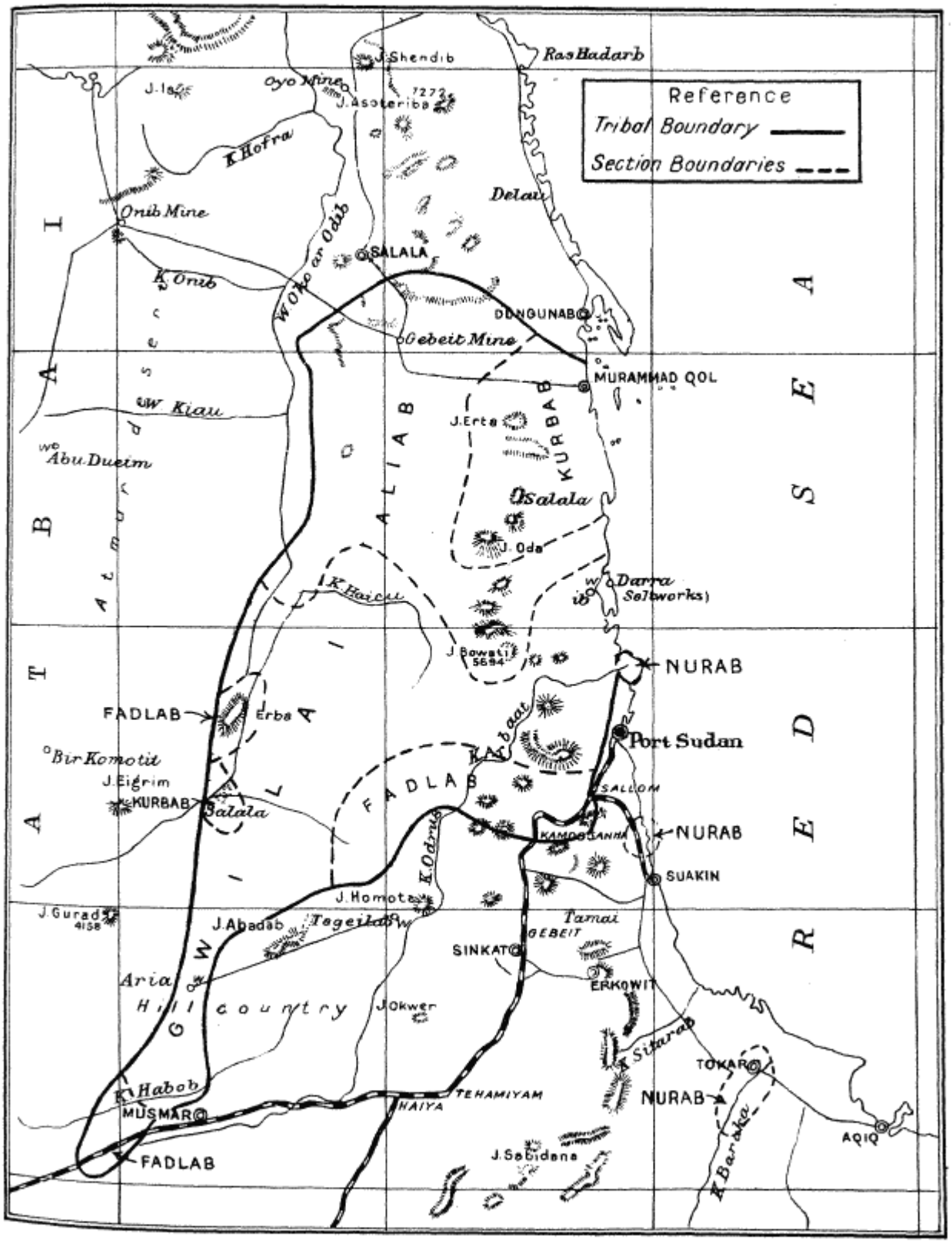
The tribal country at the present time consists of a roughly rectangular area bounded on the North by the 21st parallel of latitude; on the south by a line drawn due west from Port Sudan; on the east by the Red Sea; and on the west by Wadi Oko which flows due north draining the western slope of the hills from about the latitude of Port Sudan until it joins Wadi Diib at a point roughly west of Gebeit mine. On the coast itself the Amarar own nothing south of the Khor Arbat delta, practically all of which, except for part of Khor Aigayet, its southernmost branch, belongs to the Kumeilab and Shiyayab tribes of Tokar. But there are two appendices to the area described above, one bounded by a line running to the east of the railway from Port Sudan to Kamobsanha Station and thence north to upper Khor Arbat; the other a thin rather wedge-shaped bit of country, comprising at the north end Wadi Amur from near its source down to below Sarara Well, narrowing to some 20 miles in width at Khor Agwampt, and reaching its point at Togni station in Khor Arab. The country divides itself into—

(*a*) The coastal plain and the slopes whose water runs directly into the sea, known as the Gwineb.

(*b*) The western slope of the hills which drains into Wadi Oko and the Diib system and to Wadi Amur. This is sometimes called the Atbai, but is more usually known as the " Aulib," from a Bedawiet word, meaning " to move westward from the Gwineb."

The whole of this area, amounting to about 8,000 square miles, is hill country except for a thin fringe along the western edge of the Aulib and for the wedge-shaped area referred to above, which runs down to Togni station. The vegetation varies from the bitter grasses and acacias of the coastal plain to the rather exotic high-level plants and trees of the hills above it, and again to the *tabas* and *ghabash* grasses and less variegated trees, mainly acacias, of the Aulib. There are, within the tribal area,

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scarcely any grassy plains capable of fattening large herds of camels or flocks of sheep during the autumn.

Cultivation is practically confined to the Haieit-Oko basin, but since this is situated in the middle of the hills the crops are liable to be washed away by mountain spates. Khor Haieit itself rises some 30 miles west of Port Sudan, flows north for 20 or 30 miles and then turns west for another 30 miles ; it is in the latter stretch that cultivation is possible, and into this stretch there flows from the south the water of two big Khors, Dirab and Shabateim, which are themselves cultivable in many places. After flowing westward for 30 miles Haieit reaches Wadi Oko, at a place called Malalayafa. The greater part of Wadi Oko from Malalayafa to Wadi Kiau, some 45 miles to the north is owned by Amarar, and contains much cultivable ground. Apart from this area the tribe own a little cultivable land in upper Wadi Amur, in Khor Habub in lower Khor Arab, near Togni station, and in the Khor Arbat delta.

The principal present-day divisions of the tribe are as follows :—

(*a*) The Amarar proper, who are the direct descendants of the sons of Amar. They are at present grouped together in one bedana or omodia, known as the Fadlab, and consist of the Fadlab and Mohammedab who live in the hills to the west of Sallom station, in upper Khor Arbat and in upper Wadi Amur ; and the Eshebab who live around J. Erba (north of Sarara Well in Wadi Amur) and in Khor Habub near J. Togni.

(*b*) The Otman who, as will be shown later, are descended from Amar on the female side, and who are divided into four main sub-divisions.

(1) The Aliab, comprising the Keilab, Minniab, Manufalab, Arfuyab and Mohgen bedanas, who occupy the north-east of the tribal area from Wadi Oko, half way across to the sea. Their southern boundary is roughly Khor Haieit and J. Bawati, and they have a narrow tongue of land running east to the sea at the Sakanhalt Plain.

(2) The Kurbab, a single bedana occupying an approximately rectangular area, bounded roughly by Mohammed Ghul and J. Erba in the north and a line drawn from J. Erba to J. Oda and thence eastwards to the sea. A small section of them who are intermarried with the Bisharin, live a detached life round Sarara Well, in Wadi Amur.

(3) The Nurab, a single bedana, who live in the southern end of the Arbat delta, on the coast, between Port Sudan and Suakin and in the Tokar delta, where they have acquired a prescriptive right to land, which is not in origin Amarar.

(4) The Gwilai, composed of the Abdel Rahmanab, Abdel Rahimab, Musayab, Sindereit and Omar Hassayab bedanas. They occupy a narrow strip of country, including Eit Well on the coast (about 45 miles north of Port Sudan), passing south of J. Bawati, through the upper reaches of Khor Arbat, Haieit and Amur, and then curving south to Khors Ariab and Habub, just north of Musmar station.

A number of Amarar have nebulous claims in other regions, notably the Atbara and the Gash.

II. Origin of the Tribe.

Like most Bega tribes, the Amarar have made a deliberate effort to forget their history to the time when they became Islamised. But although they have introduced a genealogy which they can trace back to the purest Arab blood they admit to being half indigenous Bega : they have, however, by now eliminated all memory of their pre-Islamic history. In point of fact Seligman (*Journ. R. Anth. Inst.* 1913, XLIII, p. 595) places them second only to the Beni Amer as regards purity of Hamitic physical characteristics : even now probably fewer of the Amarar than of any other Bega tribe can speak or understand Arabic, and in the idiom and pronunciation of Bedawiet they are acknowledged to excel. There can be no doubt that they form part of the Hamitic Bega stock who have inhabited the hill-country of the Red Sea coast from time immemorial.

Tradition says that the tribe was founded by one Amar, an Arab of Kawahla stock, who came over and married one of the local women of J. Akereiribai, a large mountain mass situated about 35 miles W.S.W. of Port Sudan. Apart from the fact of his marriage, nothing is known even traditionally, of Amar : nor is there unanimity as to his place in the Kahil line. The Amarar maintain that Kahil was a descendant of Walid Ibn Mughaira (not of Zubeir Ibn Awwam as the majority of the Kawahla believe), and that Amar was half-brother to Bishar, the ancestor of the Bisharin. The Bisharin do not admit him to such close relationship, and

say that he was a distant cousin, who lived at a considerably later date than Bishar. It is generally agreed, however, that Amar was full brother of Morghum, from who are descended the Morghumab, and half-brother of Kumeil and Kamal, the ancestors of the Kumeilab and Kamalab. Nor is anything known of Amar's wife, except that she was from the Buga or Bega : there is no information as to the section of Bega from which she came. In fact, practically nothing is remembered of the old Bega organisation ; they are vaguely described by the Amarar as having consisted of Kumeilab, and certain almost extinct tribes, such as the Boikenab, which are now reduced to small sub-sections, living with and absorbed by the present Bega tribes.

The Amar story probably does no more, at the most, than indicate a tribal memory of the time when the Awlad Kahil settled on the coast and intermarried with the local Bega population, which they appear to have done between 1300 and 1500 A.D. To give it a lower valuation, it may simply have been borrowed from the Bisharin account of their origin.

The date at which the Amarar emerged as a separate tribe is unknown. Ibn Selim says that by 1000 A.D. the Bega had split up into a number of tribes, but there is no record that any of the present tribes were in existence as such by then. Possibly the older Bega tribes, such as the Boikenab and Gwilai Sila'ab, to which reference has been made above, may be survivals of this early division—the Amarar are certainly not. On the other hand the suggestion which is sometimes made by other Bega that the Amarar had no status as a tribe before the time of the Turkish government, cannot be upheld. Burckhardt knew them as a tribe in 1813 and, on the coast at least, which was where he came across them, he found them occupying their present territory and apparently well established there. Amarar tradition indicates that there was a period of expansion about six generations ago. This fact, considered in conjunction with the prevailing Bega view that the Amarar emerged as a tribe at a later date than Bisharin or Hadendowa may perhaps be interpreted as showing that the tribe first came to notice about 1750 :—the name must have existed before this.

III. Early History.

Going back to the mythical ancestor, Amar, we find that he is reputed to have had five sons, Fādil, Fadīl, Sheib, Amil and Mohammed ; and one daughter, Nahad or Nahat. The direct descendants by the male line of

all these, namely, the Fadlab, Eshebab, Amlab, Mohammedab and Nahdab are known as Amarar in the narrower sense of the word defined in section I. Exactly where they lived originally and whether they had any tribal organisation is not known; probably they were small independent clans living in twos and threes in the country of their more powerful neighbours, the Bisharin, Arteiga and Kumeilab. No tradition seems to attach to any of Amar's sons except Sheib.

The generally accepted version of the Sheib story is as follows: Sheib lived in the eastern foothills of J. Bowati and married two wives, one a Gwilai Sila'ab woman, who had two sons of no tribal importance, and the other, a Shammasha woman, by whom he had two sons, of whom nothing is known, and two daughters, Fatma and Miriam. Fatma married a man named Mohammed Ghul, an Arteiga merchant of Suakin. He incidentally gave his name to the small harbour of Mohammed Ghul, a hundred miles north of Port Sudan, where he had established a branch of his business to cater for pilgrims, who at that time crossed to Jeddah from Makawwar Island. One year, at the season when pilgrims were returning from Jeddah, Miriam went to visit her sister, Fatma, in Suakin. It happened that Agib Abdulla, a mankil of the Fung Sultanate, was among the pilgrims who had just returned from Arabia and was staying in the town. He met Miriam and, according to one version of the story, married her, according to another, seized and raped her. When the time came for him to start for his own country, Miriam was pregnant. Before leaving he told her that if she bore a son he was to be called Otman. Miriam returned to her father's people, and in due course gave birth to a son; he was named Otman. Otman grew up among his mother's people in Khor Oreir, a stony water-course in the foothills between J. Gumadribab and J. Oda, some 50 miles north of Port Sudan.

It is very doubtful whether the legend of Agib Abdulla and Miriam has any historical value at all. In MacMichael's "Arabs in the Sudan," Vol. I, p. 246, two Agibs are mentioned in the list of Fung Mankils: one of them died in 1610 and the other in about 1779. The Agib concerned in the Amarar story must have been the former, because Sheib is placed five generations earlier than Mohammed Agim who, as appears later in this note, probably lived about 1750. It is more reasonable to suppose that the story is merely an attempt to connect the tribe with the Fung aristocracy, and that Agib's name is used either because he was a very

well-known *mankil* or possibly because he did actually visit the Suakin neighbourhood on pilgrimage or for other reasons.

Otman, when he grew up, married Fatma bint Elagai of the Kumeilab, who were settled in Khor Arbat, quite close to his home. By her he begot four sons, Ali, Kurb, Nur and Gwilai, in that order of seniority. The descendants of Kurb and Nur became later the present Kurbab and Nurab bedanas. Ali, the eldest, married a woman from the Hadendowa/Sharaab, by whom he had two sons, Otman Margub and Minni, the latter of whom gave his name to the Minniab bedana. Otman Margub had five sons, Arfu, Manufal, Ali, Sayed and Mohgen : Arfu, Manufal and Mohgen all gave their names to what are now bedanas. Ali's son, Tama, married a Hadendowa woman named Keile'et, and from her the Keilab bedana are named ; the descendants of Sayed joined the Keilab.

Gwilai, the youngest, but the most important of Otman's sons, married five wives, none of whom came from his own tribe. They were—

(1) Fatma bint Belinda of the Arteiga, whose sons, Musa, Gwadilo and Rahma were the ancestors of the Musayab bedana.

(2) Angrun of the Bisharin/Shantirab, whose son, Fagar, was ancestor of the Fagarab, who are now amalgamated with the Musayab.

(3) Rayanet, who is said to have been of Sherifi extraction ; she had four sons, Abdel Rahman, Salma and Silman, whose descendants form the Abdel Rahmanab bedana ; and Abdel Rahim, from whom come the Abdel Rahimab.

(4) The daughter (name unknown) of Sinder of the Hadendowa/Hakolab. Her son, Hamid, married Fatma bint Omar, of the Arteiga/Hansilab, and his sons, Omar Hassai and Shafaa, were the progenitors of what are now known as the Omar Hassayab and Sindereit bedanas respectively.

(5) A woman of the Beni Amir/Nabtab, the ruling section of that tribe : the descendants of her son, Mohd. Gwilai, now form a section of the Sindereit bedana.

The matrimonial catholicity of Gwilai, if indeed he was a historical personage, is interesting because it set the tune for the Amarar expansion, which was to follow ; their most successful line of advance was always by intermarriage with the surrounding tribes.

It is said that the descendants of Otman lived under the Amarar (by which presumably is meant Eshebab) ægis for four generations, by which time they numbered 64 men. Until they reached this total they lived as a family in and near K. Oreir. Ali, the eldest son, succeeded Otman as the leader, but later, as the result of a family quarrel, Gwilai persuaded the other brothers to accept him as their head. Gwilai was succeeded by his son, Musa, who was killed by the Hadendowa/Hakolab in Khor Ameit while on his way to Suakin to trade. On his death, Wagit Isa Kurb, the grandson of Kurb wad Otman, took his place ; he, however, went blind and the question of a successor arose. Wagit is said to have told the tribe that he would recognise the man who should be sheikh by his way of shaking hands. The young men of the tribe were assembled and after greeting them all Wagit pointed out Agim wad Musa. After the deposition of Ali the Gwilai family seem to have been recognised as the lawful rulers, and Wagit no doubt adopted this Old Testament device because he realised that the tribe would not stand a Kurbab leader, and at the same time wanted to avoid reproach from his own clan for not nominating one of them.

Agim is said to have been born to Musa by a Sherifi woman at Suakin and to have studied the Koran there with Wagih Abdin of the Shadaliya. Although designated sheikh by Wagit he refused to undertake the headship of the tribe until he had avenged his father's death. He, therefore, collected a body of Otman and Amarar and went to Khor Ameit, where he defeated the Hadendowa and recovered his father's bones. These he reburied in Khor Kamobsanha near J. Akereiribai. He married one of his daughters into the Hannar Bisharin. The move of the Kurbab from Oreir to the area around Mohammed Ghul and J. Erba and that of the Nurab to lower Khor Arbat, where they established themselves by intermarriage with the Kumeilab, are said to have taken place about this time.

Such is the tribe's story of its first origins. It perhaps indicates that until the time of Gwilai the Amarar consisted of a number of clans intermarried with and possibly living under, the protection of their more powerful neighbours, such as the Bisharin and Arteiga ; that from the time of Gwilai for some reason unknown they, or a part of them, coalesced under his house as the ruling clan and formed a contiguous block on the eastern slope of the hills and the coastal plain. On tribal chronology

Otman would be dated about 1600–1650 A.D., but no historical importance attaches to so speculative a computation.

IV. The Otman Expansion.

Agim was succeeded by his son, Mohammed Agim, and it is under him that Amarar expansion away from the coast seems to have started. He is placed six generations above the present Nazir (i.e., perhaps about 1700–1760). The story is that Mohammed Agim married a daughter of Fiki Bilal of the Hadendowa/Andash, who lived at Hilgi on the R. Atbara. As the journey he had to make to visit his wife was very long (he presumably went via Suakin, Tokar, Taka and Goz Regeb) he decided to shorten it by trying the route west of the hills. He accordingly moved with the Otman into Wadis Haieit, Dirab and Amur, and seized T'Omlei Well in Wadi Haieit. Wadi Amur was at this time in the hands of the Genna Kuka sections of the Bisharin; the Anakwiabab Bisharin were north of Dirab and the Hadendowa south of Amur. Now, if conclusions may be drawn from the tribal genealogy, Mohammed Agim's expansion to the west took place rather before the Bisharin move from the Atbai to the Atbara under Hamad Omran Isa. It is said by the Amarar that their expansion led to trouble with the Bisharin and that a Bisharin expedition was sent as far as K. Oreir, where it was defeated by the Amarar. It is more probable that the Amarar merely expanded into territory which was left more or less empty by the Bisharin, some of whom had already settled on the Atbara before Hamad Omaran's expedition. The distribution of Amarar land within the tribe in this western area perhaps supports this theory, for the upper stretches of Haieit and Dirab, which would be evacuated by the Bisharin first, are the parts occupied by Gwilai sections; lower Haieit and Oko are almost exclusively Aliab, who probably came later. Mohammed Agim, having consolidated his position in this piece of country died and was succeeded by Musa Mohammed. Musa adopted a policy of peaceful penetration to increase the tribal lands. In his time the Bisharin held nothing south of Wadi Amur in the hills. Kokreb, where their tribal ancestor is buried, was in the hands of the Hadendowa, whose sheikh was then Shankwin wad Asad. The Bisharin, however, had undisputed sovereignty over the whole of the Atmur plain west of the hills; Khor Arab downstream of a point near Jebel Musmar was neld by the Madorab Bisharin. Ariab was in dispute between Bisharin/Madorab

and Hadendowa, and there were continual fights over the watering rights in the *gammams* there. Musa Mohammed supported the Hadendowa claim, but he appears also to have been on good terms with the Bisharin, probably the result of intermarriage between the tribes. He was eventually made agent for the former over the Ariab well-field. He is said to have married wives from three sections of the Hadendowa, the Shebodinab, Hamisab and Adaroyab.

Musa Mohammed's term as sheikh was probably roughly coincident with the Bisharin move to the Atbara under Hamad Omran Isa, i.e., perhaps 1760–1770. Apart from his date as given by tribal genealogy it is commonly believed that there were Amarar helping Hamad Omran; it is therefore probable that the expedition took place when relations between the two tribes were good, and Musa Mohammed's name is especially remembered for the excellence of the tribe's foreign relations at the time. It was probably also in his time that the Aliab Amarar expanded down W. Haieit and established themselves around Malalayafa, the junction of Wadi Haieit and Wadi Oko, on land which must previously have belonged to Hannar Bisharin. He was buried in Khor Kokreb and was succeeded by his son, Mohammed Musa. From the fact that nothing is remembered about Mohammed Musa it may reasonably be supposed that he was a nonentity who did not hold the sheikhship for very long. He is known to have married a woman from the Hadendowa/Shebodinab, by whom he had two sons, Hamad Hassai and Ali, whose names are famous in legend as the consolidators of the present tribal boundaries. Hamad Hassai is said to have studied the Koran in Damer under the Magazib; with him was Saad Mohammed Hakkam, grandfather of the present tribal Kadi Mohammed Sherif Saad. These two appear to have formed a lasting friendship in Damer: when they finally left the Khulwa they agreed that Hamad Hassai should administer the tribe while Saad Mohammed dispensed justice. The distinction then made between the administrative and judicial houses of the Musayab has lasted till the present time; so, fortunately, has the friendship between them.

Thus far the story rests on tradition only and the dates have been pure conjecture. Hamad Hassai is the first name which is historically corroborated. Linant de Bellefonds mentions him (under the style of Ahmed Assaye) as sheikh of the Amarar at the time of his visit to Halaib in 1833. The Amarar themselves claim that Hamad Hassai was their

sheikh when the Bisharin moved to the Atbara under Hamad Omran, but Bellefonds shows that he was a contemporary of Hamad Mohammed Esni (great-grandson of Hamad Omran) whom he, Bellefonds, had met at Baluk on a previous journey. Hamad Hassai, with the help of his brother, Ali, consolidated the Otman position in the Ariab area and acquired land in Khors Habub and Arab. Both these areas were originally held by Bisharin, but Habub had largely passed to the Eshebab through intermarriage. Arab, below Musmar, belonged to Bisharin/Madorab, an almost extinct section who came under Amarar protection about this time, above Musmar were Arteiga/Hansilab. Hamad secured a position for his tribe in both these *wadis* by marrying an Eshebab and a Hansilab wife. The rather nebulous claims thus acquired have been a source of friction between Bisharin, Amarar and Hadendowa ever since. He is also said to have arranged with the Turkish Government to protect the Ariab-Obak stretch of the Berber-Suakin road in return for a license to collect tolls on caravans. He died probably about 1839, undoubtedly the historical hero of the tribe and their most successful exploiter of peaceful penetration.

While the Otman sections were expanding towards the west, the rest of the tribe seems to have stayed in its own borders. Eshebab penetration in the Obak neighbourhood had probably taken place some time previously. It may have been at this time that some of the Fadlab moved with the Hadendowa to the Gash. Both Burckhardt and Bellefonds refer to the Amarar as a single tribe under Otman sheikhs, and it may be inferred from this that whatever distinction had originally existed between Otman and other Amarar, had disappeared by the end of the eighteenth century, and that Amarar sections did in fact recognise Otman suzerainty.

V. The Turkish Occupation.

Some sections of the tribe must have been in touch with the Government from the beginning, owing to their position on the Berber-Suakin road and to their proximity to Suakin itself. Little, however, is known about the relations between them during the early part of the occupation; and the tribe does not seem to have been regarded as of any importance. Although Burckhardt, after travelling through their country in 1813, realised that they were a separate tribe, Bellefonds in 1833 was under the

impression that they formed a branch of the Bisharin. His only information about them was that their women were remarkable for their beauty and incontinence. For administrative purposes the Amarar fell mainly within the province of Suakin and at some period tribute was imposed. From a report by Col. Stewart it appears that the sum paid to Suakin mudiria by the tribe was £E.661 until 1881, when it was reduced to £E.556. These sums were just about the same as those paid by the Hamdab section of the Hadendowa, and that the Turkish Government should have been content with such a light tribute is proof that the greater part of the tribe was outside its control. There was also another section living in and near Berber who paid £E.100 with the Ababda. It may be assumed that only the sections nearest to Suakin and Berber were compelled to pay and that the Kurbab and Aliab sections of the tribe avoided all contact with the Government. A more severe and unpopular imposition than tribute, however, was laid on the tribes in the immediate neighbourhood of Suakin: the duty of providing transport camels for Turkish officials, soldiers and Government stores going inland via Berber. Wylde mentions that its heaviest incidence was on the Amarar, among whom it caused great discontent.

The sheikhship of the tribe passed on Hamad Hassai's death to Tahir, his son by the Musayab wife. He was sheikh for nine years and was responsible for digging the large well named Gwararawe in Khor Ariab, which is still the tribal focus, and widely renowned for the efficacy of its water for *nagas*. After him came Taha and Mohammed his half-brothers, the former by an Eshebab, the latter by an Arteiga mother. Nothing is remembered of them beyond their names. Mohammed was succeeded about 1876 by his nephew, Hamad Mahmud, who was sheikh of the tribe at the beginning of the Mahdia.

Meanwhile Mahmud Ali, the sheikh of the Fadlab, had been carrying on an intermittent feud with the Hadendowa/Hamdab in the upper reaches of Khor Arbat near J. Homot. It was the usual story of land, camels and women, raids and counter raids; but the root of the matter seems to have been the control of that section of the Suakin-Berber road, and eventually the Turkish force at Sinkat intervened on the side of the Hamdab. Their rifle fire accounted for 19 of the Fadlab, and left the Hamdab in possession of the disputed area. A year or two later the Fadlab in revenge succeeded in murdering Hamad Dow, the Hamdab

sheikh, after which a precarious peace was made between the two tribes. The Hamdab were closely intermarried with the Musayab, and the story of Fadlab aggression against them shows that Musayab influence in the non-Otman sections was on the wane; it is even not unlikely that the present split between Otman and Fadlab owes its origin to this feud. At about the same time the Nurab established themselves in the Baraka delta at Tokar attracted by the cotton schemes which were being started there. Their history seems to have been that from Arbat, where they came in contact with Kumeilab and Shiyayab, they had spread gradually southwards, intermarrying with these two tribes and had established themselves with them in the triangle between Suakin and what are now Sallom and Port Sudan. A few scattered members of the section had penetrated to the Baraka delta with their herds, and some had even reached the upper Baraka before cotton cultivation was started at Tokar. Another important event in tribal history, which occurred about 1860, was the migration of most of the Minniab section to the Atbara, owing to a feud in their own country. They were the first considerable section of Amarar to settle in this region.

VI. The Mahdia.

A good deal of information is available about the activities of the tribe during the Mahdia, much of it derived from official sources. Their geographical situation precluded neutrality in the fighting between Osman Digna and the Suakin force. Osman's influence inland, and the meagre support promised by the Suakin force to its friendlies, compelled the bulk of them to sit on the fence and some sections to join the Mahdists, while the sections nearest to Suakin tended to remain loyal to the Government side in the hope of better times.

When Osman Digna started from El Obeid in 1883 to raise the Eastern Sudan, his first visit was to Ariab, where Hamad Mahmud, the Amarar Nazir, was living. He failed to persuade Hamad to declare himself as an open supporter of Mahdism, but Hamad, not wishing to jeopardise his position as toll-collector on the Suakin-Berber road, sent with him the Musayab fiki Ali Gwilhabi as his representative, partly no doubt to keep in with Osman Digna, partly perhaps to report on the tribe's reception of him; some of the Isayab accompanied him. In the absence of a definite lead from the head of the tribe the various sections had to make

up their own minds which side they were to follow The first to declare themselves for Osman Digna were the Abdel Rahmanab under Mohammed Adam Saadun, father of the present Omda, and Onur Isa Magit ; two sections, the Silman and Salmab, refused to join them ; the former was attacked and punished by Mohammed Adam's force and the latter took refuge at Suakin. Their sister section, the Abdel Rahimab, remained loyal to Government. The southern coastal sections, Fadlab, Sindereit, Omar Hassayab and Nurab, sided with the Suakin force and put themselves under the leadership of Mahmud Ali of the Fadlab, now granted the title of Bey. In 1884 this force was active between Suakin and Trinkitat, and later assembled at Barghut, the modern Port Sudan, in an endeavour to secure the 5,000 dollars reward offered that year for Osman Digna's head. Mahmud Bey's force was also present at the battle of Tamai in that year.

In 1885 Osman Digna made an expedition to Kassala, where Hamad Bishar of the Minniab, joined him. In 1886 he was again back near Tamai. At the beginning of that year the Abdel Rahmanab fought a successful action against friendlies in Khor Abent, but shortly afterwards their leader, Mohammed Adam Saadun, was killed in a fight with Hadendowa in Khor Arbat. Soon after this the Commander in Chief at Suakin had to tell Mahmud Bey that he was not in a position to give any military support to the tribesmen in their resistance to Osman Digna. The latter realised the situation and endeavoured to frighten the Amarar into changing sides. He first segregated a number of Omar Hassayab prisoners, including Kurub Hamid, their sheikh, in an open zariba and left them to die of thirst ; then he publicly executed Hamad Mahmud, the Nazir, and Hassab Abdulla, the sheikh of the Nurab. Hamad Mahmud had moved down to Suakin the previous year with his family under compulsion of Osman Digna, and when the latter left for Kassala, Hamad, according to Wingate, had made overtures to the Suakin force ; this was no doubt the real cause of his murder He does not seem to have been an outstanding personality in any way and the situation in which he found himself was beyond his powers of judgment and decision. He tried to sit on the fence and paid the usual penalty of those who do so unsuccessfully. The effect of these murders must have surprised Osman Digna ; there was an immediate stiffening of Amarar opposition to him, and in September an Amarar force under Mahmud Bey and Mohammed Gwilai'or, the Sindereit sheikh,

attacked and captured the Mahdist camp at To Selha. A reward of £E.2,000 was given to the tribe, most of which is said to have gone into the pocket of Mahmud Bey.

Further north the Abdel Rahmanab Amir Onur Isa Magit, had, in 1885, established himself among the Kurbab near Mohammed Ghul, and Mahdist posts had been set up at Bela, Yoider and Shin'ab harbours. At Shin'ab supplies from the Arabian coast were landed regularly for the Dervish forces on the Nile. There was no enthusiasm for Mahdism among the Kurbab, but they were a long way from Government troops and they saw the prospect of profit and possibly loot. When Holled-Smith established a post at Mohammed Ghul in 1886 the movement collapsed in that region; Onur Isa Magit was captured by the Kurbab, handed over to Government and shortly afterwards died in Suakin Mohammed Medani, another agent of Osman Digna, who had advanced with a force from Tamai as far as Bir Ait was driven out, smallpox broke out among his troops and he was finally surrounded and cut up by Mahmud Bey's force at Barghut. By the end of 1886 steamers were loading salt again from the Rawaya salt pans, near Dongonab.

In 1887 Osman Digna's Abdel Rahmanab supporters moved to the neighbourhood of the Gash. In the same year there was nearly a rupture between Amarar and Hadendowa friendlies over toll-rights on the Suakin-Berber road. The Commanding Officer at Suakin patched up the quarrel, but the friendlies seem to have been getting very restless under Mahmud Bey's leadership. Some of the Musayab cut up a small Dervish force near Dara at the mouth of Khor Garar O Eira, but the following year Ahmed and Nefir, Mahmud's own sons deserted him. They were sent to attack Rawaya but Mahmud Bey overtook them and dissuaded them. They returned, however, to Osman Digna, who later in the year took them both to Omdurman. Ahmed died on the way back, it was believed by poison. Osman was away at Tokar and Omdurman during the greater part of the year, and attempts were made at Suakin to form an Amarar-Hadendowa alliance against the Baggara, who were reinforcing him, but the Amarar force was greatly reduced in value by the desertion of Mohammed Gwilai'or and the Sindereit. As the principal Otman sheikh he could no longer bear to see all the kudos, and still more the rewards, reaped by a Fadlabi. He did not actually join the Mahdists, but his neutrality was a source of embarrassment to the Suakin force. The year 1889 was one

of severe famine, and towards the end of it Mahmud Bey died. He was succeeded by his son Hamad, nicknamed Darabkati. Famine and conditions had, however, dispersed most of the friendlies, and though Darabkati remained the spokesman of the tribe vis à vis the Suakin force, there was no more fighting in that region.

The rest of the Amarar activities, such as they were, centred on the Atbara. It has been mentioned above that Hamad Bishar, the Minniab sheikh, accompanied Osman Digna on his expedition to Kassala in 1885; he subsequently visited the Khalifa at Omdurman, where he was presented with a nugara and given the title of Amir, as the principal Amarar sheikh on the Mahdist side. On his death, which occurred about 1887, his nephew, Musa Adlan, was appointed in his place by the Amir Abu Girga. Musa used his position to set up as a camel stealer and general brigand on the Atbara, between Adarama and Goz Regeb. The famine conditions of 1889 drove a lot more of the Amarar to the Atbara in search of grain; and by the time that Osman Digna established himself at Adarama in 1891 there were settlements of Minniab, Manufalab, Abdel Rahmanab and Musayab. The latter came with Osman himself who, since the murder of Hamad Mahmud, had kept Hamad's family with him and married one of his daughters From 1892 until the end ofthe Mahdia, Osman Digna's activities were confined to raids on the Butana tribes: the Amarar took no particularly distinguished part in these. Musa Adlan, their Amir, played generally for his own hand, but hearing that there was a movement on foot for his removal, and probably execution, he fled to Suakin and gave himself up to Government. He was at that time a picturesque figure and many amusing stories of his swash-buckling activities are told on the Atbara. After his deposition no one from the tribe held an important position on the Dervish side. Between 1896 and 1898 as many as could do so deserted to Suakin or simply left the Atbara. The sons of the late Nazir, however, were kept under close surveillance at Adarama and sent in to Omdurman just before the battle of Nakheila (the Atbara).

The account of the tribe during the Mahdia has had to be given in some detail, partly because the fighting consisted of small isolated actions, partly because the groupings and regroupings account for much of the present confusion and cleavage in the tribe. Not only was the Fadlab-Otman split intensified; almost every other section except some in the

far north was divided into two parties, with consequent blood-feuds, thefts and territorial encroachments to be settled later. The one stable feature was the loyalty of Mahmud Bey and his Fadlab. Unfortunately he was the wrong man for Government to back because he could not carry the tribe with him. Mahmud's avarice seems to have been so great that even had there been no reluctance on the part of the Otman to serve under a Fadlab leader, dissensions were bound to arise—Wylde, an English merchant of Suakin, who had travelled extensively among the Amarar, knew them better probably than any one, and even made the land journey to Mohammed Ghul alone at the time when Mahdist prestige on the coast was at its highest to show that it could be done, writes of him : " Mahmud Ali Bey, who is only a very minor sheikh, and is head of the small Fadlab tribe, which does not muster a hundred fighting men, is made above everyone by the Egyptian authorities, and the tribesmen will never consent to be under him . . . . the very last thing that hereditary sheikhs will stand is to be at the beck and call of an upstart." It was Wylde's view that with a little judicious backing of the right sheikhs, the Amarar would have stood solid against Osman Digna. While Amarar unity could have had no appreciable effect on the Mahdist movement, the disintegration of the tribe which resulted from its handling during this period undoubtedly made the problem of its organisation and administration in subsequent years more difficult than it would otherwise have been.

VII. Recent History.

The reoccupation found the tribe in a very disorganised state. The Kurbab and Aliab/Keilab in the north were the only sections who had been comparatively unaffected. Their sheikhs had been fairly consistently anti-Mahdist, and their tribesmen had not disappeared to join Osman Digna. Of the other Northern Aliab sections, probably half at least of the Minniab and Manufalab had joined the Atbara *ansar* and were still on or near the Atbara. The Arfuyab had, almost to a man, left the Sakanhalt Plain and removed to Suakin and Tokar. Further south the Aliab/Mohgen, the nearest Aliab section to Suakin, had kept to their hills and disregarded the turmoil around them. Of the Gwilai sections, the Abdel Rahimab, Omar Hassayab and Sindereit had supported the Suakin force until the defection of Mohammed Gwilai' or divided the Sindereit. Both the Abdel Rahmanab and the Musayab, however, had large contingents

who had supported Osman Digna in the Atbara area, and the Musayab had seized the opportunity afforded by disturbed conditions in the country near Musmar to drive their wedge between Hadendowa and Bisharin as far south as the Yastiai well-field, half-way between Musmar and the Atbara. The Nurab had entrenched themselves firmly in the Baraka, only small groups remaining on the tribal land in Arbat and on the coast north of Suakin: their mode of life and economics had become assimilated to those of the Tokar tribes and Tokar eventually became their administrative centre.

On the whole there was little tribal feeling left and much bitterness between the sections. Lord Kitchener found Mohammed and Ahmed, the two sons of Hamad Mahmud, the late Nazir at Omdurman, after the battle and sent them back to Ariab, saying that he would see that they took their proper place in the tribe; but they were young and had been out of touch with the bulk of the tribe for some years. Ariab was remote from Suakin, where the province headquarters was established, and the claim to recognition which Mahmud Bey Ali had set up by his loyalty to the Government side could not easily be ignored. Mahmud's son, Hamad (Darabkati), was therefore appointed sheikh of the tribe. Wylde's opinion of Mahmud Bey's potentialities as head of the Amarar proved equally true of Hamad, whose position was in fact more difficult than Mahmud's owing to the bitter opposition of Mohammed Gwilai'or, who was, at the end of the Mahdia, without doubt the most powerful of the Otman sheikhs. At his instigation the Otman sections of the tribe refused point-blank to co-operate with a Fadlab sheikh. Mohammed himself was held prisoner in Suakin for some time in the hope that he would prove more amenable. But he refused and finally Hamad's appointment as Nazir had to be dropped. In 1902 Mohammed, the eldest son of Hamad Mahmud was appointed. He was capable and had the support of a large proportion of the tribe; but he was, and always had been, incurably idle; and he had married on the Atbara and was determined not to leave it. Whether his idleness was constitutional or whether he assumed it to avoid the responsibilities of sheikhship, it produced the result he wanted, and in 1904 he was dismissed, much to his relief.

After the failure of these two attempts the Government made no further effort to get the tribe together and it was administered for the next twelve years as a number of separate bedanas. During that period the

most influential person in the tribe was Mohammed Sherif Saad, known as Fiki Saad, of the Mussayab, the tribal Kadi. Completely illiterate, but possessing an unmistakable honesty of purpose and a genius for the forms of compromise which appeal to the Bega, he continued to settle not only disputes within the tribe but also those arising between Amarar and other tribes. He did not come into much contact with Government and rarely had recourse to it for enforcing his decisions, but when any official toured the district he could be relied on to help. His nephew, Mohammed Ibrahim, on the other hand, during the same period gradually became the recognised mouthpiece of the tribe before Government, and was eventually appointed omda of the Musayab. This man, clerk to his uncle, and frequently under suspicion of falsifying his judgments, had no connection with the sheikn's house and owed his position partly to his relationship to Fiki Saad, but mainly to his never-failing appearance as advocate in any case involving Amarar. He retained his influence until 1916, when he fell under suspicion of seditious activities in Port Sudan and among the tribe. He was dismissed from his sheikhship, and Ahmed, younger brother of Mohammed Hamad Mahmud, was appointed Nazir of the tribe.

Ahmed Hamad Mahmud came to a difficult task. There were in the tribe many senior sheikhs who had been on their own for the last 30 years. The Darabkati family refused to co-operate in any way with an Otman Nazir, and their attitude affected the Fadlab for some years; the Nurab had gone to Tokar and had almost cut adrift from tribal influence, and the sections which had moved to the Atbara in the Mahdia, had for the most part remained there. The latter had no proper sheikhs themselves; they were living in a different province from the rest of the Amarar, among a tribe who were themselves without a sheikh of authority, and as a result they were under no effective control at all. Ahmed Hamad, however, is a man of very considerable ability and tact, and by judicious consultation of his senior sheikhs he got the support of all sections and gradually acquired a very considerable influence in Northern Bega affairs. The keynote of his policy has been to make no attempt to recall the outlying sections, but to extend the tribal influence to the regions where they have settled. This was an easy matter at first because the surrounding tribes had no strong sheikhs or fixed policy of their own, and individuals welcomed the dues paid by Amarar cultivators and grazers. Later, when

these tribes were themselves reorganised and their sheikhs acquired influence, the Amarar policy of infiltration was the cause of considerable friction, especially in the Atbara area and along the Hadendowa boundary, where a dwindling local population had made encroachment easy.

On his appointment Ahmed Hamad was brought down from Ariab to Musmar to be in touch with the district and province headquarters, which were then at Port Sudan. Musmar is the meeting point of Hadendowa, Amarar and Bisharin boundaries, and Ahmed Hamad found it an ideal focus from which to extend his influence over the leaderless Northern Hadendowa section and the chaotically disorganised clans of Bisharin living in the Atbai. The process was facilitated by a long tradition of intermarriage with both tribes. It ended, as soon as proper attention could be given by the authorities to Bega affairs, with the appointment of a Nazir for the whole of the Hadendowa in 1927 and the amalgamation of the Bisharin under a Nazir of their own in 1929.

It is perhaps worth mentioning that until 1922 the administration of the tribe depended almost entirely on a single annual tour by a British official, and that Berber, Suakin, Port Sudan and Sinkat have in turn been its headquarters.

VIII. General Character of the Tribe at the Present Time.

Physically the Amarar resemble the other two Bedawiet speaking tribes, but being of rather purer Bega stock, on the whole they excel them in stature and looks. Their speech is notably free from Arabic modernisms and they are recognised as having the best pronunciation of Bedawiet. The *tiffa* survives among them to a greater extent than elsewhere. In a fight they are the most redoubtable of the three tribes and are seldom challenged on equal terms by the others. Their general way of living, as is the case with all Bega, habituates them to lack of food and water and induces great endurance. Their better physique enables them, with proper food, to undertake the sharp effort of portering and other hard manual labour more readily than the others. Their normal diet is milk and grain supplemented by meat, which is obtainable more easily in the hills than on the plain. Fish is never eaten except by certain sections living in fishing villages, who use it as a substitute for meat. As companions the Amarar are delightful; quick of perception, with a great sense of humour, and

usually a fund of anecdote. As would be expected from their history, they are very typically hill-men on their own hills; again, perhaps for historical reasons, they are quicker than the other tribes to resent an insult. Their women have a remarkable degree of freedom, of which they generally make full use.

They are estimated to number between 40,000 and 45,000 persons, including women and children. This figure can be divided roughly into 40,000 Otman, and something under 5,000 Fadlab, or Amarar proper. The bulk of the tribe occupy the area described in section I above; the Nurab in Tokar district amount to perhaps 4,000 persons. In Port Sudan there is a floating population of about 4,000, and some 3,000 are settled permanently in the River Atbara area. There can be little doubt that the tribe as a whole is numerically on the increase. A hundred years ago they were smaller, poorer, and very much less important than the Bisharin; now they are probably three times as numerous, and certainly of equal or heavier weight in Bega politics. It is true that the Bisharin have diminished in numbers during the same period, but it is hard to believe that the change in the relative size of the two tribes is due only to that fact. The increase may perhaps be ascribed to the greater food supply available after their expansion from the hills to the western plains, and the consequent multiplying of their flocks and herds. In part, it may also be due to the fact that they are a less in-bred tribe than their neighbours, having almost a predilection for marriages outside the tribe.

The tribesmen, though they have no permanent dwellings, are not really nomadic at heart. The nature of their country makes necessary seasonal moves of varying distances. On the eastern sides of the hills these movements are very slight, usually not more than 20 or 30 miles, and are made from the hills in November or December to the coastal plain, where the new grass is normally coming up at that time, back to the foothills about March and to the mountain Khors in April or May for the acacia pods. In the west conditions are rather different; the *nagas* have to be fattened on the grasses of the *atmur* plains between August and November. The plains are waterless, and by the middle of November the herds have to be withdrawn within reach of the wells in the foothills. There they stay for as long as the grazing lasts or until the acacias are in pod, when they move to the hills proper. The march in search of grass in the autumn may be a long one; in a bad year it may even reach to the

Atbara: normally, perhaps, it averages 60 or 70 miles. Very few of the tribe move both to the coast and to the *atmur*: the flocks and herds of the western sections are for the most part used to the *atmur* grasses and do not need the bitter coast grazing; such as do move from one to the other are in the transit stage and are tending to give up their coastal grazing. Locality and migration have an important effect on tribal discipline: the eastern sections live at close quarters in their hills for most of the year and are still at close quarters when they move down for the grazing in the winter; the sheikh is always with his section. In the west, however, the young men go further afield with the *nagas* in autumn, and are often on their own in small parties for months at a time. An increasing number of the tribe cultivate grain in the autumn which, since cultivation on Amarar soil is scarce, generally involves the moving of families and their temporary settlement on some other tribe's land. In the summer the *nagas* water at one set of wells, the flock usually at another further up in the hills. In these conditions a sheikh can seldom be in touch with the whole of his section at one time, and the spirit of family independence grows.

A very noticeable characteristic of the tribe as a whole is their readiness to settle permanently among strangers and their apparent indifference to their own lands. They do of course resist encroachment when it is threatened, for failure to do so is a mark of poor spirit, but individuals and sections will desert their country without compunction and settle permanently in Hadendowa or Bisharin land with no thought of return. This largely explains the success of their expansion in which peaceful penetration and diplomacy played a far more important part than is usual in Bega affairs. The Amarar have no history of conquest comparable with that of the Hadendowa in the Gash or the Bisharin on the Atbara. Apart from the large sections of the tribe mentioned above which have settled at Tokar, on the Atbara and in the Gash, small groups have penetrated to Gedaref district, Berber and, of late years, Asswan. Intermarriage and settlement with neighbours often solved immediate difficulties of water and grazing and, so long as the tribe was in the position of youngest and smallest of the family, no complications followed. But when, having got a footing in the lands around them, they rose to terms of equality with Hadendowa and Bisharin, claims to rights in other people's assets were introduced. These, as mentioned in Section VII, led to friction with their

neighbours on every front—which is still liable to break out. Economics have no doubt been largely responsible for Amarar settlement; sheep and large herds of camels cannot thrive in the hills. As soon as they increased beyond a certain limit, grazing had to be found somehow on the plains; presumably the tribe was still small and unorganised when this happened, and the habit of settlement so formed has persisted.

A result of this migratory characteristic is that the Amarar have intermarried a great deal with other tribes: the Aliab sections in the north are connected with the Shantirab, Um Nagi and Hannar Bisharin along their northern and western boundaries. The Kurbab have affinities with the Kumeilab on the east (both use the same camel brand, the Orum) and with Bisharin Um Nagi sections on the west. The Nurab have contracted relationships with the Tokar tribes, Kumeilab, Shiyayab and Arteiga. The Gwilai are connected with the Hamadorab Bisharin. Most of their sections have affinities with the Northern Hadendowa sections, particularly the Shebodinab and Hamaab and they have many connections with the Hannar Bisharin, who are themselves half Amarar in origin. The Fadlab are mixed in the east with Hadendowa sections; in the west the Eshebab have always been closely related to the Hannar Bisharin.

Within the tribe each of the main divisions has its own predominating characteristic and mode of life. The Kurbab are hillmen, moving a short distance only between summer and winter grazing; their sheikhs are therefore men of influence. Wealth lies principally in goats, of which they keep a specially large strain. They also breed the best type of hill camel, small, light, slow on the level, but capable of crossing the roughest rock and climbing, loaded, the most perpendicular passes. Their country contains no cultivable land, and their increasing demand for grain has led them to supply Port Sudan with milk and butter and to offer themselves for work on the quays. A section of them living at Mohammed Ghul have developed littoral tastes and earn a livelihood by pearl-diving and fishing. The Nurab are rapidly passing from the pastoral to the agricultural stage; they are established both in the Baraka and in the Gash where they seem to have started as milk purveyors to the cultivating tribes. They are the only Amarar section to own an appreciable number of cattle; they use them to supply Tokar with milk. The Aliab sections are the wildest and most stubborn in the tribe; they have little discipline, being split

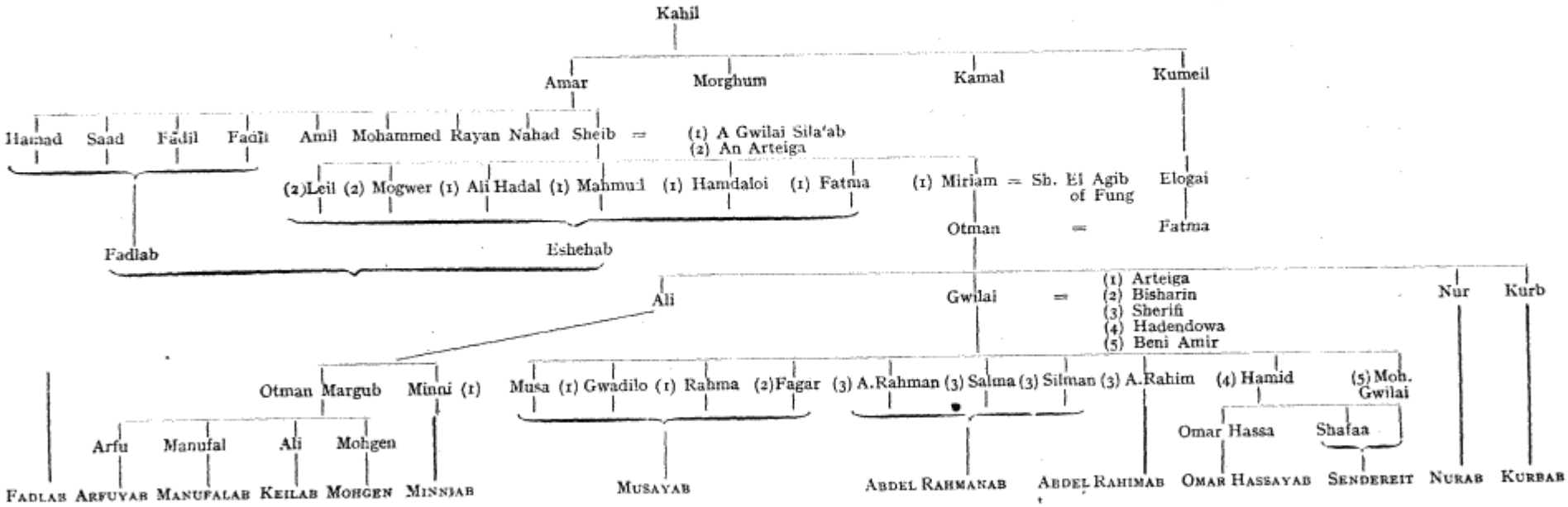
between the north of the tribal area and the Atbara, where their relations with neighbouring tribes are nearly always deplorable. Their principal wealth is sheep, for which they normally have excellent grazing in and around the Sasa plain, a high plateau lying to the east of Jebel Deirurba. Gebeit Mine lies in their country and employs a number of them. They have recently overcome a strong prejudice against going down the mine and some of them now work underground. Apart from casual labour, the mine provides them with a market for meat, milk and *semn*. The Gwilai are the most enterprising and versatile section of the tribe ; they seem to have led the expansion to the west, and as a result their flocks and herds are, in some cases, very large. They have also taken enthusiastically to cultivation. In the north the Abdel Rahmanab and Abdel Rahimab own the best land in the Haieit basin, and at the same time the Abdel Rahimab graze very large herds of camels near Musmar. All the subsections are tending to move westwards. The greater number of them sow their crops with the Hadendowa in Tibilol (the country between Musmar and Derudeib) or with the Bisharin in the dune pockets between Musmar and Adarama. Large contingents, especially of Abdel Rahmanab and Musayab are permanently settled on the River Atbara. Much of the quay labour and the firewood of Port Sudan are supplied by them. The Nazir himself inspires their multifarious activities. The Fadlab are the only section which appears to be decreasing in numbers ; they represent, the old aristocracy, and this may account for their decline. They still maintain their reputation as the best fighters with stones in the tribe. Recently a large proportion of them have abandoned their hills and settled in Upper Wadi Amur and on the Atbara, where, alone among Amarar colonists, they cause no friction with Bisharin and very little with Hadendowa.

The tribe, as a whole, is in a phase of double transition, from highlander to plain-dwelling pastoral, and from the latter to cultivator. Their future progress is obscure, for they have no visible prospect of economic development, except possibly cotton growing in the Arbat delta, as to the advantages of which the experts have not always agreed. Certain tendencies are, however, noticeable ; the most important is a growing demand for grain ; this is probably of recent origin, the tribe having lived previously almost exclusively on milk. Another is the increasing demand for cash, which is spent on coffee, clothes, arms (not firearms) and orna-

ments. Except for makers of makhlufas, at which the Musayab are acknowledged by the other tribes to excel, there are practically no local craftsmen, and nowadays almost everything must be purchased in the town. The cash basis is coming in quickly, and even bride-money may be paid in coin. A large quantity of grain must normally be purchased each year for the tribal food supply. One obvious line of development for them is to increase cultivation—to this need they are alive. The present Nazir is an enthusiastic propagandist, and each year a higher percentage of the tribe cultivates. But however rapid the spread of cultivation, animals will have to be kept for a very long time to supply milk ; for this reason alone, and apart altogether from its social value, the camel is at present a necessity. Whether or not it will be superseded by the cow depends, probably, largely on water supplies. The Nazir is successfully breeding cattle in the Khor Arab area, and judging from rock pictures and place names they formally flourished along the whole length of the Oko and Diib valleys. Fly is unknown throughout the area. It is unlikely that the eastern sections will ever be able to grow an adequate subsistence crop, but they have the compensating advantage of accessible markets for animals and labour at Port Sudan and, if working, the gold mines. Beyond a stage where the tribe as a whole retain their present mode of life and characteristics, but with the bias shifted from the animals to the land, it is difficult to see, and speculation on more remote possibilities would be unprofitable in this note.

AMARAN PEDIGREE.

(Showing in last line present bedanas.)



NOTE.—Figures on the left of names indicate the mother.

THE STORY OF KHARTOUM.

By C. E. J. Walkley.

VERY little is known to-day of the early history of what is now Khartoum, but the desire for conquest, trade expansion and knowledge of the sources of the Nile exerted a strong influence on the early traffic southwards into the Sudan, and to the existence of such conquest and traffic the painted tombs of Thebes bear witness.[1] In one tomb, that of a Governor of the Sudan (Hui XVIII dynasty), are portrayed all the southern races over which he ruled; chiefs, with their followers bearing boats with negroes seated in them; herds of cattle; and a queen, with a state umbrella over her head, in a chariot drawn by bulls which are like the modern Abyssinian breed. Probably the earliest record of a visit to the neighbourhood of Khartoum is the inscription of Una, Governor of Upper Egypt, who, about 3200 B.C., made his way into the Sudan and went south of the site of the present city.

As Egypt passed successively under the power of the Persian, Greek and Roman Empires, various unsuccessful attempts were made to fathom the course of the mysterious Nile. Much that occurred has passed into oblivion, but historians[2] record how Cambyses, the Persian monarch, with much pomp and military force, came to grief as a Nile-searcher in the burning sands of Ethiopia (Nubia). Meroë, with its pyramids and ruins, said to be called after his sister, and situated not far from Shendi, still attests Cambyses' fruitless march. Herodotus mentions the Automoli or Sembritæ, Egyptian soldiers who, deserting Psammeticus, marched south into Ethiopia and settled above Meroë, on the wedge of land between the Blue and White Niles. Moreover, the great reed marches of the Nile were known to him and he places a Nile source some 20 days' journey beyond Meroë. Eratosthenes, a Greek geographer and librarian at Alexandria,[3] collected sufficient information to enable him, about 240 B.C., to sketch the Nile as far south as Khartoum, with fair accuracy. Pliny the Elder, writing about 50 A.D., shows us that Greek explorers had been busy on the Nile. One of these travellers, Simonides, lived for five years

[1] "The Grand Tour—Three Thousand Years Ago." *Harper's Magazine*, July, 1888.
[2] "The Story of Africa and its Explorers." Robert Brown. 1893.
[3] "The Nile Quest." Sir Harry Johnston. 1903.

in Meroë, and another, Dalion, is thought to have penetrated up the river some distance beyond Khartoum.

When Nero contemplated an invasion of the Sudan he sent officials, about 66 A.D., to report on the country. The two centurions were passed on by Roman Prefects to friendly Nubian chiefs, one of whom ruled the country between Atbara and the Blue Nile. Furnished with boats, which they exchanged later for dug-out canoes, they travelled far up the White Nile. The information which they acquired about the Sudan was considerable, and when they arrived at a region of swamps they returned.[1]

History is hazy for a considerable period after this until the Jesuits, in the beginning of the 17th century, turned the tide of Nile exploration towards the East.[2] It is known, however, that a town stood approximately on the site of the present city some hundreds of years ago. Abu Saleh,[3] the Armenian, states that the capital of the Christian kingdom of Aloa, which has been identified with Soba (the Asta-Sobas of Strabo, who wrote about 30 B.C.), 13 miles from Khartoum on the right bank of the Blue Nile, stood " between the two rivers." The kingdom was a large one and consisted of provinces in which there were 400 churches. Around the capital were monasteries, some on the banks of the rivers, and others inland. In Soba was a large and spacious church called " Manbali," the largest of all the churches in the kingdom. Many of them were in existence in the 16th century, and Alvarez states that he talked to a certain John of Syria, who declared that there were still 150 old churches, which contained crucifixes and pictures of the Virgin Mary on the walls.[4] Each church stood within a fortress, as in Northern Nubia.

There is ample evidence also of the existence of an ancient town on the left bank of the Blue Nile, in the immediate vicinity of Khartoum. As recently as 1929 it was discovered that the inhabitants of Burri are accustomed to dig in the area west of the village, and south of the Khartoum Power Station, for burnt bricks from buried walls.[5] On higher ground, to the south-west, human bones are to be found not far below the existing surface of the ground. The site appears to be that of a small

[1] " Certe solitudines nuper renuntiavere principi Neroni missi ab ea milites prætoriani cum tribunum ad explorandum, inter reliqua bella et Aethiopicum cogitandi."—*Pliny*, vi, 35.

[2] Macqueen. *Journal of the Royal Geographical Society*, Vol. XV. 1845.

[3] Abu Saleh, Ed. Evetts and Butler.

[4] A. J. Butler's note in Evetts.

[5] " A Christian Site near Khartoum." F. Addison. *Sudan Notes and Records*, Vol. XIII. 1930.

town, which had a settled existence of some duration. From the pottery and fragments which were found roughly a metre and a half below the present ground level, it is believed that this buried town may be dated to the 7th Century A.D.

Remains were also found during the excavations for the dockyard at Gordon's Tree.[1] A great deal of broken pottery and a quantity of human bones were brought to light. Most of the objects date back to 400–500 A.D. Christian remains have also been observed at Wad El Haddad on the Blue Nile, at Geteina, on the White Nile, and at other places.

Abdulla Ahmed Ibn Selaim, a native of Assuan, chief of the three Ambassadors sent to the King of Nubia by Johar, the Greek renegade general of the Kaliph Moiz, describes Soba in 969 A.D. He notes the excellence of camels, horses, meat and beer.[2] The capital, which was situated at the confluence of the two rivers, was adorned with magnificent buildings, great houses, churches enriched with gold, and gardens. The king, who wore a crown of gold, a metal very abundant in his dominions, was more powerful than the king of the Christian kingdom to the north, and the country was larger and more fertile, though it produced only a few palms and vines. All the Christians belonged to the Jacobite Church of Egypt, and their bishops were subordinate to the Patriarch of Egypt. Their books were written in Greek, but they translated them into their own language. At the Court Ahmed Ibn Salaim met several men from far-distant countries, who were neither Christians nor Mohammedans. Most of them believed in a God, but also in the sun, moon and stars; some were fire-worshippers, and others adored a tree, or even an animal.

The prosperity of this Christian kingdom seems to have increased steadily in the 11th Century. The vast hordes of Saracens which poured into Africa with the rise of Mohammedan power caused a complete revolution in the moral and political aspects of a large part of the continent,[3] but in Nubia they made no impression on the politically independent, and often passively hostile Christian kingdoms. In the 12th Century Nubia continued Christian, and was therefore in a state of habitual enmity with the Saracens. The necessities of trade, however, produced

[1] "Antiquities found near Gordon's Tree." F. Addison. *Sudan Notes and Records*, Vol. XIV. 1931.

[2] "The Story of the Church in Egypt." E. L. Butcher. 1897.

[3] "Geographia Nubiensis," Hartman's "Edrisi," Ibn el Vardi, and Bakui in "Notices des Manuscrits du Roi de France."

a sort of truce, inasmuch as the merchants exchanged commodities at Syrene (Assuan) without entering each other's territory.

Knowledge of the country round the junction of the two Niles continued vague. Edrisi,[1] the most eminent of Arabian geographers, who flourished in the middle of the 12th Century, says of it that in this part is seen the separating of the two Niles, namely, the Nile of Egypt, flowing from south to north, and the other, which, he believed, flowed from the east " to the utmost bounds of the west," and upon the banks of which lay all the celebrated kingdoms of the negroes.

It was the slave trade which sapped the strength and morality of the Christian kingdoms of the Sudan and eventually made them an easy prey to Islam. In 1275 Northern Nubia was conquered by the Moslems,[2] and Soba was practically cut off from the Mother Church in Egypt. From this date the downfall of Soba became merely a question of time. The collection of slaves for tribute led to perpetual fighting and anarchy, and the Sudan kingdoms were set one against the other. In 1286 Ador, king of the Southern Kingdom of the Sudan, complained to the Sultan of Egypt of the Sultan's vassal in Nubia, but unrest continued, and for the next hundred years affairs went from bad to worse under the constant interference of various Sultans of Egypt who, whatever their disagreement on other matters, were always at one as to the policy of encouraging civil war and the slave trade in the Sudan. By the year 1550 the Sudanese Christian kingdoms had ceased to exist, though scattered Christian communities continued for some considerable time.

For the next 300 years or so there was no settled government between Wadi Halfa and north-west Abyssinia, and the country was subjected to wholesale robbery and plunder.

Very little now remains of the once splendid Christian city of Soba, beyond a well-preserved stone lamb, and the capitals of two columns, which are now set up in the grounds of the Anglican Cathedral. The ram, which is said to have been brought to Khartoum by Gordon,[3] was discovered at Soba by Duemichen, the German traveller, in 1863. It is ornamented with Ethiopian hieroglyphics, and represents the most southerly discovery of such language. The inscription does not prove

[1] " Historical Account of Discoveries and Travels in Africa, by John Leyden." Hugh Murray. 1817.

[2] " The story of the Church in Egypt." E. L. Butcher. 1897.

[3] " Our Sudan, Its Pyramids and Progress." John Ward. 1905.

that Soba was within the borders of the ancient Ethiopian Empire of Meroë, as the ram may have come originally from a Meroitic site in the north. The ancient Ethiopian name of the river, Asta-Sobas, has been preserved in the name of the present village.

Stone, and thousands of boat-loads of burnt bricks were carried off from the site of the ancient city to be used in the building of the new town of Khartoum, early in the 19th Century. This had been going on for 40 years before Gordon's time and was still in progress during his first tour of duty (1874–6).

According to local chronicles, Christianity ceased to be the official religion of the district only some 400 years ago, when Soba was destroyed by the founder of the Fung Dynasty.[1] Prior to 1500 A.D. there were no *gubbas* and no *fikis* as would certainly have been the case if many Arabs had been there.[2]

In the years prior to 1691 the site of Khartoum is said to have been occupied merely as a camp for hunters and fishermen, and to have been used also as a halting-place for people crossing the Nile.[3] Before this date, however, there was a permanent settlement on Tuti Island, which was the headquarters of the Mahas tribe, who claim descent from the Khazra, an ancient Arab tribe from Arabia. About 1691 a religious teacher from the Mahas named Fiki Arbab El Agayed, who gained a great reputation for piety and learning, left Tuti and settled in Khartoum, where he built the only house in that day which had any signs of permanency. Large numbers of Ja'aliyin and Mahas who were attracted by his teaching settled round him, and the village thus formed may have brought the name of Khartoum into being.

The word " Khartoum " means elephant's trunk in the dialect which was spoken locally, and the name of the town is probably derived from the narrow strip of land extending between the Blue and White Niles, which is like the trunk of an elephant. Captain J. A. Grant, who reached Khartoum in 1863 with Captain Speke's expedition thought that the derivation was most probably from the safflower (*Carthamus tinctorius L.*), which was called " gartoon," and which was cultivated extensively in Egypt for its oil, used in burning. This explanation is ingenious but has no support.

[1] " The Sign of the Cross." J. W. Crowfoot. *Sudan Notes and Records*, Vol. I. 1918.
[2] " Anglo-Egyptian Sudan." Lieut.-Col. Count Gleichen. 1905.
[3] " Gezira Handbook." Intelligence Department, Sudan Government.

Two of the most famous of the pupils and adherents of Fiki Arbab were Sheikh Khogali, and Sheikh Hamed Um Mariam. The former is buried under the *gubba* at Hillet Khogali, and the latter under the *gubba* near by.

In 1698 M. Poncet, a doctor of medicine, travelled up the Nile,[1] but just failed to reach the site of Khartoum. He reached Gerri, near the Shabluka Gorge, in the following year, and thence travelled to Sennar, through fine forests of acacias. James Bruce also, on his journey from Sennar to Shendi,[2] just missed Khartoum, but he visited Halfaya, and has left us a quaint description of it. He says the town was large, handsome and pleasant. The houses, of which there were about 300, were built of clay, and were terraced at the top. The inhabitants gained their living chiefly from the manufacture of *dammur* (homespun), which served as small money "through all the lower parts of the Atbara." The town contained palm trees, which bore no fruit, and the people ate cats, crocodiles, and hippopotami, of which there were large numbers.

In 1788 an association was formed in England to promote the discovery of the interior of Africa, and within a year an American named Ledyard was sent out to Egypt. He reported that at that date Egyptian caravans travelled to Sennar, carrying trinkets, soap, antimony, red linen, razors, scissors, mirrors and beads They brought back elephants' teeth, gum, camels, ostrich-feathers and slaves. From Cairo to Sennar was reckoned to be about 600 miles.

M. Cailliaud, who was travelling with Letorzec and six men, reached Khartoum at the end of 1820.[3] The crossing of the river to the point then called "Ras-el-Khartoum" was not accomplished without difficulty. Cailliaud has left us a vivid description of how the army sent by Mohammed Ali Pasha to occupy the Sudan managed it. For three whole days the surface of the water for a considerable distance up and down stream was covered with camels, horses, Turks and Arabs, all in an indescribable state of noise and confusion, and all struggling to reach the opposite bank. Some of the soldiers swam across, others supported themselves on blown-up skins and pieces of wood, others clung to their horses' tails, or climbed

[1] "A Voyage to Ethiopia in the years 1698, 1699 and 1700, etc." M. Poncet. 1709.

[2] "Travels to Discover the Source of the Nile." James Bruce. 1768–1773.

[3] "Voyage a Meroe au Fleuve Blanc, au-dela de Fozogl, etc." M. Frederic Cailliaud. 1826.

on the backs of camels. In this way 5,500 men crossed the river. Thirty men and 150 camels and horses were drowned, and the only thing to be wondered at is that the loss was not greater.

The Khalifa of the town at the time of the arrival of Mohammed Ali's Army was Sheikh Arbab wad Kamel wad El Fiki Ali, a descendant of the Fiki Arbab El Agayed, who had moved over to Khartoum from Tuti in 1691.[1] When Ismail Pasha was killed by Mek Nimr at Shendi, the Defterdar,[2] Mohammed Bey el Stambouli, who left behind him an almost unsurpassed reputation for cruelty, ordered a massacre of Sudan notables. When he arrived at Khartoum he destroyed the mosque of Sheikh Arbab and blew him to pieces by tying him to the mouth of a cannon. Sneikh Arbab's nephew, Abdel Rahman Wad Mohammed, was the last Khalifa of the line. He is buried at Khartoum North.

The map of Africa, dated 1729 in d'Anville's General Atlas, shows "Toutti" in its correct position. Williamson's map of Africa published in 1800 omits Tuti, but includes "Emdorman" and "Halfaia."

There is considerable divergence of opinion as to who laid the foundations of the town, which, together with its records, was destroyed during the Mahdia. An English map of "Africa including the latest discoveries," dated 1817,[3] has no reference to any town where the Blue and White Niles meet, and it is generally accepted that when Mohammed Osman Pasha was appointed the first Governor-General of the Sudan in 1822, he selected Khartoum, then merely a few huts, as the headquarters of his administration. He built Government offices and official residences in mud brick, and the town assumed comparative importance as the administrative and commercial centre, and as a great slave market. There was about this time a tradition that a considerable village had existed in the vicinity,[4] and that the Shilluk (Fung) swooped down upon it and massacred the inhabitants. Brun Rollett, a Frenchman, who lived for many years in the Sudan (circa, 1840) refers to this,[5] and states that "Carthum" was a considerable town in former times, and that the Shilluk entered it one night about the year 1780, massacred the inhabitants and reduced it

[1] "Gezira Handbook." Inte.ligence Dept., Sudan Government.

[2] An official of the Vali of Egypt corresponding to the Financial Secretary. The literal interpretation of the word is "inkpot-carrier."

[3] "Historical Account of Discoveries and Travels in Africa," by John Leyden. Hugh Murray. 1817.

[4] "The Nile Quest." Sir Harry Johnston. 1903.

[5] "Le Nil Blanc et le Soudan." Brun Rollet. 1855.

to nothing He adds that when Mohammed Ali's army entered it they found only three huts and a large cemetery. In Rollet's time the population was estimated at 40,000 or 50,000

The first Governor-General to be buried in the Sudan was Osman Bey Sharkass, a Circassian, who was in command in 1825. He died of small-pox and was buried in Khartoum, though the site of his grave is now unknown.

Mahu Bey, who was Governor-General in 1826, is responsible for what is known as " Gordon's Tree."

Most visitors to Khartoum have been shown, or have heard of the large Haraz tree,[1] about three miles from Khartoum on the White Nile, and have been told that it is called Gordon's Tree, and possibly have heard some legend about his connection with it. The tree is well known to natives as " Mohi Bey's tree." It marks the former site of Mahu Bey's grave and was standing in 1840, when Ferdinand Werne made his expedition up the White Nile. Two Haraz trees then overshadowed the tomb, which was subsequently washed away by the river at high Nile, possibly in 1878.[2]

Kurshid Pasha (1826), who was renowned for rectitude and honesty, continued in Khartoum the good work of his predecessors, and built a mudiria and the great mosque, the ruins of which may still be seen to the north of the present mudiria. He taught the people to build with bricks, instead of with skins and reeds.

Lord Prudhoe, who made a journey in 1829 from Cairo to Sennar, reached Khartoum on March 10th.[3] He says that the town was a collection of about 30 mud houses and straw huts, resembling wheat stacks or bee-hives. He and his companions lived in a tent. The Governor-General lived in a " tolerable " house of mud. There were then no trees. Khartoum had been in existence only four or five years, and the previous ruler of the country, the Mek of Sennar, was said to be living in happy

[1] W. S. in *Sudan Notes and Records*, Vol. VIII. 1925.

[2] The tree came to be known as Gordon's Tree in the following manner. During the first winter after the re-occupation, a few tourists were allowed by Lord Kitchener to come to the Sudan. The seat of the Government and the houses of officials were still in Omdurman, and there was not very much for the tourists to do. An officer of the Royal Marines, attached to the Egyptian Army, was put in charge of the tourists by Lord Kitchener, and a river trip up the White Nile, personally conducted by this officer, was one of the amusements provided, and it was he who, to excite the interest of the party, gave the name to the tree, which has stuck ever since, and which is now officially recognised.

[3] " The Journal of Lord Prudhoe." *Journal of the Royal Geographical Society*, Vol. V. 1835.

indolence on a pension of 500 piastres a month, which was never paid. Slaves were sold by auction at the Governor's house in 1829, men fetching nine dollars each, and a woman and child being reckoned as one man.

The Kaimakam commanding the battalion at Khartoum in 1829 was renowned for his laziness. He sat on a divan all day, playing with his beads, and was consequently very fat. When his senior officer, a Miralai, died, he thought it too much trouble to report the matter, and the Governor-General heard of it casually, from a merchant.

On his way up the left bank of the Blue Nile, Lord Prudhoe crossed over to Soba, and found nothing there but extensive remains of burnt brick.

M. Combes, who was in Khartoum in 1834,[1] thought the population numbered about 15,000. About this period the coins current in Khartoum were an odd mixture. There was the Maria Theresa Dollar, value 20 piastres; the Mahmoudia, a Turkish gold coin worth 18 Egyptian piastres;[2] the Bayuthe, an Egyptian gold coin worth 5 piastres; the Safrita, or Austrian florin, equivalent to $4\frac{1}{2}$ piastres; and the piastre of A.H. 1223, called Massafani.

In 1837 gardens had appeared, enclosing large and isolated houses. Near the vegetable market stood the frame, complete with rings and accommodation for three persons, to which criminals were suspended when executed.[3] A traveller of this period states that there were still no trees in Khartoum. The population of the town had so increased that Kurshid pulled down the old mosque, and built a larger one on the same site. Later cholera broke out, and Kurshid moved temporarily to Shendi. A French visitor to Khartoum, writing in 1839,[4] states that the town contained a barracks, a hospital, and 400 or 500 houses.

The anonymous history of the Fung and the Turkish period down to about 1871, which was written [5] at a time when the foundation of Khartoum was no doubt fresh in the memory, generally corroborates the view that Khartoum until 1830 was no more than a military camp and temporary headquarters. Writing of 1830, the anonymous author states that Kurshid Pasha ordered the people to build houses, for most of them

[1] "Voyage en Egypte et Nubie." M. Combes. 1846.
[2] "Ten Years in Equatoria." Major Gaetano Casati. 1891.
[3] "Notes on a Journey to Kordofan in 1836–37." A. T. Holroyd. *Journal of the Royal Geographical Society*. 1839.
[4] "Etudes Geographiques et Historiques Sur l'Arabie." E. Francois Jomard. 1839.
[5] "Old Khartoum." H. A. MacMichael. *Sudan Notes and Records*. Vol. VI. 1923.

" lived in tents of hair matting and cowhide," and there were no buildings in bricks, excepting those of the family of Fiki Arbab near the mosque, and those of the *kadis* and the Fiki Hamadnulla, and those of the Budanab. (These were Mahas by tribe.)

The Austrian, von Callot (Arshan Bey), who was in the service of Mohammed Ali Pasha, was in Khartoum in 1831.[1] He refers to the town as a group of huts occupying the most important strategic position in East Africa.

From all this it appears that a permanent military camp was established on the spot when Ismail Pasha first entered the peninsular of Sennar in 1821, either by him or his immediate successor, and that in, or about, 1830 it was adopted by Kurshid Pasha as the official headquarters. A turbulent, licentious horde were the first inhabitants of the new Sudan capital, several thousands of unkempt troops, officered by renegades of many nations, attended by slaves, camp followers, and other riff-raff. *Rakubas* (straw-covered shelters) and *tukls* (native huts) sprang up,[2] and tethered horses, donkeys and camels enlivened the otherwise arid plain. Thither Kurshid transferred his seat of Government, and Sennar declined.

Khartoum had no attractions in itself, no industries, and no inherent source of wealth ; the tribes around breathed malevolence towards the hated " Turks," their new masters Moreover, with deserts for hundreds of miles on the north, the Viceroy of Egypt sent to this " Soudan graveyard " his unruly Arnauts, disaffected officers, civilians and convicts. In spite of all the settlement fortuitously led to commerce, which gradually expanded. Merchants, adventurers and others were attracted later, for with long credit and 200 per cent. profit, fortune seemed to beckon. Egyptians, Greeks, Italians, Maltese, French and others sped up-stream, so that by 1840 there was a population of 30,000, afterwards doubled, though fluctuating according to the exigencies of war and trade. Dongola boatmen flocked thither, first for honest toil, but later with others, as lawless buccaneers, bound for their El Dorado, the White Nile slave-raids. To these were added Blue Nile and Berber traders, river men and freebooters who formed a large class. The fleets of sailing-boats brought in their train boat builders and sail-makers, while the military forces needed forage, artificers, gunsmiths, saddlers and tailors. The mercantile com-

[1] " The Foundation of Khartoum." F. A. Edwards. *Sudan Notes and Records.* Vol. V. 1922.

[2] " The Story of Africa and its Explorers." Robert Brown. 1893.

munity had its scribes, tinsmiths, filigree goldsmiths, bakers, pipe-makers and water-carriers. Even oil, soap and other factories appeared. But this semblance of civilisation was only a film concealing corruption and savagery.

Originally the town was built on no particular plan, except that the gardens for the greater part required proximity to water, and Government offices the protection of troops and a point of embarkation. For the remainder, the town was an extraordinarily haphazard assemblage of dwellings. Bordering the Blue Nile, there was first the fringe of vegetation, then gardens and date palms with Palace, Divan, etc., creaking water-wheels on the bank, and alongside the stream a narrow way, shelving to the water, where merchandise for shipment or for donkey or camel transport was tumbled about by half-naked natives. From the river two crooked lanes pierced the town, and another long, narrow lane tortuously wended from east to west, beginning near the Palace and passing here and there through open spaces. These open spaces, from which soil was taken to make mud bricks, were tenanted by croaking frogs and fish during the rainy season and, on drying, became a stinking morass.

From the huckster squatting with his basket in the open air, to covered sheds in neat rows, and then to a roofed bazaar containing all manner of wares, was a gradual development, reaching in later years to European shops. All private houses were built in the Eastern fashion: outer courtyard, divan, stores and stables; inner court, with *harem*, divided off from the servants, slaves and kitchens. The poor had to be content with a single room, with a yard in front for goats, sheep or donkey. The thatched hut, however, was never absent on the outskirts of the town. Eastern manners prevailed, even among the majority of Europeans. Merchants and customers bargained over pipes and coffee for goods, or for slaves. Then came the mid-day siesta, and the evening gossip, with a feast, music, and dancing girls occasionally to vary the monotony. The poor had their *merissa* drinking-bouts at weddings and funerals. There was much wickedness, and the cruelties to slaves, the trickeries, extortions and animosities between the inhabitants weighed down the small minority of well-doers.

Ferdinand Werne, who reached Khartoum in 1839 with his brother, after a journey of three months from Cairo,[1] lived in the capital for about

[1] "African Wanderings." Ferdinand Werne. Trans. J. R. Johnston. 1852.

a year. He calls it " Chartum, the capital of Bellad-Sudan, in the district of Sennaar." The brother, Joseph, who was surgeon to the regiment in Sennar as well as surgeon of the Central Hospital at Khartoum, died as a result of a " coup de soleil." During the whole of their residence in the capital the brothers suffered severely from fever, in a climate which they regarded as one which sapped a man's health and destroyed his mind.

Cheating and roguery in the Egyptian medical service drew caustic comments from Werne. The druggists embezzled all linen furnished for hospital uses to dress their servants. They used for their own purposes the sugar intended for the sick, sold the quinine and other medicines, and manufactured false ones for issue in their place. The druggists were mostly charlatans—artisans, tailors, billiard-markers and goldsmiths—who became " medical " men in three months in Cairo. As a result they continually made most serious blunders.

Copts of this period, who were for the greater part clerks and the like, took great pains to safeguard their families. When they left their houses in the morning they locked their doors, and carried with them the large wooden keys with iron pins. All inside were safely locked in for the day as the master seldom returned home until the evening. Iron keys and locks were as yet unknown in the Sudan, and the local wooden lock consisted of a hollow square block of wood, which was firmly nailed to the door, and through which ran a slide or bolt. A square piece of wood which passed into a hole in the door post was movable in the block. This wooden bolt was hollowed or notched on one side, so that a large square-sided key fitted into it. The locks could only be opened from the outside, and at night they remained unshot, the door being fastened by a cross-bar on the inside. It was a common trick on the part of certain wags to lock all the doors at night from the outside, so that the owner of the house could only get out by throwing his key into the streets for a passer-by to unlock the door. Similar locks are still obtainable in Omdurman.

Khartoum was never healthy or comfortable in its early days, and it must have been particularly trying to Europeans between the first *haboob* and the drying-up of the last rain. Werne experienced on August 31st, 1839, the severest storm he had seen in Africa. Many houses were destroyed, and eleven vessels sank in the White Nile. The two brothers were returning from bathing in the Nile when the storm broke. When

they reached their house they found every room flooded, and to examine their store they had to pass through the courtyard in water up to their knees. Returning to the house they sat on the table until the water subsided. Lepsius describes a *haboob* which occurred on March 25th, 1844.[1] He was walking at dusk in the large garden of Ibrahim Cher, in whose house he was staying, when he saw " tall, dark clouds of sand rise like a wall on the horizon." A violent east wind had been blowing, and continued for some hours, enveloping all the trees and buildings in a disagreeable, sandy atmosphere, which almost took away his breath. He had closed the window-shutters firmly, and had barricaded the door with stones, " to be in some measure secure from the first assault." Nevertheless, he complained that he was constantly obliged to cleanse the sheet of paper on which he was writing from the covering of sand, which was " incessantly thrown down upon it."

Complainants were roughly dealt with by the Governor-General, " Abu 'Udan," in 1839. He would listen patiently to what they had to say, and then, with serious face, tell them to go to his treasurer and tell him to pay them one or two purses. When they reached the treasurer, they found that 500 piastres meant 500 blows with a stick. Ahmed Abu 'Udan died in Khartoum, and was buried there in October, 1844. His tomb is on the east side of Victoria Avenue, in Abbas Avenue.

Vultures were a blessing in old Khartoum, where dead animals, and often men, lay where they fell. The birds were very tame and generally would not fly away when approached, or if they rose, they would settle again a short distance away.

In 1848 the first Austrian missionaries arrived. They were Father Ryllo, a Pole, two Italians, two other Jesuits and three laymen.[2] The chief soon succumbed to Khartoum fever, but the others undertook voyages of exploration to found stations, and many others were sent out from Europe to assist. Disease and death made large gaps in their numbers.

At this date the journey from Gondokoro to Khartoum took 32 days by sailing boat. North of Khartoum lay Berber, eight days away by river. From here Korosko was reached in 15 days by camel, and Philae was four days further by *dahabia*. Assuming that the traveller was fortunate

[1] "Letters from Egypt, Ethiopia, and the Peninsula of Sinai." Dr. R. Lepsius. Trans. L. and J. B. Horner. 1852.
[2] "The Story of Africa and its Explorers." Robert Brown. 1893.

enough to be able to travel by steamer from Assuan to Cairo he could do the journey in a week, so that to go from Khartoum to Cairo took 33 days.

The conditions in the Governor-General's office were quaint. The Pasha was in both civil and military command. His troops, with servants and followers, numbered about 20,000. All business and state matters went to him. Daily a camel mail arrived from one direction or another, with a leather sack full of letters for him. For all the clerical work there was a total of five secretaries and clerks—a chief-clerk and two copyists, a journal-keeper, and a conductor of Turkish correspondence, all of whom worked in one small room. The work was simplified by the fact that the Governor-General gave dictatorial orders, which had to be obeyed without remonstrance or petition, and there were no departments or offices to be consulted.

George Melly, an enterprising Liverpool man, gives a very good description of life in Khartoum in the winter of 1850.[1] His first view of the town was from a distance of one hour's ride, where he observed the white Government House and the minarets of the Mosque, with the White Nile beyond merging into the horizon. Melly says that it looked almost like the end of the world. At that time the town, seen from the river, was a long mud wall, with, peering above it, the residence and offices of the Governor, the old Government house and the Catholic mission and chapel. Melly and his party went straight to the Governor's house through a large open space, in which two companies of troops (the best dressed and accoutred of any he had seen since he left Europe) were changing guard. Each company was preceded by a soldier with a bedstead on his bayonet. These were for the officers in command, who were permitted the luxury of beds, the other ranks having to sleep on the ground.

The Governor-General's "confidential pipe-bearer," a Frenchman, showed the party over the town. He took them first to the house allotted to them on a high bank of the river next door to the Pasha's *harem*. They found the house most pleasantly situated in a garden, among groves of oranges, bananas, and pomegranates.

They next called on the "head apothecary" and there met all the Europeans in Khartoum, and had a conversation about hippopotami,

[1] "Khartoum and the Blue and White Niles." G. Melly. 1851.

which at that time existed in the neighbourhood. A specimen which had been brought up by hand for six months in Khartoum was exhibited at Regent's Park, London, in 1851, and " created such a sensation among the fair sex." Mr. Walne, the British Consul, offered £1,000 for two hippopotami, and many hundreds of natives were on the look-out. The animals were extremely wild, and were rarely seen except at night.

The gardens of Khartoum at this time attracted the attention of all visitors. The Melly party, paying a second visit to the apothecary, walked through a garden of vines, oranges, pomegranates and jasmine trees. There existed also figs and custard-apples. When they came to the " bazaars," however, they were mobbed by natives who wished to stare at Mr. Melly's mother and sister. Mr. Melly created rather a sensation by bringing tinned salmon with him. He produced it at dinner with great success.

John Petherick, a Kordofan merchant and British Vice-Consul, has also left us an account of Khartoum in 1846 and the following years.[1] The town had a population of about 60,000, and contained the principal stores of the Government, and an arsenal for the construction and repair of boats. It was situated on low lying land and had embankments to prevent inundation during high Nile. The Government offices and several private buildings were of burnt brick, but the remainder of the houses and the shops were built of crude dried bricks. The only stone building was that occupied by the Roman Catholic Mission on the site of the present-day Mudiria. A Coptic Church existed to the west of the old mosque.

Abdel Latif Pasha (1850) added to the work of Kurshid Pasha, and built a palace for the Governor-General, Central Government offices, forts, etc. Rustum Pasha Sharkass, a Circassian, who was Governor-General in 1852, died at, and is buried in Khartoum. In 1856 there was a great outbreak of cholera, and the seat of Government was moved temporarily to Shendi. Arakil Bey, the Armenian Governor-General of the Sudan (1857) also died in Khartoum, and was buried in the old Christian cemetery. His body was subsequently removed to Cairo.

About this time a boy named Mohammed Ahmed, who afterwards proclaimed himself as the Mahdi, was pleasing his instructors in a Khartoum school by his devotion to study.

[1] " Egypt, the Sudan and Central Africa." John Petherick. 1861.

In October, 1860, John Petherick returned to Khartoum, bringing his wife with him,[1] and on their arrival at sunset they were greeted by incessant firing from the shore, which was lined with people who had come to welcome them. Mrs. Petherick's house (the Consulate) was only a short distance from the river. The house and garden occupied a considerable area, and Mrs. Petherick kept horses, bullocks, cows, donkeys, gazelles, a great ant-bear, birds and poultry, sheep, and a large herd of goats. Her piano was left on board the *dahabia* " Kathleen," which was on its way up to Khartoum from Korosko, but Dr. Peney's widow lent her another. (Dr. Peney, a Frenchman, was the Egyptian Government Medical Inspector for the Sudan. He died at Gondokoro).[2] Mrs. Tinne, with her daughter Alexine, and her sister, Miss van Capellen, who had been up to Gondokoro, returned to Khartoum about this time.

In the following two years we have quite a different picture, drawn by Sir Samuel Baker, who made a long stay in the Petherick's house, and writes that a more miserable, filthy and unhealthy spot than Khartoum can hardly be imagined.[3]

France, Austria and America were represented by Consuls, and about 6,000 troops were quartered in the town. These troops, some of whom were Egyptians, and the remainder blacks from Kordofan and the White and Blue Niles, were the curse of the country. They received their pay very irregularly and were accordingly under loose discipline. Foraging and plunder were their habit, and the miserable natives of the town and countryside were the victims of insult, ill-treatment and theft.

Baker says that Musa Pasha Hamdi, the Governor-General,[4] who in 1863 introduced the first carriage ever seen in Khartoum, was a man who combined the worst of Oriental feelings with the brutality of a wild animal. He exercised extortion on all sides, and every official under him also plundered in proportion to his position in Government service. Khartoum was about the farthest limit of Egyptian rule, such as it was.[5] The Europeans and Egyptians in the country were, with few exceptions, not the best type of their races, and honest persons were few.

[1] " Travels in Central Africa." Mr. and Mrs. Petherick. 1869.
[2] " Travels in Africa, 1875–1878." Dr. W. Junker. 1890.
[3] " Albert Nyanza, Great Basin of the Nile." Sir Samuel Baker. 1866.
[4] " Ten Years in Equatoria." Major Galtano Casati. 1891.
[5] " The Story of Africa and its Explorers." Robert Brown. 1893.

The two most profitable products of the country were ivory and slaves. There was scarcely a man in the place who was not interested in the traffic. Anybody who had money enough to equip a party, or the funds to furnish a station, could go into the ivory business, with such results that in 1862, 186,000 and in 1866, 180,000 kilogrammes of ivory were drawn from the Upper Nile region. In no year from 1855 to the closing of the country to trade were less than 80,000 kilogrammes shipped, the amount rising in 1858 to 202,700 kilogrammes.[1] Khartoum was the centre from which the trade was directed.

The white people engaged in the slave trade were chiefly Syrians, Copts, Turks, Circassians and a few Europeans. The beginner would borrow money at 100 per cent. interest, agreeing to pay the lender in ivory at half its value. He then hired vessels, and from 100 to 300 men, most of whom were scoundrels. In 1867 the largest trader had 2,500 men in his employ, and Sir Samuel Baker calculates that about 15,000 men were so employed. When guns, ammunition and a supply of glass beads had been obtained the expedition was complete. The men were paid five months' wages in advance,[2] at the rate of 45 piastres a month and 80 piastres a month for any period over five months. The advance of wages was partly in cash, and partly in cotton-stuffs for clothes, issued at an exorbitant price. The raids were accomplished with the greatest cruelty and wanton destruction.

When Baker returned to Khartoum after his Nile voyage in 1862 he found malignant typhus raging. Four hundred black troops remained out of 4,000, and the town was still filthy and crowded. Eight years later Baker was back in Khartoum. The town was unchanged externally, but the population had fallen from 30,000 to 15,000. South of Berber the country which had previously been cultivated was now abandoned.[3] Here and there an occasional tuft of palm trees might be seen on the river bank, but what had formerly been a land of rich crops had become a wilderness. Villages had disappeared, the population had vanished and irrigation had ceased. The night, formerly discordant with the creaking of *sagia* wheels was silent as death, and there was not a dog to howl for his lost master.

[1] Schweinfurth's "Exploratore," quoted in Gessi's "Seven Years in the Sudan." 1892.
[2] "Albert Nyanza, Great Basin of the Nile." Sir Samuel Baker. 1866.
[3] "Ismailia." Sir Samuel Baker. 1874.

Schweinfurth, writing of the following year,[1] says that the sanitary conditions of the town were still very unsatisfactory, because of the defective drainage of that part of the town which was below high-water level. In July, 1871, there were pools large enough to be called ponds, which gave off such an abominable smell that it was most unpleasant to be near them. He found that not a few of his former acquaintances had fallen victims to the climate. In those days the rôle of the mosquito in malaria was unknown,[2] and it was not the stinking and evaporating pools that were to blame, though they may have played a subsidiary part, but the Anophelines bred out in them. The difficulties of dealing with rain-water pools at that time may be gauged from the fact that as late as 1905 pools formed in a couple of hours' rain, remaining standing for over three weeks.

In 1873 de Cosson, however, seems to have found the town a fairly pleasant spot, except for sickness.[3] He came down the Blue Nile, passed the telegraph station on the right bank of the river and moored among lateen-sailed boats near a row of flat-roofed houses buried in palm trees. Ismail Pasha Ayoub, the Governor-General, lent de Cosson a horse, as the result of which we have a description of the town at that time. De Cosson says he rode out at dawn beside the river past murmuring *sagias*, through shady groves of date-palms, and out on to a sandy plain leading to the junction of the two Niles. Here the banks of the rivers were barren and sterile. Riding back along the Blue Nile, de Cosson came to the dockyard, then new, and here he met a very different scene : steam engines, lathes, steam-hammers and punches, and all the apparatus necessary for repairing and fitting up river steamers, filled the workshops. Ismail Pasha's steam yacht, with its elegant saloon, furnished with blue satin, lay alongside the jetty. He then rode back to the White Nile and, finding that his Glengarry cap was not sufficient protection against the increasing heat of the sun, he turned towards the town, passing the little Christian cemetery with its four plain walls, and a cross above the door. It is said that a Christian church stood near the cemetery and was destroyed when Khartoum fell. No trace of it remains.

[1] "The Heart of Africa." Schweinfurth.
[2] "Second Report of the Wellcome Tropical Research Laboratories." 1906.
[3] "The Cradle of the Blue Nile." E. A. de Cosson. 1873.

Ismail Pasha Ayoub was very enthusiastic about Khartoum and believed that it was destined to have a great future. In anticipation of this he was building a palace during de Cosson's visit. It was a fine building of brick, faced with stone. On the first floor were the rooms designed for the *harem*, and below these were the men's quarters. On each floor a corridor, for attendants, ran the whole length of the building, behind which was a garden of palms, pomegranates and grape-vines.

Near the Palace at that time was a fragment of a kind of sphinx with a lion's head, a bull's feet and a scaly body. It had been brought from a village up the Blue Nile.

Ismail Pasha Ayoub established a ginnery at Kassala, and made great efforts to develop the cotton industry. He arrested the Governor of Khartoum, Mumtaz Pasha, for fraud. Mumtaz died in prison while awaiting trial.

De Cosson thought that over-crowding, dirt, and the vices of the slave-raiding population, were possibly more responsible for making Khartoum a hot-bed of fever and disease, than any fault in its natural situation.

Baker appears to have over-estimated the reduction in the number of inhabitants in the town, for Colonel Long gives the population as 20,000.[1] Colonel Long met M. Geigler, in charge of the telegraphs, M. Lumbroso, the Italian postmaster, and Monseigneur Comboni, the energetic and zealous head of the Austrian Catholic Mission.

Dr. Junker describes the Austrian Consulate in 1876 as a large house in the middle of a date grove on the high bank of the Blue Nile, with the double-headed eagle on a yellow oval shield over the door.[2] The Consul, Hansel, had been in the Sudan since 1853. Dr. Junker met Mr. Lewis A. Lucas, an Englishman who had been some weeks in Khartoum preparing for an expedition to the Upper Nile, and on his first night in the town he experienced a rain-storm and a *haboob*.

The best view of Khartoum was from the Blue Nile, from which the garden plots of the first row of houses were separated by a narrow street. Beyond the gardens could be seen the Palace, with light-coloured walls and green sun-blinds; its somewhat projecting wings fronting the river, while its other three sides were surrounded by clumps of trees and a large

[1] "Central Africa: Naked Truths and Naked People." Colonel C. Chaille Long, 1875.

[2] "Travels in Africa, 1875-1878." Dr. W. Junker. 1890.

garden—the latter being narrow on one side, owing to the street which led into the town. From the Palace, downstream, the river street was banked by a stone wall, and on the other side of the street was the Mudiria, also facing the Blue Nile, and containing the public offices and the house of the Governor of Khartoum. Then came another street leading into the town, and beyond that about a dozen mean-looking brick houses, including that of the Austrian Consul, the telegraph office and the post office. Here the river street was about ten yards wide, and it had to be protected against the underwash and overflow of the river. Beyond the houses gardens again stretched westwards, and here were the extensive grounds of the Austrian Mission. The buildings of the Mission were at the southern end, facing what is now Gordon Avenue. Close by, Ismail Pasha had opened a broad street to facilitate communications between the river and the town. Further west was the dockyard, which was afterwards moved higher up the river, beyond the Palace.

The life of Khartoum was centred in the bazaar and the neighbouring streets. The route there would be through narrow lanes, flanked by one-storied mud houses with flat roofs, and opening out here and there into dusty open spaces. There were no imposing buildings except the brick mosque with a poor minaret, standing in an open space (now Block 7 B.W.) planted with parkinsonias and *lebekhs*, and the Austrian Mission, with its arched colonade approach, and its side-wings running northwards. Near-by was the modest little Coptic Church, with its triple dome.

In the central bazaar the wares exposed for sale were chiefly woven fabrics, European clothing, boots and shoes, porcelain and crockery, fancy goods and drugs. In the smaller bazaar were provisions of all kinds, alcoholic liquors, and the like. There were also some large warehouses, kept by Greeks, whose wares were seldom of good quality, though high prices were charged for them. Musty jams and preserves, dusty and mouldy macaroni, gritty sugar, sour wines and flat pale ale all had to be paid for at high rates. There was no lack of vegetables and fruit. It is curious that no mention is made of native industries, such as *markub* and *angareib* making.

Dr. Junker went one evening with Ismail Pasha to dine with the rich slave-dealer, Ahmed El Akkad, who claimed the right of jurisdiction, for slave-raiding, over 90,000 square miles of territory. He later went to Cairo to complain that Baker Pasha had ruined his slave business. Here Dr. Junker heard a black military band play Italian and French operatic

airs, a Strauss waltz, and, at the command of Ismail Pasha, a selection from Verdi's "Aida," all of which "they executed moderately well, allowing for some rasping notes here and there." The dinner service used at the banquet belonged originally to the unfortunate Miss Tinne, by whom it was presented to the French Consul. From him it had passed to the Catholic Mission, and Ahmed el Akkad had borrowed it for the occasion.



THE MUDIRIA SQUARE, KHARTOUM.

(To be continued.)

SNAKE STORIES FROM KORDOFAN.

By N. L. Corkill.

(PLATES I & II.)

(1) A HOUSE INFESTED WITH VIPERS.
(2) FLAYING A SNAKE FOR A *Fiki's* CHARM.
(3) SNAKE-BITE TREATMENT *secundum artem.*
(4) THE LETHALITY OF THE CARPET VIPER.
(5) FRAILTY AMONGST THE SERPENTS.

I. A HOUSE INFESTED WITH VIPERS.

ON 29th March, 1932, it was rumoured in Kadugli that a death from snake bite had occurred, in a hut situated behind the British residential area at the foot of the hill. On inquiry the rumour was found to be the truth, and a son and two brothers, who had been eye-witnesses of the accident, were questioned; they gave the following information :—

The family had lived in the hut (Plate I) for 12 years and had suffered no previous snake bite accidents, although the area round about was recognised to be the haunt of numerous snakes. It was a common experience for them to hear the rustling noise made by the *um shedigat* in the neighbourhood of their hut once dark fell, but latterly such noises had been commoner.

Three days before, an old man of about 60 years of age named Daldoom Koor was standing in the compound (Plate II, Fig. I), when he moved his bare foot and put it on a snake, which immediately bit him on a toe. The snake was seen coiling rapidly about and making a noise which the relatives imitated by a long drawn out "*sh*———" sound. One of them killed the snake. The old man did not seem very worried or frightened, but none the less went into his hut, tied his turban-cloth tightly round his leg below the knee and made several slight incisions with a razor in the bitten area. A few minutes after doing this he collapsed. His son gave him a raw egg in water, then some fresh lime juice in water, and after that administered a concoction of *aradeib* pods, which he procured from a large tree growing nearby (Plate II, Fig. II). The old man vomited once or twice within a few hours of being bitten. He complained continually of great thirst; to quench this they gave him hot water to drink as they thought cold water would do him harm. The leg swelled up on the distal side of the ligature and the

wounds all bled freely. Some five hours after the bite the son, who was sitting supporting his father in his arms, felt a small, soft raised patch on the left side of his father's chest in front. He was sure it was new and demonstrated an area of say, three to four square inches. At midnight the old man was asked how he felt. He replied faintly that his " heart " pained him, and shortly afterwards he died ; this was about six hours after the bite.

The relatives, questioned about the snake, said it was red with a white belly, and they held up opposing hands to show a length of about one foot. They said the snake was one the Arabs called *shedigat*, and a kind which was very common and well known to themselves in the local Kadugli dialect as *Kubah*. Shown a representative series of local snakes in glass bottles, all three unhesitatingly pointed to a Carpet or Saw-scaled Viper, *Echis carinatus* (SCHN), saying it was about the same size. The specimen was removed from its container and measured—it was just short of 12 inches in length.

The writer's informants then continued their story. On the day following the fatality, in the dark at about 7 p.m., another snake of the same sort and size was found under a bed and another was nearly trodden on a few steps away in the same compound ; both these snakes were killed. The next night at the same time two more snakes of the same sort and size were killed. Further, that very morning, the 29th, yet another was killed and a second one was seen escaping through a door-way.

The writer went along in the evening of that day just before dusk. In a heap of rocks near the entrance to the compound he secured, with a noosed stick, an 11-inch specimen of the Carpet Viper, and from a hole in the rocks forming the foundations of the main hut he pulled out the cast of a snake. It measured 19 inches in length and showed the faint markings and undivided subcaudals, which proclaimed it indisputably to have been shed by a Carpet Viper. An hour's further search yielded nothing but a scorpion. There had thus been in the compound a fairly large Carpet Viper and either eight or nine small ones of a uniform size, about 12 inches.

COMMENTARY.

Four vipers are found in the Kadugli area. They are the Night Adder, *Causus resimus* (PTRS.), which is very common, especially in the "rains"; the Puff Adder, *Bitis arietans* (MERR.), a comparative rarity; the

Carpet or Saw-scaled Viper, *Echis carinatus* (SCHN.), which is as common as the Night Adder, and the Black Burrowing Viper, *Atractaspis microlepidota* (GNTHR.), which is not so common. The Carpet Viper is probably the most commonly encountered snake in Kadugli, and particularly frequents the grass, scrub and rocks of the foot-slopes of the hill which runs from Kadugli to Semma, a village a few miles away to the south. Specimens have been taken in places aligned along this hill. The Carpet or Saw-scaled Viper is usually considered to be a form restricted to a sandy habitat. This is by no means true of the species in the Sudan. It is indisputably very common in certain sandy areas, such as the Butana Desert, and the northern portion of the White Nile Province. It is also, however, equally common in the fairly closely wooded Sennar district and the rocky hillsides of the Kadugli area.

It seems probable that the species was responsible for the death of a small boy on 31st August, 1934. He was watching his goats grazing on the rifle-range when he felt a snake bite him on the foot—he did not see the snake. He was admitted to Kadugli Hospital, where two punctures were noted: eight hours later he died. The notes record pain at the site, and of the limb, coldness, weak pulse and bleeding from the nose, a typically viperine poisoning.

Out of 50 unselected cases of snake bite in the Sudan of which there is information concerning the time of bite, no fewer than 34 were bitten at dusk or shortly before or after. Three factors are concerned. Snakes are not easily seen at such times, and therefore are liable to be trodden on; it is at dusk that cultivators tread their barefoot way homewards across country and along lonely tracks and paths; and thirdly it is at dusk that vipers, and for that matter most snakes, emerge from cover and become active in the quest for food, and are therefore likely to be encountered. Bites on the foot are commonest, because the usual cause of an accident is the stepping on a snake which promptly bites. Natives are mostly barefoot or sandalled; sandals provide a limited protection only. Boots or shoes are a good protection against snake bite in the Sudan, for the usual cause of such accidents is the Carpet Viper averaging about 15 inches, and with fangs of so delicate a structure that they would probably break on ordinary shoe or boot leather.

The old man's symptoms were typical of severe *Echis* poisoning, collapse and epigastric pain without hæmorrhage from the mouth being

of bad prognosis. In cases severely poisoned, but living longer, hæmorrhages from the nose, mouth, bowels and bladder are characteristic as are they also from old and new scars. The soft raised patch on the old man's chest was probably a hæmorrhage into the skin. Swellings in the skin have been reported in *Echis* poisoning by Hirst,[1] Frazer[2] and myself.[3] It is noteworthy that the earlier such swellings appear the more serious seems to be the outlook. Daldoom Koor developed his skin hæmorrhage, say, five hours after the bite and he died six hours after the bite. Hirst's case developed them 24 hours after the bite and died seven days later. Frazer's case developed his skin swellings 14 days after the bite and recovered. Fatal cases of *Echis* poisoning do not as a rule die so quickly. Reinhold[4] reported a case dying in 26 hours, but other fatalities have taken longer; Sinderson's[5] case took 63 hours, Hirst's and Owen's[6] cases seven days each, and the case reported by myself ten days. Daldoom Koor, however, was a very old man, and senility no doubt played its part.

The fact that eight or nine young were encountered in and around a habitation, in the rocky foundation of which was discovered the cast skin of a larger and presumably adult snake, suggests that possibly a mother gave birth to a brood in the house. This viper does not lay eggs but produces its young alive.

(2) FLAYING A SNAKE FOR A FIKI'S CHARM.

The following story was told to the writer in September, 1932, at El Odaiya by Hussein Abdullah Hussein, a Hamari.

At the end of 1929 a Burgawi *fiki* made his appearance in the district selling *hujub* charms which he wrote and prepared. A youth, Fadl Musa, of the village of Kaja near El Odaiya went to him and asked for a charm of the *aroba* type. The *fiki* agreed to prepare this rather special type, but said that it was essential for the applicant to procure the skin from the head of the snake called *abu darraga*, the skin from the head of a lion and the whiskers from a leopard. The removal of these desirable

[1] Hirst, C. G. "A Fatal Case of Snake Poisoning." *Ind. Med. Gaz.*, XLII, 1907, p. 130.
[2] Frazer, F. C. "Two Cases of Snake Poisoning—Recovery." *Ind. Med. Gaz.*, XLV, 1910, pp. 455–6.
[3] Corkill, N. L. "An Inquiry into Snake-bite in Iraq." *Ind. Jrnl. Med. Res.*, XX, 3, 1933, p. 683.
[4] Reinhold, C. H. "A Fatal Case of Snake-bite by Echis Carinata." *Ind. Med. Gaz.*, XLV, 1910, pp. 456–8.
[5] Sinderson, H. C. "Snake-bite in Iraq." *Edin. Med. Jrnl.*, 1924, Nov., p. 620.
[6] Owen, C. A. "The Bite of Echis Carinata." *Ind. Med. Gaz.*, XLIII, 1908, p. 477.

items had to be so effected that the snake, the lion and the leopard were left alive

The youth decided that assistance might prove of value and therefore called to his aid his small brother with whom he set out for the open country. On the way, as they neared their cultivation the youth remembered that once he had seen a snake in this particular patch. After a careful search they found a snake-track and followed it to a hole in the ground. The youth next picked up a heavy log, and stood it on end near the hole with his brother holding it up. The small boy was to let it drop on the snake if it came out of its hole. He then commenced digging so as to strike the line of the snake's burrow and thus frighten or poke it out from behind. All went according to plan, the snake shot out, the small brother, duly frightened, dropped the log, and the snake was conveniently available, still alive. The youth then fixed its head with a forked stick and removed the skin of the head with his knife. The snake had to be left living however, and as it seemed probable that its being pinned to the ground by a heavy log would not be the best mode of ensuring this, the youth told his small brother to run off fast while he would stay, release the snake and then follow. When the boy had gone he threw the log off the snake and then ran. The snake chased him. The youth soon overtook the boy and then passed him. The snake approached the boy, who stopped. The snake stopped also. The boy trembled and cried. His brother came back, seized him by the hand and they both ran off together. The snake did not follow this time and actually died there, for next day it was found dead by the people of the village who accompanied the two adventurers to the spot. The snake was four *diraas* long and was entirely black.

When they got back to the village after running from the snake, they took the skin to the *fiki*. He was astonished, and asked how it had been procured in tones of such wonderment that the youth decided that he had been asked to do what were impossible things, because the *fiki*, who was unable to supply a charm of the *aroba* type, being ignorant of the true art, did not want to be found out as a fraud.

COMMENTARY.

The *aroba* charm is well known in Kordofan and appears to be particularly valued as bringing good luck in hunting. Koranic texts (or supposed Koranic texts) are written and sewn in a skin covering, which

is worn on the person. The attributes of the snake, the lion and the leopard are obviously intended to be transferred to, or shared with, the wearer by the process of sympathy. The mechanism is no doubt considered to be reinforced by the fact that the animals concerned are left alive. From the snake *qua* snake the wearer wil derive the universal attributes of the serpent, sharp-sightedness, strength, length of life, cunning and deadliness. From the snake in the form of *abu darraga* i.e., the Eygptian Cobra, *Naja haje* (LINN.), the snake most feared by the Sudanese, these qualities will be received in increased degree. The aggressiveness of the snakes of this *genus*, their lethality, their size and quickness, the impressiveness of the swaying raised body with the expanded hood and the ability to spit their blinding venom, all contribute to give the cobras that degree of pre-eminence amongst snakes which gained for them the Pharaohs' brow, and an apotheosis which Oldham[1] has shown to have been practically universal in the ancient world. From the lion, of course, the amulet wearer would derive the strength and courage conventionally accorded to that beast, and from the leopard, no doubt, cunning, quickness, silence of movement and ability to hunt undetected.

The story rings true throughout. The death of the snake which had been flayed of its head-skin was most probably due to injuries of the spinal-cord or viscera from crushing by the log. A snake's spinal cord and column are comparatively delicate structures and form a very vulnerable part of its body. Snakes struck with sticks on the spine may continue to show considerable activity for a while, but as a rule they have received a fatal injury and death will follow in minutes or days. Many specimens collected for Zoological Gardens die shortly after purchase on account of spinal injuries received in capture and handling.

An all-black snake of four *diraas* length in the Sudan can only be of one species, and that is the Egyptian Cobra, *Naja haje* (LINN.), in its melanotic form which is so common in Kordofan, where it is known as ***abu kurukuru.***

(3) SNAKE BITE TREATMENT SECUNDUM ARTEM.

The following story was told to the writer at Wad Banda on 22nd September, 1932, by El Tayib Ibrahim es Shatawi.

[1] Oldham, C. F. "The Sun and the Serpent."



KADUGLI JEBALS.
Nuba Tukl compound where the snakes were found and the fatality occurred.

In September, 1931, he went out into the open country to bring in his camels from grazing. Evening came and as he still had not found them he retraced his steps towards the village. When some two hundred yards distance from it he felt a pain in the foot, and knew at once that a snake had bitten him. He hurried on in fear of becoming unconscious, a state he knew to affect those bitten by snakes; he thought it better to die at home rather than in the wilderness.

On the way he stopped and tied his turban-cloth round his thigh and then ran the remainder of the way home. His son, on learning of his father's accident, went out and returned with a root called *oran Zaid*. This he ground to a powder, mixed with millet-beer and gave to his father to drink. About an hour later the bitten man swallowed a raw egg and later some parings of rhinoceros horn in water. Some two hours after taking this he vomited and then fell asleep lying face downwards. He awoke suddenly finding himself lying on his back and immediately vomited blood. An hour later he vomited more blood and thereafter felt reasonably comfortable.

The poisoned leg remained swollen. On the seventh day after the bite, a vendor of medicinal roots was sent for to extract the teeth of the snake from the inflamed wound. He made two cuts with a razor in the affected area, placed a little animal fat on the site of the injuries and then squeezed, producing for inspection immediately afterwards some "red teeth." Thereafter the injured man progressed uneventfully to recovery.

The next day the same *moragi* took out two "teeth," in this instance, white ones, from a little girl of the same village, who had been bitten also by a snake. The girl became well.

Commentary.

Several forms of inspiration are at work in the folk-treatment of snake bite. There is the rationalism behind such procedures as ligation, suction, scarification and burning which aim at limiting the spread of the introduced poison and removing it from the site of inoculation or destroying it there. There is the empiricism of the antidotal type of treatment which aims at countering the evil of the poisoning in the body by a "biochemical" process. This is rarely a pure inspiration however, for amongst the unscientific cold trial-and-error observation is rare and magic plays its part. Next there is the magic in which a contiguity or resemblance

more or less fanciful of the remedy to the snake plays a major part: *similia similibus curantur*. The scapegoat mechanism commonly appears and an animistic conception of snakes and snake-poisoning results in exorcism and transference of *baraka* occupying a position of importance in treatment. There is also a fourth class of treatments, and these are the usual ones. They are a mixture of all three; rationalism, empiricism and magic.

The above story is of interest on account of the numerous folk-remedies employed. First, a rational attempt was made to prevent the poison entering the vital area of the body by ligaturing off the poisoned limb. It will be appreciated that, assuming ligation of the bitten limb to be a helpful measure, the man applied his turban cloth correctly, that is at a place, the thigh, where it could be of real value by compressing the blood vessels against a single bone. The old man, Daldoom Koor, who was fatally bitten in Kadugli, tied a ligature round his leg below the knee, a useless procedure, as there are two bones in the lower leg which prevent the adequate compression of the blood vessels which course in the space between them.

The botanical identity of the root, *oran Zaid*, is unknown, so it is at present impossible to say that it would have no antidotal value. The probability, however, is that it would not. In most parts of the world where snake bite is encountered roots are used in treatment, and so far none has been shown scientifically to be of value. The inspiration is invariably magical. Homœopathically, many roots have a fanciful resemblance to snakes in shape, and sympathetically, roots come from the earth out of which snakes characteristically emerge. Also, as snakes may be, or are, *ginns*[1] (beings which infest the substance of the earth),[2] roots, which derive from the earth, have an additional value. The magical value of a root is enhanced further if it is obtained from a *fiki* or other medium of the transmission of *baraka*. In the root treatment of snake bites in the Sudan it is not usual for the mode of application to be limited to ingestion. More usually a small stick of root is burnt at one end, this end then being applied to the wound. This stick portion is afterwards tied to the affected, or to any other limb. A portion is always eaten. Several factors are probably involved in this procedure. First, the glowing end may destroy

[1] Hughes, T. P. "A Dictionary of Islam," p. 135.
[2] Hughes, T. P., op. cit., p. 136.

poison by heat, secondly, *ginns* are animate with fire,[1] and therefore are most correctly exorcised with fire, and thirdly, the influential root by being kept tied in association with the body exerts a continued, and therefore more powerful effect.

The ground root was mixed for administration with *marisa* or millet-beer. The soporific and anodyne effects of alcohol have no doubt had much to do with the widespread use of massive doses of it in snake-poisoning. None the less it seems reasonable to allot the major inspiration to animism Snake-poisoning is possession by a *ginn*, and what is more natural than that the beneficent divinity inherent in the sacred liquor should dispossess the spirit of evil of the poisoned body ? The unscientific consumption of large quantities of " spirits " in the shape of whisky (*usquebaugh*) and brandy (*eau de vie*) by Europeans when bitten by snakes is well known to be a commonplace.

The bitten man was next given a raw egg. This is a widespread remedy for snake-bite in the Arab Sudan. It is usually said by natives that its mode of action is to make the bitten person vomit, thus ejecting the poison. It did not seem an acceptable explanation to the writer at first, because there was no apparent reason why the ingestion of an egg should cause vomiting. However it has recently come to light that there is a widepsread taboo against the eating of eggs in many parts of the Sudan (Dar Nuba, Butana and parts of the White Nile Province for example) and also it seems indisputable that many Sudanese do in fact vomit if they eat eggs. This is probably an example of allergic intolerance to the egg as a food item, and in the opinion of the writer is associated with the seasonal vitamin deficiency found in the Sudan. Whether the taboo against eggs is magical in origin, i.e., is inspired by the fact that the egg, as a symbol of creation or procreation, has too masculine an influence on women and too feminine an influence on men, or whether the inspiration originated with an appreciation of widespread intolerance to the egg as an article of diet cannot be said; probably both factors were concerned. The serpent has had an age-long and world-wide association with the egg as a symbol of creation, the serpent itself of course having a phallic significance. It is only natural, therefore, that given the desire to remove snake-poison by emesis, no more suitable emetic could be conceived of in

[1] Hughes, T. P., op. cit., p. 134.

magic than the egg, which, in fact, in a proportion of cases, does secure emesis.

The next medicine taken by the bitten man was some parings of rhinoceros horn in water. This again is a common remedy in the Arab Sudan. Parings may be chewed, or drunk in water, or liquid remedies may be drunk from cups made from rhinoceros horn, thereby gaining increased virtue. According to an Omdurman informant the horn is of two sorts, the *hai*, or live kind, and the *mait*, or dead kind. The former is greyish-green, streaked with black or brown, such streaking being indicative of the blood vessels, which originally supplied the base of the horn with blood. The *mait* is greyish-green to yellowish-brown without any streaking, for it comes from the tip of the horn, which is dead. This explanation is probably correct, since the horn of the rhinoceros grows from the skin and not from the bone, and thus will have a rich peripheral blood supply at its root and a negligible supply at the cornified tip. As an antidote the *hai* is of greater value. This is only to be expected because of its blood-content, blood being a fluid instinct with life.

As a symbol the horn (most usually of the bull or ram) is phallic, i.e. it is associated with plenty, fruitfulness, fertility and virility; in short, it is the symbol of regeneration and therefore may be expected to have a value in revivifying the dying, be they moribund from disease, poison or accident. The rhinoceros probably derives a special virtue from his anomalous nature in having one horn only, most horned animals having two. It seems that the classical unicorn is inspired by early travellers tales of the rhinoceros. Thompson[1] states that the narwhal was the inspiration, but on zoo-geographical grounds it seems more reasonable to ascribe to the early Mediterranean peoples acquaintanceship with the African rhinoceros rather than with the Arctic narwhal. No doubt later, narwhal horns would be considered, and rightly so, as unicorn's horns, but the rhinoceros seems more likely to have been the original inspiration. Thompson quotes many instances of the healing power attributed to the horn of the unicorn, usually in poisonings but also as a general panacea. It is worthy of passing note that the Horned Viper, *Cerastes cornutus* (LINN.) is common in the Levant, north-eastern Africa, and the Sudan; and it is not unlikely that the value of horn in treating snake-poisoning may have been reinforced by the fact

[1] Thompson, C. J. S. "Poisons and Poisoners," pp. 47–8.

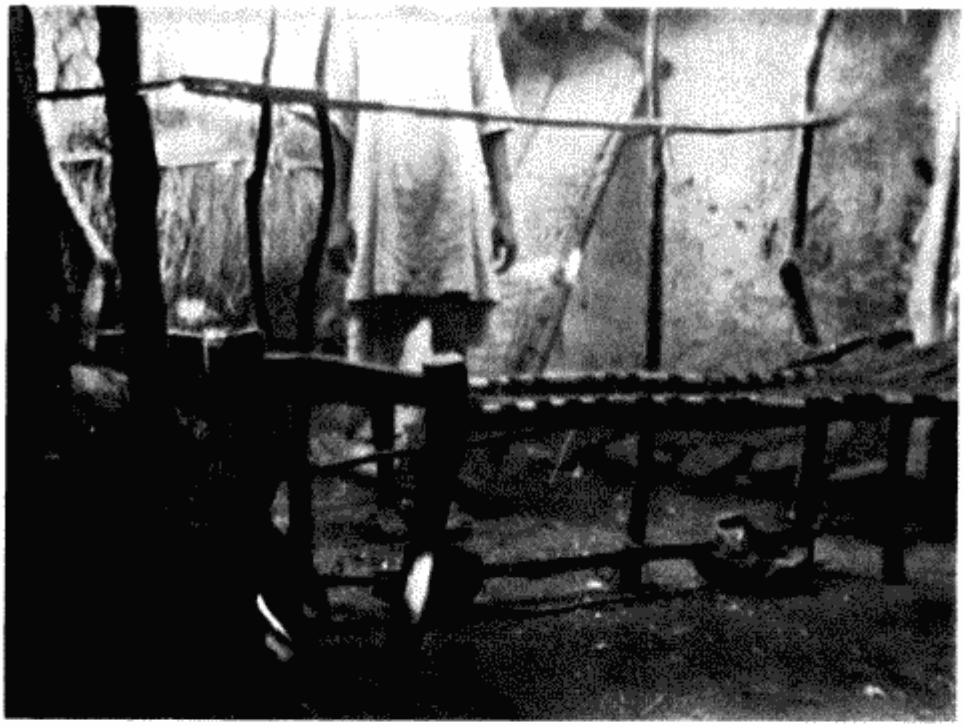


FIG. I. INTERIOR OF THE COMPOUND SHOWN IN PLATE I.
(Here most of the snakes were seen.)

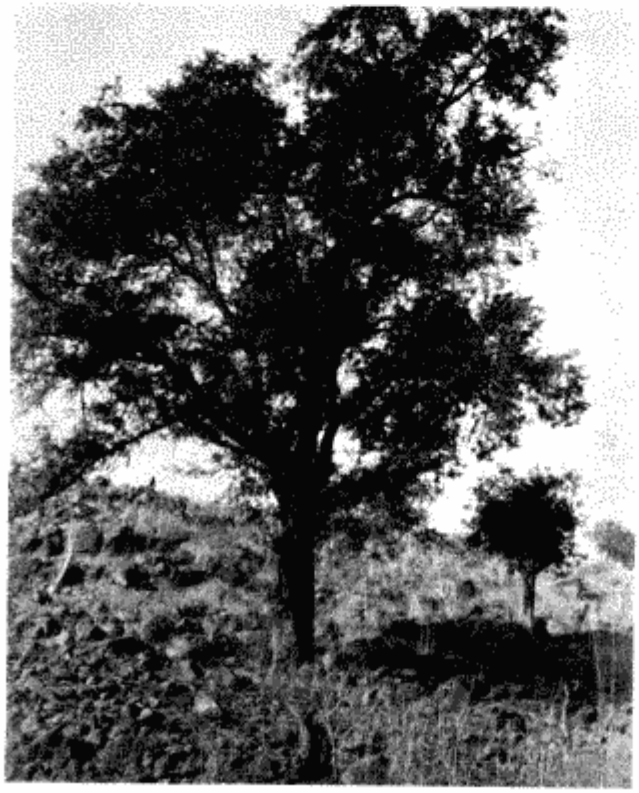


FIG. II. THE ARADEIB TREE, THE PODS OF WHICH FORM THE BASIS OF A FOLK-REMEDY FOR SNAKE BITE.

that one of the commonly encountered snakes was horned. That is, evil from a horned animal is countered by horn in treatment. Doughty[1] quotes an old Moor who assisted at the killing of a Horned Viper in Arabia as saying, "Wot ye, in the left horn lies the venom, and the antidote is in her other if it be drunken with milk; or said I amiss? let me think in which of them."

After the initial systemic effects of the poisoning had worn off, the bitten man called a *fiki* to extract the teeth of the snake which still remained (sic) in the wound. There is a belief commonly held in the Sudan that the wound will not heal if the snake's teeth remain in it. This is probably the legacy of an earlier belief which the writer first heard in Khartoum North; he has also heard it from a native of Berber, and has been assured that it is held in Syria. It is to the effect that a man bitten by a snake will have a recurrence of the symptoms on each anniversary of the accident unless the snake's teeth are withdrawn from the wound.

The removal (sic) of snake's teeth from wounds inflicted by snakes is in the Sudan more or less commonplace. Objects reputed to be teeth are always produced to the patients, but so far none have come the writer's way. Sophisticated Sudanese informants talk of small fishbones being a useful stock-in-trade of the *fikis* concerned.

Snakes do occasionally leave teeth in the bitten area, especially vipers, for their fangs are long, delicate and movable, and may be broken or wrenched out by the immediate violent withdrawal and shaking of a bitten hand or foot. There has been recorded one such case in Iraq.[2] In sub-tropical areas where there is a dry season of fierce insolation coupled with a deprivation of certain food substances for some months, the disease called *pellagra* is found. In this disease there is an annual recurrence of symptoms which are multitudinous in their variety and may simulate various other diseases. Typically these symptoms disappear in the rainy season. It is a characteristic of the disease that a person on the verge of suffering from its active manifestations may have the disease activated by any cause which increases the energy output of the body. Work and fatigue implying immediately preceding work, are the simplest examples of such causes; fever

[1] Doughty, C. M. "Travels in Arabia Deserta," p. 314.
[2] Corkill, N. L., op. cit., XX, 2, 1932, p. 263.

is another and viperine poisoning is yet another. A person on the verge of pellagra may be bitten by a viper and may then develop say, headache, lumbago, dimness of vision, bone and joint pains, etc., such being symptoms of pellagra rather than of snake-poisoning. These afflictions disappear in the rainy season, only, however, to reappear the next pellagra season. The sufferer having naturally associated his pains with the snake bite in the first instance no less naturally notes their recurrence on the anniversary of the bite.

(4) THE LETHALITY OF THE CARPET VIPER.

The following was recounted by Ibrahim Kheir, an old Hamari aged about 60, at El Odaiya on 25th September, 1932.

He had been bitten eleven time in all, on different occasions, by snakes of the kind known as *um desheina*, which is the same as the *um ğenaib*, the *um shedigat* and the *washasha*. He had only seen the snake on three of these occasions, but he knew that it must have been the same sort of snake at other times, "because the symptoms were the same." Ten of the bites had been on the left foot, the last one four months ago, and one had been on the left ring finger, six years ago.

The left foot was much swollen and was uniformly hard; it was not tender. It bore no ulcers and showed no sinuses. Its joint movements were slightly limited and the old man walked with the slightest limp. The condition was not mycetoma (Madura foot), which, incidentally, appeared to be unknown in the immediate locality. The nail and terminal phalanx of the affected finger were reduced in size and distorted. He was not a leper.

He said that his usual symptoms after being bitten were swelling at the site of injury, the spitting of blood and the passage of bloody urine. Such troubles usually only affected him for the first day. As a remedy he usually drank a root prepared in water or milk.

COMMENTARY.

The Carpet Viper is the commonest poisonous snake in the Anglo-Egyptian Sudan and, in some parts of it, it is the commonest of all snakes. It might therefore be expected to have a multiplicity of names. It makes a rustling noise when excited by rubbing its coils together, and this has secured for it a number of mimetic names such as, *washasha, rashasha,*

khashasha and *fashasha*; *um desheina* is probably also mimetic. *Um shedigat* is inspired by the pronounced swellings below and behind the eyes on either side of the head; these are caused by the poison glands (Baggara *shedig*, n. cheek). *Um ǧenaib* (Arabic *ǧenab*, n. side) is inspired by the snake's habit of coiling to a flank with the head threatening to the front.

In June, 1933, the writer encountered a Bathani, aged 52, and named Mohammed Ahmed, who, like the Hamari mentioned above, had been bitten frequently (in this case seven times) by *washashas*, but never with serious consequences. These two cases seem to be a very good argument for attributing a low lethality to the species, but snake venoms are of the class of substances that after inoculation give rise in the body to protective anti-toxins, so a person bitten by a snake and recovering may be expected to have a relative tolerance to the poison of that particular sort of snake in future. Further bites, if not fatal, will increase the degree of tolerance.

Children may be bitten by large Carpet Vipers and experience no ill-effects, and yet healthy adults may be bitten by half-grown specimens and may die dramatic deaths. The lethality of the species in India has been a matter of debate. Wall,[1] however, quotes Vidal's estimate on a fair series as being 20 per cent. A small series of five cases in Iraq included two deaths.[2] In the Sudan there are records of ten cases in which the snake was secured at the time of the accident and later identified as *Echis carinatus*; in not one of these cases did death result. The average case in the Sudan seems to spend about ten days in hospital, and to leave with no permanent disability.

The fact that fatalities do occur requires explanation. This lies in a consideration of the quantity and potency of *Echis* venom, and of the factors which control its inoculation into a bitten person. According to the findings of Acton and Knowles[3] an average Carpet Viper in India may inoculate under optimum conditions two fatal doses at a bite. The optimum conditions imply, the presence of healthy venom glands, a healthy mouth in the snake with no dysfunction of the fangs, the presence of a full complement of venom (i.e., the venom has not been just discharged in striking at prey or an enemy) and an efficient bite with both fangs driven

[1] Wall, F. "The Poisonous Terrestrial Snakes of India." 1928. Bombay: The Bombay Natural History Society, p. 54.
[2] Corkill. N. L., op. cit., 1933, pp. 681–5.
[3] Acton, H. W., and Knowles, R., 1921. Byam and Archibald's "Practice of Medicine in the Tropics," First Ed., I, pp. 743 *et seq.*

well home, and no venom spilled on the clothing or body surface of the bitten person. As the poison is diffused throughout the body by the blood it will be obvious that given the same dose of inoculated venom, a big man will stand a better chance of survival than will a person of half his weight, for this latter will be poisoned in double the concentration. Again, invalids and the senile will not stand poisoning as well as the healthy and vigorous. A drop or two of *Echis* venom lost in striking may make a difference of life or death, for the total amount of venom available is very small compared with the amounts discharged at a bite by the Puff Adder, *Bitis arietans* (MERR.), and the Indian *Cobra-di-capello, Naja naja naja* (LINN.). These are much larger snakes with venoms of a lesser potency, and yet they are snakes with a higher lethality, since the loss of a fair quantity of venom in striking makes little difference to the result. To sum up, the Carpet Viper has comparatively little of a very powerful poison, and a person dying from the bite of one is most unlucky, for it means that practically every factor that could work against him has done so, and the chances are that he has received more than half the total venom in the snake's glands.

(5) FRAILTY AMONGST THE SERPENTS.

The following story, which was said to be a local chestnut, was collected in Nahud in September, 1932.

A herdsman of Nahud was tending his animals in the open country when his eyes fell upon a small male *um ǧenaib* engaged in a flagrant amour with a large female *sul*. This was offensive to his sense of the fitness of things, and in indignation he killed both, buried the female, and broke the male in pieces. Later he returned to his home in the town.

In due course the male *sul* came looking for his wife and arrived at the site of the tragedy. He found his wife dead and buried and was very angry. After a while he set off to seek the slayer and tracked him to his home in Nahud. Peering into the compound he saw the herdsman asleep on his bed near the vessel containing the drinking-water. He waited, and when dark fell and the herdsman, who had now arisen, was sitting a little further off talking to evening visitors, he glided to the water-vessel and spat into it. Having achieved his purpose the male *sul* was about to leave when he heard the man recounting to his friends his experiences that day. As he listened he realised that his wife had been guilty of evil and that the herdsman

had acted justifiably. Returning to the water-vessel he broke it with one blow of his tail, and then calling out twice he hurriedly left the house. He hastened back to his wife's grave, disinterred her and broke her into small pieces. He then broke the fragments of the male *um ǧenaib* into still smaller fragments.

COMMENTARY.

The *um ǧenaib* is the Carpet Viper already plentifully referred to above. The *sul* is hard to identify. There appear to be two classes of snakes to which the name applies in the Sudan. The first embraces one species, the Black Burrowing Viper, *Atractaspis microlepidota* (GNTHR.). The second embraces all pale thin snakes, some 15 species or so.

This folk-tale illustrates the belief in *ginns*, for it is not to be expected that interbreeding of totally unrelated forms is acceptable to acute observers of nature, nor that such an event among reptiles *qua* reptiles would excite human indignation. It will have been noted that the snakes in this story are endowed with human attributes, they speak, they marry, they are subject to human passions, a moral sense is present and a high degree of intelligence.

The "Thousand and One Nights" contains repeated illustration of the appearance of *ginns* as humans and serpents. In Morocco[1] "A snake which is found in a house or tent may be either a *jenn* or a saint." Further, the Prophet[2] "is also reported to have said, with reference to snakes found in houses, that some of them are believers and some infidels." There is an Arab story[3] of *ginns* incarnate, as trees flying away with doleful cries in the form of white serpents when the thicket in which they stood was fired. *Ginns*, in addition to their special demoniac qualities, thus enjoy all the attributes of the forms they assume, and so are required to conform to the conventions of Islam if believers, or may be considered as evil things without the pale if infidels.

The Nahud herdsman may be taken to have regarded the adulterous couple as *ginns*, and, adultery in Islam being classically punishable by death, he no doubt felt that he had acquitted himself worthily in applying the sacred law.[4]

[1] Westermarck, E. "Ritual and Belief in Morocco," I. p. 389.
[2] Westermarck, E., op. cit., II, pp. 351–2.
[3] Cook, S. A. W. R. Smith's "The Religion of the Semites," p. 133.
[4] Hughes, T. P., op. cit., p. 11.

The snake spat in the water obviously with the intention that the herdsman should be poisoned when he drank. It is common belief that if a snake touches food or drink it renders them poisonous thereafter. A snake's venom is of the nature of a salivary secretion, and certain snakes, the Egyptian Cobra, for example, do actually spit venom, so that this folk-belief is easily understandable. In 1927, in the Hammar marshes of the lower Euphrates, a cholera epidemic was heralded by an outbreak in one family where, out of five person afflicted, four quickly died. Strict quarantine measures were immediately applied throughout the area. They caused much discontent, and, no more cases occurring at once, led to the circulation of a rumour that the civil surgeon had made a wrong diagnosis and that what had really happened was that a snake had drunk from the milk which the affected family drank afterwards.

It should perhaps be pointed out that snake venoms may be drunk with comparative impunity provided there are no injuries on the lips, tongue, gums, throat, gullet and stomach of the drinker. To exert their poisonous effects venoms must gain entry into the blood stream in an unchanged condition. In the stomach venoms are digested. It will be appreciated that a person sucking a snake bite inflicted on another person may run the risk of being poisoned to some extent himself if he has cracked lips or diseased gums, tongue or mouth. Doughty says[1] " Charity, that would suck the bite of a serpent, must consider is there no hurt in her own lips and mouth, for so one might envenom himself. There came to me a man seeking medicine, all whose lower lip to the chin was an open ulcer. Huskily he told me (for the horrible virus corrupted his voice), that the mischief came to him after sucking a serpent bite, a year past."

[1] Doughty, C. M., op. cit., p. 315.

BIR BIDI.

By L. E. d'Almásy.

(PLATES III & IV AND MAP.)

A DESERT well of this name was shown on several editions of the General Staff map (1 in 3 million scale) of the Anglo-Egyptian Sudan as lying in the neighbourhood of Merga Oasis in the Libyan Desert.

It was first mentioned by Mr. A. J. Arkell in his article " The Southern Route to Kufra " (*Sudan Notes and Records*, December, 1922), in which he rendered the tale of a Darfur guide, Bidi Wad Awad, who claimed to have dug this well himself at a place about two days' camel march to the north of Merga.[1]

At the time when Mr. Arkell obtained his information very little was known of Merga itself. On the older maps there were Tagua and Ain Kiyeh, shown as lying in that region of the Libyan Desert, but it was not until Prince Kemal Ed Din Hussein first reached the oasis, that Merga was allotted its proper place on the Sudan map. When returning from Merga to 'Uweinat the Prince was told by his Guraan guides some distance to the north of Merga, that " to the right (east) of their route there was a well with a palm and some bushes, called Bidi after a Biday who had found it."

Thus two separate informations had been gathered about Bir Bidi and, on the subsequent edition of the Sudan map, the well made its first appearance. I don't know whether it was placed there on Mr. Arkell's information—according to which it lay north of Merga—or on Prince Kemal Ed Din's, which allotted it to the north-west, but for some strange reason it was shown in contradiction to both, as lying to the south-west of the oasis.

In the following years more information was gathered about Bir Bidi by several explorers, but it always struck me that there must be some curious mistake about its allotted position on the map, which never tallied with the travellers' reports.

Bir Bidi was again mentioned by Messrs. D. Newbold and W. B. K. Shaw in their article, " An Exploration in the South Libyan Desert " (*Sudan Notes and Records, Volume* XI, 1928), and there in a foot-note it was suggested that it might be lying in a north-westerly extension of

[1] *Merga* means " broth " or on account of the slightly salt water of the oasis.

the depression that the explorers found some 27 kilometres north of the Lake of Merga, which Mr. Newbold called "Wadi Hussein." The position of Bir Bidi, however, was not altered on the 1928 edition of the Sudan map.

Early in 1931 I received a message from Colonel B. T. Wilson, S.D.F., in which he informed me that Bir Bidi had been spotted from an aeroplane about 60 kilometres due north of Merga, but in contradiction to this the well remained marked to the south-west of the oasis on later editions of the Sudan map, as well as in Phillip's Atlas.

Mr. Newbold, who took part in this reconnaissance flight, thought that he had seen the place which might have been Bir Bidi, after 33 minutes' flying on a true bearing of 1° after having passed above "Wadi Hussein." He described it as a sort of small basin with a white patch and a very green tree in the centre, and a tiny *khor* or drainage channel running into it from the north. His pilot, however, did not fly low enough to allow Mr. Newbold a good view of the place, and thus it was impossible to say whether they had actually flown over a water-bearing depression.

Bidi Wad Awad had personally accompanied this expedition, and I do not know why he had not been taken to the place by car, though I later found the car tracks of Wilson's expedition only 12 kilometres from the well.

Major R. A. Bagnold searched the region of Mr. Newbold's "Wadi Hussein" in November, 1932, but he failed to find an open well there. He suggested (the *Geographical Journal*, August, 1933) that Bir Bidi might be identical with a place called Oyo, of which native reports have been gathered, and that this may be the "Wadi Hussein" itself, where water can be found by digging. In consequence the name Oyo appeared on the Sudan map added in brackets to that of Bidi, but without moving the position of this evasive well to the north of Merga, where according to every piece of information it ought to have been.

At last, in November, 1933, I found the well without much difficulty by following up some information that I had gathered in Kufra, and I reported its exact situation in the Desert Survey Office in Cairo. If I thought that Bir Bidi was now going to be allotted its proper place on the map, I was mistaken. To my surprise I found that the well was taken off altogether from the 1934 edition of the Sudan map, surely an

extraordinary thing to happen, especially when considering the fact that Merga Oasis had been temporarily occupied by a patrol of the Sudan Defence Force early in 1934, which occupation must have certainly led to a thorough exploration of the Merga region.

I felt that after its misfortune with the Sudan map, Bir Bidi deserved some better attention, and I therefore decided to follow up its story more closely in addition to what I had already found out about it.

In the course of my 1935 expedition I was lucky enough to ascertain what I now regard to be definite information on this " mystery well," but when rendering the following account of my data, I have to proceed from the beginning.

* * * * *

As I have before mentioned, the first information was gathered by Mr. Arkell from the Biday guide, Bidi Wad Awad, at El Fasher. This man had accompanied Sultan Ali Dinar's caravan to Kufra in 1915 and gave a detailed description of the journey to Mr. Arkell.

To comprehend fully the circumstances of this interview, one should bear in mind the opening remarks of the author, in which he emphasises the fact that at that time neither he nor his informant spoke Arabic faultlessly. The following are the two passages of Bidi's narrative concerning his well :—

" Then we set out, and after riding for four days, always going due north, we reached the oasis of Tamr El Qusar (? Tamr El Bedai) where there is open water, round which grow numerous date-palms.

Hitherto there had been plenty of grass for the camels to eat, but north of Tamr El Qusar there was very little. The going all the way to Kufra was sandy, with here and there a patch of stones. Henceforward we gave up riding only by day, and instead we rode all the night long, camping for the heat of the day about two hours after sunrise. I led the way, always keeping my right shoulder on Jedi, the Pole Star, and with a man riding out on each side of me. It only took us two days to reach a well, which the people call Bir Bidi. It is so called, because when I was on that raid, I saw where a gazelle had been digging in the ground. So I scooped out the sand, and at a depth less than the height of a man, I found plenty of water. When I left, my friends and I put a large stone over the place. This time, too, when we moved the stone, we found water with ease.

From here it took us nine days to reach Jebel Anwar, which is a large *jebel* like Meidob, and has four springs within a radius of three or four miles, so that there is plenty of water. Here we found about 100 Goraan living, and about 160 Feizan. We stayed at Anwar eight days to rest; and were told by the people there that if anyone came to interfere with them, they would kill them all.

Then we set out again, and from there another seven days brought us to Hajar Kowal, a fairly tall solitary jebel, where there is a well, the work of the Goraan and Feizan of those parts. Here we just filled up our waterskins and set out again, and on the eighth night we reached Wadi Gerat, which is full of palms, and gets its name from the bitterness of some of the dates.

Next morning I rode on with a Bedai called Ibrahim to the house of a Feizani called El Khei, which was situated in Tallaf, another *wadi* full of palms."

* * * *

"We returned by the same road, but as our camels were heavily loaded, the journey took us longer, ten days to Hajar Kowal and eleven more to Jebel Anwar. There we stayed four days, and then we reached Bir Hamra after eight days, Bir Bidi after seven more, Tamr el Qusar after four more, and Natrun after five more. Then on the ninth day after leaving Natrun, we arrived at Duani in Dar Unti, Jebel el Meidob, where we stayed three days"

* * * *

When analysing the first part of Bidi's report—that concerning his outward journey—one finds the following points of interest :—

He states that he kept his "right shoulder" on Polaris, which might indicate a *north-westerly* course, as Arabs usually talk about "keeping the camel's head on Jedi" when they speak of a due north trek.

He mentions "Jebel Anwar," meaning evidently 'Uweinat, and states that there are four springs in the mountain within a radius of three or four miles. Now we know that there are actually only three principal springs at 'Uweinat—Ain Murr, Ain Dowa (or Ain Ghassal) and Ain Zweia, but they are much further distant from each other than three or four miles. Of course, at the time when Bidi visited 'Uweinat some other springs might have held water as, judging by the number of inhabitants he states to have met there, his visit must have fallen into a period

following abundant rain. Thus the fourth well may have been the source that lies some 15 kilometres to the west of the entrance to Karkur Murr, in which I found a little water in May, 1933, but which was completely dry when I re-visited it in March, 1934.[1]

Bidi further says that it took him seven days from "Anwar" ('Uweinat) to "Hagar Kowal." Now, seven days will take a caravan from 'Uweinat to Kufra, but there is no "fairly tall hill with a well" at the southern-most point of the Kufra depression. It is not quite clear whether "the eighth night" means just one more day's march to "Wadi Gerat" or another eight days between these two places; by closer examination, however, there remains no doubt that Bidi meant the latter.

Bidi's "Tallaf" is the first name mentioned by him which can be identified with the village of Talab. It is actually a morning's ride from Talab to Zurk, the southern-most palm grove of Kufra. Therefore Bidi's "Wadi Gerat" must be Zurk, which is the first oasis that a caravan coming from 'Uweinat must reach.

From Zurk the distance to Arkenu *may* be eight days if a caravan travels very slowly, or if the guide exaggerates his distances between waters. Similarly, the number of marching days between Karkur Murr and Arkenu may be exaggerated to seven days. It is very likely, therefore, that Bidi's "fairly tall Hagar Kowal with its well" was Arkenu, and it is more than likely that all the distances given by Bidi were grossly exaggerated.

If we now take his return journey, there remains no doubt as to the inaccuracy of Bidi's statements.

He says that he travelled *ten* days from Kufra (evidently from El Jof) to Hagar Kowal (Arkenu)—a distance that any caravan will

[1] In 1933 I met an old Tibu at 'Uweinat, a man called Ibrahim (incidentally, the one after whom Karkur Ibrahim has its present name) who told me about this spring, which he called "Ain el Prince." He said it was in a *wadi* at the foot of the mountain somewhere between Ain Dowa and Karkur Murr, but nearer to the latter. When I set out from Ain Dowa to search for it, I had to walk for some considerable distance over the foothills east of Ras Regim, and I found the spring under a rocky step in a *wadi* bed almost due south of "Triple Peak."

In 1934 I went there again with Capt. Arkwright, S.D.F., but this time we approached the place by car coming from Karkur Murr. Though I got into what appeared to me to be the same wadi, and found the rocky step again, I could not recognise it for certain as being the place I had visited the year before. There was no trace of any moisture where there had been a cup of water, and we found on the flat top of the rock many rock carvings that I had not noticed on my previous visit. We found, however, the site of a large Tibu encampment close by, which indicated that this dry spring must have been one of importance after rains.

easily do in seven days—and from there *eleven* more to Anwar ('Uweinat), which can be done in three days.

Now he mentions a new name, that of " Bir Hamra," which " lies eight days from 'Uweinat," and it takes him seven more to get from there to his Bir Bidi. He still doubles the number of marching days from his well to Merga and only gives more plausible distances as he approaches his goal.

All this shows quite clearly that Bidi's story, as he told it to Mr. Arkell, was far from being accurate as regards the distances. It is a well-known fact, of course, that desert guides always tend to exaggerate their distances, the admiring exclamations of their listeners being the louder the more days they state to have put in " between waters."[1]

In 1928 Bidi Wad Awad gave an amplified account of how he had discovered the site of his well to Mr. D. C. Cumming, then District Commissioner of Northern Darfur. He stated that in the year 1902, when on a raiding trip to Kufra, he came to a place some 30 to 40 miles north of Merga, where he noticed a gazelle, having scratched the ground, which suggested to him the possibility of water.

This, of course, sounds more like one of those typical desert stories, with their animal legends and miraculous finds (so common amongst Beduins), than a naturalist's observation of the Dorcas Gazelle's habits—an animal known to live in desert regions hundreds of miles from water.

He then describes how he dug a well in that place, and how, finally, at the depth of a man's shoulder, the sand became wet and, when he pushed his arm down into it, the water gushed up " in spasms like blood from the neck of a slaughtered sheep."

This appeared to indicate a fairly strong artesian pressure, and it suggested that Bir Bidi was lying at a different level from the water-bearing strata of the Merga depression, as no such artesian effect was observed by Prince Kemal Ed Din when he dug his wells in the oasis.

Bidi finally closed the well with stones and palm fibre—a noteworthy statement, as he later denied the proximity of palms in the neighbourhood of his well—and covered it up with a large flat stone. Thirteen years

[1] Recently, however, I have been much amused to observe on several occasions the opposite tendency coming into fashion, undoubtedly under the influence of our mechanical age. A desert guide, who had before boasted of seven days between Wadi Halfa and Selima Oasis, now pretends to have covered the distance " almost like a motor car, in three days only ! "

later he found the well still covered, and he watered 168 camels and filled over 100 water-skins from it, with the well " still overflowing."

He again mentioned " Bir Hamra," but this time he stated that it was seven days from Bir Bidi and only some 30 miles from 'Uweinat, whereas to Mr. Arkell he had given its distance as eight days from there. Thus the description given by Bidi allowed for a certain amount of doubt, and it was not till five years later that I heard some more of the mystery well to the north of Merga.

Early in 1933, and in the autumn of the same year, I paid my second and third visits to Kufra. Thanks to the kindness of our Italian hosts I was able to gather much interesting information about several regions of the Libyan Desert from some Arabs and Guraan at Kufra. Among other things I was given a description of " Tamr " (Merga) and the " secret well to the north of the oasis."

I may just mention here that I have never heard Merga being called " Nakheila." My Kufra informants talked about Tamr, Merga or Oyo, but even the name of " Tamr el Qusseir " was unknown to them.

I have questioned quite a number of people about Merga. Some of the fugitives who had returned from there to Kufra, others who had worked their way up to Kharga, some Kababish and Guraan I had met at Bir Natrun in 1933, and again others whom I met there in 1935, as well as a party of Zaghawa, and some Bidiyat whom I met on their way to and from Bir Natrun in the Wadi Hawar. Neither of these ever mentioned the name " Nakheila," and they invariably called the oasis Tamr or Merga.

On every occasion I finally asked them whether they knew of a place called Nakheila, but they either gave a negative answer, or talked about several places called " Nukheil " or " Nakhlei," allotting this name to small groups of palm trees in either the Natrun oasis or in Kufra, as well as at Laqqia and in the El Sheb region on the Arbain Road. Prince Kemal Ed Din told me that he had never heard of the name " Nakheila," except when reading it in Mr. Newbold's report, and quite recently Hassanein Bey confirmed to me that his Guraan companions had never mentioned this name, though they talked of an oasis called " Tamr."

My Kufra informants were a Zueia and a Guraan, who had left Kufra at the time of the Italian occupation (20th January, 1931) and had gone to Merga together with a number of other fugitives. They told me how

they had reached 'Uweinat after seven days from Kufra and how they had been led to Merga by three Guraani, by name Herri, Iza and Sugu, whom they had met at 'Uweinat.

They gave me a description of Merga oasis, or Tamr as they called it, and of their life in some palm-leaf huts which they had erected to the west of the lake. Three men of their party left soon after their arrival with five camels, to try to reach Egypt, but they were never heard of again. Later, some more Guraani arrived in Tamr led by one Aremi Gongoy. This man soon assumed the leadership of the small community and they " believed " that he was a brigand. In the following year it became necessary for them on two occasions to abandon their camp and to move to a place about one day's march to the north of the lake, which is called Oyo. They had seen aeroplanes and motor-cars at Tamr and thought that the Italians were pursuing them.

At Oyo there are some " red palms " (*tamr hamra*) and water can be got by digging, but farther north in a *wadi* there is an open well called " Bir Aremi " or " Bir el Haush," because it is the secret well of Aremi Gongoy, and there grows a palm bush (haush) above it.

Though I had not been to Merga then, I thought that the place called Oyo must be either Mr. Newbold's " Tamr el Qusseir " or his " Wadi Anag." We had arranged with my companion, Wing-Commander H. G. Penderel, that he should locate this " Bir Aremi "—which I believed to be Bir Bidi itself—on his excursion to Merga. Unfortunately, he found no time to carry out this reconnaissance to the north of Merga Oasis.

When Penderel returned from Merga the two drivers he had engaged in Kharga spread the news there, that they had to withdraw from Merga because they had found the oasis occupied by what they thought were brigands. This story reached some of the Kufra fugitives who had settled down in Kharga, and it aroused the particular interest of three men who had actually come to Kharga from Merga. These were the three of whom my Kufra informants had reported that " they left right in the beginning, but had never been heard of again." They knew that the people whom Penderel's party had seen in Merga were their friends and relatives and they decided to go and rescue them. This one of them carried out in July and August, 1933, and the last party of Kufra fugitives that had been marooned for two-and-a-half years were thus brought to Kharga and Egypt.

In September, 1933, on my way out for another expedition, I was lucky enough to get hold of the man who had carried out this rescue. He was a sinister-looking chap, finely built and with the face of a vulture. He said he was a Mogharba and that his name was Abu Naas. I questioned him about his desert travels and he reluctantly told me how he had reached Merga with the other fugitives, and how he had ridden with two companions and five camels from Merga to Bir Natrun to reconnoitre the further way to inhabited territory. From Bir Natrun they picked up the Arbain Road and got to a well with some clay brick houses near it (Laqqia Arbain). From there they followed the old caravan road to the north for a very considerable distance, until at last they found a well with tall grass round it (Bir Safsaf). They lost three camels on this part of their journey. The caravan road had become very indistinct after this oasis, but they found some car tracks further north that they followed to the north-east, until they got once more on to the great caravan route which finally led them into Kharga. Abu Naas wanted to return immediately to Merga with fresh camels to fetch his friends, but the Egyptian authorities did not allow him to do so.

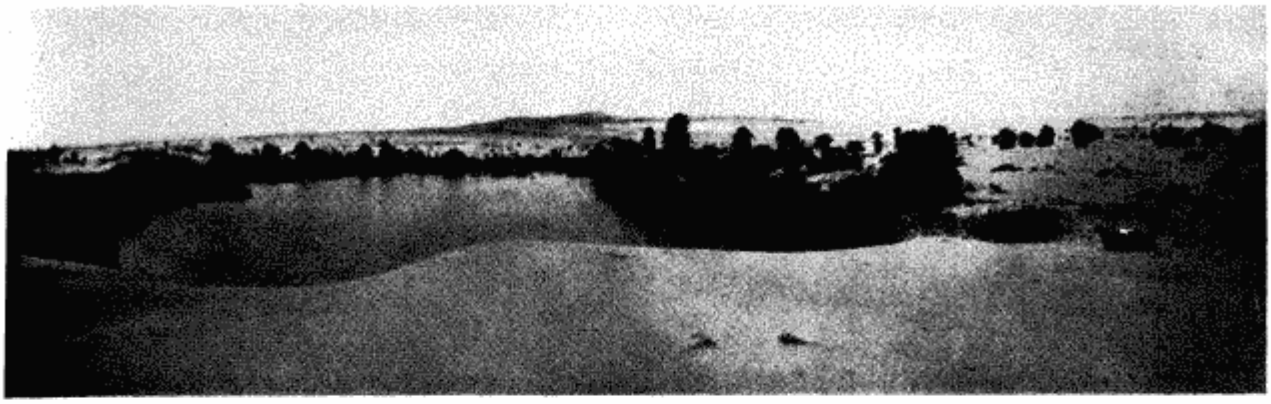
When two-and-a-half years later he heard from Penderel's drivers that his people were still in Merga, he left secretly and alone and rode again along the same route—Bir Murr, Bir Safsaf, Laqqia Arbain, and Bir Natrun to Merga. He told me that he found his friends in the southern part of the oasis, where they had just returned from a well which lies one to one-and-a-half day's journey to the north of the lake. He said that he himself had not been to that place, but that his people had told him that it lies on the other side of the hills that surround Merga, in a narrow *wadi*.

This corroborated the information I had got in Kufra, but on the whole I could not get much more out of Abu Naas concerning Merga. In fact, he was eager to hear from me about his two former companions, whom I had met at Kufra, and he repeatedly asked me why and how they had returned there, but I found him rather wary and reluctant to give me any information on Merga. I now know that this was because of the murder of Aremi Gongoy, which had taken place shortly before his arrival at Merga and in which his friends were involved, but . . . "that is a different story."

It had not been in my programme to visit Merga on this trip, but circumstances finally led me to an excursion to the south. I drove to Merga from Newbold's "Burg el Tuyur," having no other map than the 1 in 2 million scale map published in *Sudan Notes and Records* with Messrs. Newbold's and Shaw's article. I chose the straight line from the Burg to the lake of Merga for my bearing and drove on the compass as straight as I could manage over those atrocious "stone fields" that we met soon after leaving the Bird Rock. This course (250° Mag.) took me over the country to the east of Messrs. Newbold's and Shaw's route and I did not expect to find anything "new" in this region. Having come 65 kilometres from Burg el Tuyur, however, I suddenly found myself on the edge of a fairly deep (40 metres) depression. I drove down into it and, as its general direction did not force me to alter my original course very much, I remained in it for some 20 kilometres. There are many Tundub trees and even some Selim bushes in this depression, which is covered with dry grass tussocks. I saw gazelle and what may have been barbary sheep tracks, and at about half-way we passed a typical Arab grave with two stone slabs put up to mark it. There were potsherds and flint implements as well, and when finally I climbed out of the depression—which appeared to extend towards the east—to turn on to my original course again, I found myself on an old camel road with occasional "'alamat" (cairns) leading straight along my course to Merga.

Nearing Newbold's "Nussab el Hadud" the going improved and the camel track disappeared, but I crossed some fresh Addax tracks and even passed one of these fine antelopes that was on its way from Merga to the north. Nearing the broken rocky ridges that lie to the north of Newbold's "Wadi Anag" the camel road became visible again, and as its bearing did not differ much (220° Mag.) from my set course, I followed it right down into the latter.

I now found Messrs. Newbold's and Shaw's route report, which I luckily happened to have with me, invaluable and strikingly correct. My companions afterwards said that I was driving with one hand, holding the copy of *Sudan Notes and Records* in the other, and while keeping one eye on the compass, I was reading with the other my "Desert Baedeker." In fact, I had no difficulty in finding the pointed hill with the rock pictures in Wadi Anag and near it the palm-leaf huts of the Guraan camp. I climbed the hill and found a brand-new camel saddle and two



LAKE MERGA SEEN FROM THE EAST.



"PYRAMID HILL."
A conspicuous landmark half-way between Oyo and Bir Bidi (4.2 kms. from latter at 240° Mag.).

spears hidden away on its top. I then drove round the depression of Wadi Anag, taking bearings and distances for a sketch map. One kilometre from the Guraan camp I came across the lowest spot of the valley, and there at the foot of two large Terfa bushes and an Arak (Shau) tree, I found the sites of two sanded-up walls. From the top of the rock picture hill I had seen Newbold's " Wadi Hussein " quite close to the north, so I did not follow the line (due west) along which his camel caravan had come from " Tamr el Qusseir," but I drove over a slight rise beside the hill into that other depression which I found covered with grass tussocks.

I now kept a sharp look-out for a " haush " (date-palm bush without stem) which, according to my Kufra informants should indicate the position of the " mystery well," and I first followed the Wadi to the north-east, from where it appeared to descend. Keeping along the edge of the grass tussock area, I came to a group of white hillocks, then I turned to the south-west, following the northern bank of the valley. Some 4 kilometres from the white rocks I at last caught sight of two small palm bushes. Close to the foot of the south-western one there was indeed an open well cut into the hard pebbly ground. No doubt this was Bir el Haush or Bir Aremi, and very probably Bir Bidi itself !

The water lies at a depth of five feet in an oval-shaped hole and there is a low mound overgrown by fairly tall grass beside the well. Many camel droppings, bits of rope, and water skins indicated that the well had been used for some considerable time. Of the two palm bushes the one near the well is quite small, but the other " haush " is fairly big and my Sudanese said that it must be at least 15 years old.

We found the water abundant and very good indeed, the depth of the well and the narrow rocky mouth allowing it to remain cool. To the south of the well a conspicuous longish hill separates the two depressions of " Wadi Anag " and " Wadi Hussein " from each other, and a group of isolated conical hills was visible to the south-west (at a bearing of 240° Mag.). Driving towards them I soon realised that these must be the hills on which Messrs. Newbold and Shaw had found the coloured rock carvings. The most conspicuous of these hills, a fine tall sandstone pyramid, lies at exactly 4.2 kilometres from the well. I found the coloured carvings on it, and some others on a big rock to the near south.

Some 4 kilometres further south-west I reached Mr. Newbold's "Tamr el Qusseir," a group of 11 dry palm trees with some sanded-up Guraan huts beside them. No doubt this was the place that my Kufra informants had called Oyo, and where the party of marooned fugitives had dwelt for some time. The place looked as if it had not been visited by humans for years. As I searched about round the huts, I did not know that I had come to the spot where that "last Gentleman of Desert Roads," Aremi Gongoy, had met his fate by the hands of his companions only five months before!

We camped two days near "my well," and I drove twice from it to the Lake of Merga, trying every time a different route in search of better going over the watershed that separates Oyo from the oasis. The shortest route—almost in a straight line—was 40 kilometres, but it took me over some very bad going. Passing the Pyramid Hill, and driving through the dunes to the south of it, I made it 45 kilometres, while driving past the palms of Oyo and over the hills to the west of Merga—the easiest route—the distance was 48 kilometres.

It may be of interest to note how evasive this well had been until then. Messrs. Newbold and Shaw had passed in 1927 some 4 kilometres to the south of it, and I found the double-tyred tracks of Colonel Wilson's 1930 convoy some 8 kilometres further south. Major Bagnold was the least lucky one, as his 1932 tracks crossed the depression only 1 kilometre to the west of the well, but I believe that he will think himself even unluckier when learning that at the time when he crossed the "Wadi Hussein" he was being anxiously watched by Aremi Gongoy himself!

But the well remained true to its evasive rôle, even after I had drunk from its waters. In February, 1935, I re-visited it, coming this time from Laqqia Arbain. I found numerous tracks of the Sudan Defence Force patrol (1934) only 2 kilometres to the west of it, but no other car tracks than my previous ones at the well itself and the notice-board that I had left beside the "haush" with the inscription, "This is Bir Bidi," bore no additional remark either. A fortnight later I met, at El Fasher, Bimbashi Prendergast, who had been in charge of that convoy, and he said that he had seen no palm bushes anywhere in Wadi Hussein.

I was now really anxious to make sure whether my well was Bir Bidi, and I decided to try to find Bidi Wad Awad himself. Once more

my luck held out by providing me with the invaluable help of Mr. A. J. Arkell, the original " author " of Bir Bidi.

How he managed to find, within 24 hours, a man who knew the remote dwelling-place of the old desert guide, remains one of those mysteries that ordinary mortals who are not initiated into the magic powers of Sudan officials should not attempt to solve. However, on the 20th February, 1935, I was on my way to Mellit and Sayyah, accompanied by a young Zaghawa whom Mr. Arkell had produced and who was to guide me to old Bidi's *ferig* somewhere near Tigilma Wells in the Wadi Um Minakhar.

Beyond Sayyah I left the Malha Road and drove over the *goz* to the west. Soon after Sigiro the going became too bad for the car, so I finally left it in a rocky *khor* that descends towards Tigilma, and we continued our way to the wells on foot. We reached the wells after an hour's brisk walking and there learned from some Teigo that Bidi had watered his cattle only the day before and had gone back to his *ferig* in the hills. I hired the only camel which happened to be there, and with my guide mounted behind me, we continued our way on the wildly protesting beast over some tortuous mountain paths. Two hours later we descended into Wadi Um Minakhar and there met a small party of Teigo, who informed us that Bidi and his family had moved to another *ferig* still farther away in the mountains. One of the men possessed a horse and he was willing to accompany us. I changed over to the back of the sturdy little mare, hoping for a more comfortable ride than I had enjoyed on the vicious camel, but, as there was no saddle available, the following hours were not too comfortable either.

Towards noon we at last reached the half-dozen huts of the Bidiyat, where the men of the *ferig* greeted me and my two companions with some suspicion. As luck would have it, old Bidi was of course away " somewhere in the mountains," and I realised that I had to be careful about my further proceedings, as Bidi Wad Awad is one of those gentlemen whose business affairs are sometimes connected with that kind of free trade in camels that cannot always be appreciated by a Government anxious to put an end to camel raids.

I was amused to see how we were ushered to a place just outside the grass-mat enclosure of one of the huts. Certainly the arrival of a white man in such a remote place was of such interest that the women-folk

had to be allowed to overhear the ensuing conversation from behind the grass screen. I knew that if I showed myself too anxious to see Bidi a messenger would slip off to warn the old man that he was being wanted by authority. I therefore said that though I had come to see the famous guide about a certain desert well, I was sorry to have to return without having met him, as my time did not permit me to await his return.

I was now tactfully questioned about that well, and I told my story how I was occupied in writing-up all the important routes between the Darfur, the Fezzan and Egypt. I also told how I had passed a well which I thought to be Bidi's well, and which I was going to " write down with Bidi's name," but as I could not see Bidi about it, I should have to give it the name which the people in Kufra had called it : Bir Aremi.

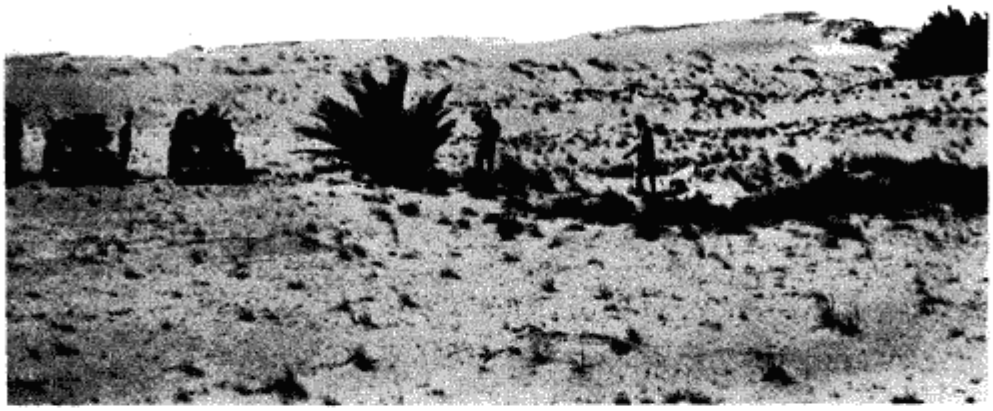
"But Aremi Gongoy was a thief and a bad man," came an indignant woman's voice from behind the straw wall, " and he's dead now, anyhow, so why call the well after him ? "

I answered that Aremi had been " drinking from it " before his death, and that without seeing Bidi I could not tell whether he had ever been to that well at all.

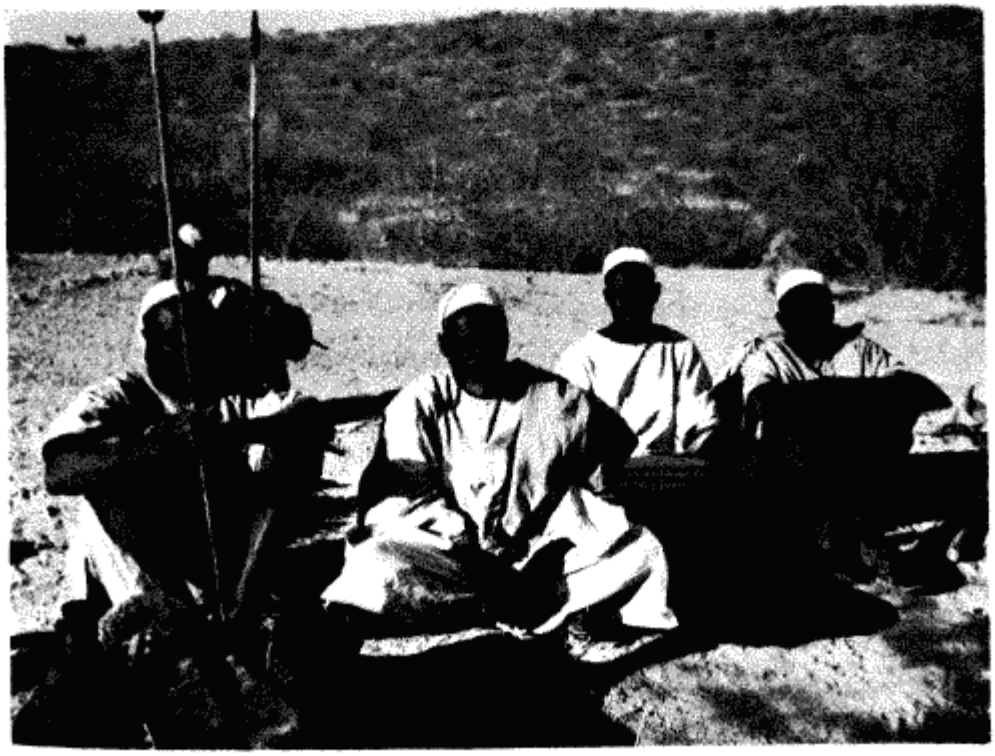
" Bidi knows every well in the desert," the snappy lady retorted, "and are there no young men here to mount the camel to go and fetch Bidi himself who could be here after sunset ? "

This was exactly what I had wanted, but to disperse all possible suspicion I declared that I had to be back at El Fasher to-morrow, so I could not stay to await Bidi, but was going to ride back to my car. If Bidi wanted to enlighten me as to his well, he would find me in Khor Sigiro till to-morrow morning.

So one of the Biday boys mounted the camel, together with my Teigo companion, and they trotted off to the north while Bidi's own horse was saddled for my return journey. My Zaghawa guide mounted the mare on which I had come, and we left the *ferig* amidst the promises of the Bidyat that Bidi would certainly follow me after the moon had risen. The ride in a comfortable saddle was a real pleasure after the three hours that I had spent on the mare's backbone. Bidi's pony, a typical Darfur countrybred, climbed over the boulder-strewn ridges like a goat, and when darkness fell I left it entirely to my mount to keep to the tortuous path.



THE WELL IS IN FRONT OF THE FIGURE ON THE RIGHT.
(Photograph by W.B.K. Shaw.)



BIDI WAD AWAD. (March, 1935.)

It was nearing midnight when we reached the car, where my Sudanese boy had erected the usual windscreen for my camp bed, and after a short meal I turned in, wondering whether I ought not to have waited for the old Biday, who seemed to be as evasive as his well. I woke two hours later at the sound of shuffling camel steps, and in the moonlight saw three camel riders approaching our flickering camp fire. When they had dismounted and squatted round the logs, I ordered my boy to prepare tea for the visitors and give them all our spare blankets, of which I had luckily brought quite a number, so that they could rest comfortably till the morning.

We all rose before sunrise, and I now went to greet the " great old man " who had arrived during the night. Bidi Wad Awad is a finely-built man who carries his sixty-five years with the ease of a youngster. There is a pleasing dignity in his movements and his eyes sparkle with the self-confidence of a man used to be respected. We talked Arabic, of course, and I found it particularly easy to understand him, as his knowledge is not too good either, which saved me the difficulty of intricate forms of speech.

The following is the information I got from Bidi, having carefully avoided to put any names of places or descriptions of locality into his mouth :

" I have been twice to Kufra and several times to Tamr (Merga). Though I have not been out there for some years I remember the route very well and I could guide a caravan any time.

" It takes two days from El Fasher to Melit and one day from there to Sayyah. From Sayyah it is two days to Malha and there one should water the camels well, because there is no water between Malha and El Atrun, though there is plenty of grazing the first three days and again on the fifth day in the Wadi Shau, but very little after that until one reaches El Atrun on the seventh or eighth day.

" From Atrun it is three days to Tamr, with no grazing between. Tamr is a large oasis, the first place being one with many palms and some big Sayal trees. From there it is a ' *shidd* ' to a lake, which is surrounded by tall grass and many palms. From this lake Bir Bidi is reached in one day !

" Leaving the lake there are small hills on the left and ' *Wahda-wahda* ' (single) palms and Sayal trees on the right. One rides over stones and sand

with grass until one reaches a flat place, where there has been a lake before, because the earth is mixed with salt like at El Atrun, only the salt is not so plentiful. A broken aeroplane now lies on the north side of this salt plain. From here one has to ride up over the mountain, the going being bad '*dogag-dogag*'[1] until one descends again into a *wadi* with much sand in it. This *wadi* is called Oyo, and one can dig for water beside some 'red palms' (*tamr hamra*), but the water is salt and causes illness. Further up the *wadi* turning to the right shoulder (north-east), there is plenty of grass and riding through this '*hashasha-hashasha*'[2] one comes near a white hill, and there are white hills a little further on, some of which are striped. South of the first white hill lies my well, which I cut through the stones and covered with a large slab that I brought from this white hill. The slab is of the length of my out-stretched arm and I dragged it from the rock to the well with a rope attached to my camel. Bir Bidi lies about two hours from the palms of Oyo.

"There are no palms near my well or anywhere in the *wadi*, but two Tundubs between the well and the group of white hillocks. The water is good and sweet and it was always plentiful. I have been four times to my well. The first time when I dug it with two companions, and again when we returned from Kufra on that journey. The third time on my way to Kufra with Sultan Ali Dinar's caravan and the fourth time on our return. I always covered the well with the stone and the last time I tore out the grass that had grown beside it.

"From Bir Bidi there is no water till Anwar, a distance of seven days. Anwar are three tall mountains, the first one is pointed and very high, but there is no water there (Gebel Kissu ?). On the second one, which lies two '*shidds*' from this Gebel, there is a well up in the mountains (Karkur Murr ?), but I have not been there, as it belongs to the Guraan. It is one '*shidd*' from there to the second well, which lies at the foot of the mountain(Ain Dowa), and again one '*shidd*' to the third well (Ain Zweia), which lies high up in rocks.

"From here it is two '*shidds*' (a short day) to the fourth well, which is called 'Mungash' (Arkenu ?). This lies far up in a Karkur and the water is salt. These are the four wells of Anwar.

[1] An expression for rain-drops, also used for anything that is crumbled up into small pieces, small stones, pebbles, etc.

[2] Cut grass.

" After Mungash there is no water till Kuíra, which is reached in seven days."

I had listened to Bidi without asking any questions other than such as were necessary to obtain more detailed description, and the above are my notes as I have taken them down word by word.[1] I now began to question him :

" Do you know Bir Hamra ? "

" Yes, Hamra Koila of the Kababish." It lies north of Teiga in a *wadi* with earth (*'ard*) in it and many Tundubs. There is water only after rains, also the water stands in a pool for a while, but has to be dug for later. There is no water after a year when the rains have failed."

This answer was given to me without a moment's hesitation and I believe that it definitely accounts for " Bir Hamra."

" Are there any other wells near Tamr ? "

" Yes, from the Lake of Tamr one day to the east there is a *wadi* running north-east. From Bir Bidi it can be reached in one-and-a-half days, going on an old road that comes from Selima I have been *told* that this road comes from there, but I have not been to Selima. There are a few Tundubs and two or three Selim in this *wadi*. The water has to be dug for. After one day from this *wadi* one comes to many hills, from these another day over stones takes one on to *Serir* (flat desert) and two days going over this, with the hills to the left, brings one to Laqqia, where there are few palms, a well and some ruined houses."

" Any wells to the west of Tamr ? "

" Not near Tamr. Riding three days west from the Lake over flat *Serir*, one comes to a very big Tundub, which is called ' Manda.' There is no water there. Two days further west one comes to the hills of Goru Goru, but riding south-west over stony ground, one reaches Haramba also after two days. This is a *wadi* with Sayal trees and grass. One has to dig for the water, but there is always water there. To the north-west from Haramba a big red mountain can be seen very far away. It is called Gebel Akhdar or Gebel Erdi. There are no ruins or houses at Haramba, but Aremi Gongoy used to hide there. Two ' *shidds* ' to the west lies ' Bir Kharga ' and farther west ' Adarda,' which lies north of Kapterko."

[1] These statements and distances are astonishingly correct. It is interesting to note that Bidi applies the name Anwar (which has a plural form) to all three mountains together : Kissu, 'Uweinat and Arkenu.

"I have been to the red palms north of Tamr, the place you call Oyo, and in the *wadi* to the north-east I have found, not very far from a white hillock, an open oval well with grass round it and of about a short man's depth."

"Wallahi, my well, Bir Bidi!"

"But there are two palm haushes near the well. One a man's height, the other about twice that size!"

"Maybe they have been planted by the Guraan, Ya Sidi, but did you find the big stone?"

"No, Bidi, there is a mound of sand that has been cleared out of the well beside it, but I did not notice any big stone."

"Maybe it's covered by that sand; next time dig into it and surely it will be there. It must be my well, because it is deep and in the middle of the wadi to the north-east from Oyo. My well lies between the red palms and the old road to Selima. It is one day, or one-and-a-half, from the Birket el Tamr (the Lake of Merga), and though Aiemi Gongoy may have watered at it, it is my well, *Bir Bidi*!"

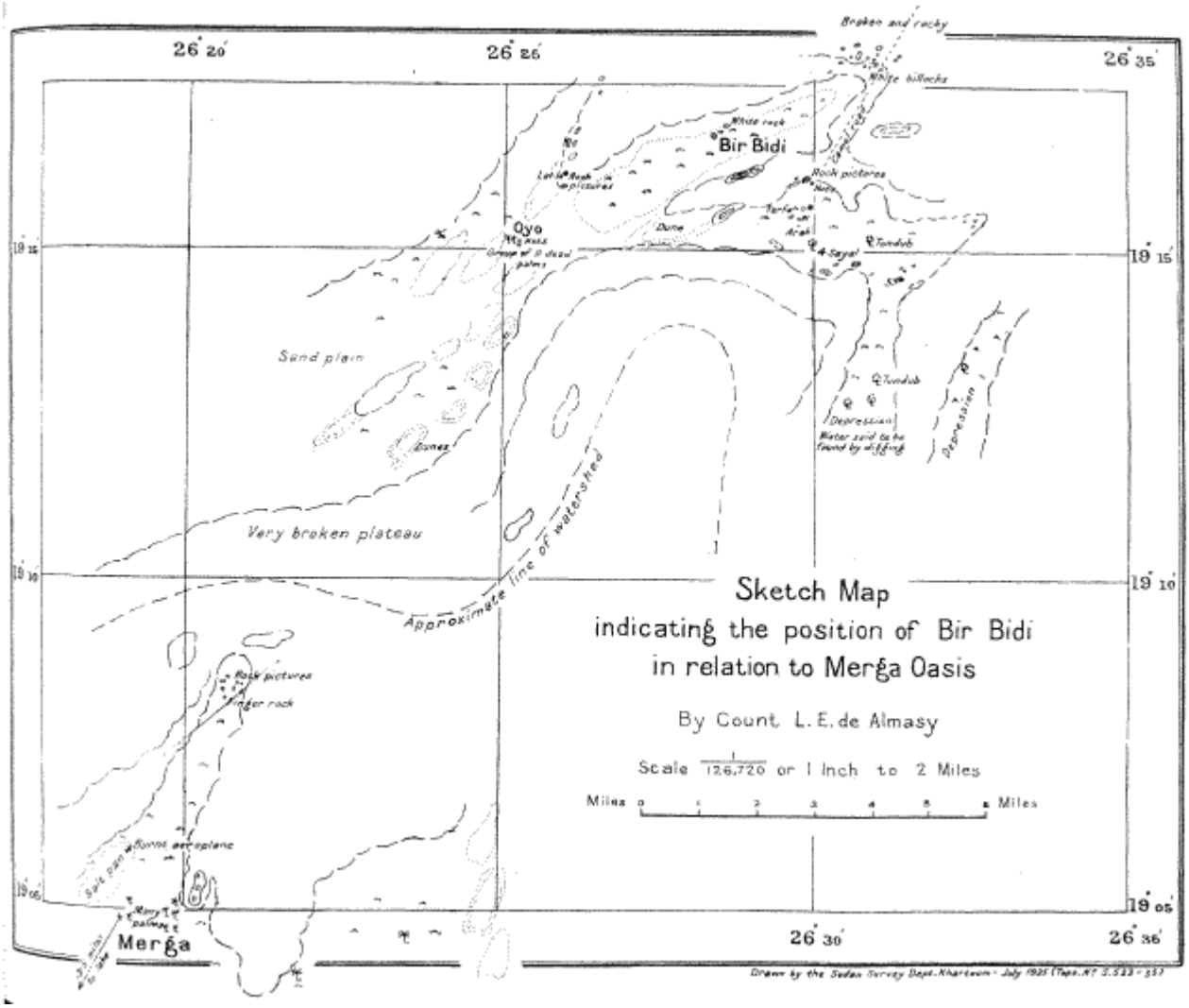
* * * * * *

One month later Mr. W. B. K. Shaw visited Bir Bidi and searched the country to the north of it for some 60 miles. When we later met in Cairo I was lucky enough to get a photograph of Bir Bidi from Shaw, after I had found that the well had tried to keep its secret from me by the fact that the films I had taken there had gone wrong.

Mr. Shaw told me that according to his barometer readings it was out of question that any water bearing depression should exist anywhere to the north of Bir Bidi. He found what he thought must be the Tundub bush seen by Mr. Newbold from the aeroplane, and he thinks that the story of "Bir Hamra" as another "mystery well" between Merga and Uweinat can be definitely discarded through his search, and the information I had gathered from Bidi Wad Awad. Thus we definitely decided to identify the evasive Bir Bidi with the well that I had found, and future travellers who should visit the place will have to accept the statement of my notice-board, which now bears a confirming note of Shaw's:—

"This is Bir Bidi."

"There is no other well to the north from here."


26° 20'
26° 25'
26° 35'
19° 15'
19° 10'
19° 05'
26° 30'
26° 36'
Broken and rocky
White hillocks
White rock
Bir Bidi
Rock pictures
Dune
Tondub
Oyo
Sand plain
Dunes
Depression
Very broken plateau
Approximate line of watershed
Rock pictures
Deer rock
Merga
Sketch Map
indicating the position of Bir Bidi
in relation to Merga Oasis
By Count L.E. de Almasy
Scale 1/126,720 or 1 Inch to 2 Miles
Miles 0 1 2 3 4 5 6 Miles
Drawn by the Sudan Survey Dept. Khartoum - July 1925 (Topo. No. 3523-33)

NOTES.

SOME BARI SONGS.

A. C. Beaton.

IT is during the dry season, from December to March, that the Bari-speaking tribes mostly beat their drums for the dance.

Apart from funerals, the occasions are those of rejoicing, for the corn has all been garnered, the simsim dried and stored, the ground-nuts sealed up, and the beans picked. It is a time when, after a successful harvest, the cultivator can take his rest, and out of the abundance of his corn, can make brewings of beer with which to entertain his friends. He may be rewarding those who assisted him at the time of hoeing, repaying hospitality received, or, as a great man in the village, be giving one of those periodic feasts that are expected of him by his following. His son may be regaling his age fellows, the betrothal of his daughter is being celebrated, or he is providing food and drink for those children, or young relations, who have reached the age of puberty and are being initiated.

Occasionally, when clan or village partizanship has been aroused, or when the mischief-maker is drunk, these parties may end in cracked skulls; but for the most part they are attended by people who are relatives and neighbours and who leave the dance exhilarated and refreshed.

It is, however, not uncommon to find in songs, which should be above all things songs of rejoicing, a line or stanza of which the prevailing note is that of gloom, while the enemy intrudes at moments when he would appear least imminent.

These apparently unharmonious passages may be traditional survivals, for the demeanour of the dancers seems no less cheerful if they are dancing on a festive occasion.

NOTE ON PRONUNCIATION—

ö is pronounced like the vowel sound in "work," without the trilled "r."

ŋ is pronounced like the middle "ng" in "singing."

'd and 'b are glottal letters.

'b is often elided—thus, 'bayin becomes 'ayin.

1. DRINKING SONGS.

The following are a number of Drinking songs, collected from the Nyangwara,[1] a Bari-speaking tribe living north-west of Juba, Mongalla Province, on the Amadi District border :—

1.

Möri lo, pirit nikaŋ na körö ;	Is our land doomed, O Möri ?
Monye Koŋa pirit nikaŋ na körö.	Is it ruined, sire of Koŋa ?
Ŋutu lo peŋga ŋuro, lo Gale.	Who has slain the son of Gale ?
Lokoko ko wini lonyit loron lo.	Evil omened is Lokoko.
'Dumadaŋ nagon ko ŋo 'bolo	'Dumadaŋ, whoever comes near it,
Nyö döru ko wiri, Yawa.	His the sheep that graze with crying,
Waka ŋor 'börik ko loia, Gomo.	Bitter cries—the place of fighting,
Yi gwo ya nana ?	'Dumadaŋ, the foes of Waka.
Yi ködyö mekundya	Tell us, Gomo, are we helpless ?
Waka lo Dabi lo, ko monye kata.	Let us drive our goats to Waka,
	To the stream of Dabi Wani ;
	He is living and will aid us.

The lament is typical of many Bari songs, which often contain elements of gloom. It is an appeal to Möri Jamara, the father of the girl, Koŋa, to explain the evil that has come upon them. *Lokoko*, the site of the Nyangwara-Fajulu Native Court, is regarded as ill-omened, because Könyi Bilal, chief of a section of the Nyangwara, who died in 1931, is popularly supposed to have fallen ill there. *'Dumadaŋ*, also a place of ill-omen, is east of Rokon. *Waka* is a river near 'Dumadaŋ, where in olden times the Rokon Nyangwara fought with those of Gwörökorongo. *Gomo* is an elder of Rokon, but is now a leper. *Dabi Wani*, who built his village at Waka, is deputy to the Rokon Headman, Abdulla or Lokulu Bilal.

2.

Ko do ko woran, Juda.	Be not angry with me, Juda.
Nan yemba kasu yu.	I will marry in your household.
Kiaser Juda namin katu.	Juda has a sister, Wani,
Taki yo'yita röwök köposiyöt.	Slim her lipplug. Start the singing.
A yi möju yawa.	Sing of Juda and his age grade,
	Sing his praise and drink his brewing.

The singer is telling Juda, the brother of his beloved, that he need not be afraid that the marriage will be called off. The singer still intends to marry Juda's sister. Juda is mainly interested because he looks to the bride price of his sister to provide him with enough cattle to enable

[1] Also spelt Nyambara, Niembara or Nyangbara.

him to marry. *Wani* is the son of Walla, a headman of Rokon, and is also, though young, a famous bard.

Röwök are the empty spaces left in the lower jaw after the four central teeth have been prised out at the initiation ceremony faced by all Bari boys and girls on reaching the age of puberty. It is a natural transition from praising the " röwök " to praising the age-class to which Juda belongs.

3

Marija Wöri Jakun, ta limö ko ŋa ?
Yi limö ko Molik.
Gwanga lo, Mamur toreja ŋwajik Losiwa.
Yi jambu akaleto ŋwajik ŋo pusara.
Yokole ka-ŋo Sörö, nan lo reremo.
Mönik Kirambek warun kare ko mude.

O Marija, child of Wöri,
Son of Jakun, how besport ye ?
Listen to the Mamur's orders
Breaking up the class, Losiwa.
Let us now re-name our fellows,
We, the sons of Disobedience.
Drive me from your presence, Sörö,
I am doomed. The ram Kirambek,
Leaves the river of his drinking,
Darkness shrouds his late home-coming.

The singer laments that his age-class is being broken up—by what order of the Mamur is not recorded—and that he only has one goat, Kirambek, which will come back to his stall at night ; marriage is therefore impossible, and Marija plays with Molik.

4

Baba ! ŋo woran diyowe,
Ko kulya ti gineke, Sörö ?
Wayeto nu ŋo po jambo ko Losiwa ?
Nan nyobbi Deya tolumerian nio.
Tu takita Luwö lo Rianga.
Nye logo a lojo.

O, my father, why this anger,
Anger for these pence, O Sörö ?
O Wayeto, why approach you
To the dance of the Losiwa ?
I must tell my plight to Deya,
Up and tell my woes to Luwö,
And remind him of his manhood.

Kudoro Rianga is the singer of this song, and his affianced bride is Deya. His father-in-law is urging him to pay yet another £E.1 of the bride price. Kudoro is lamenting the fact that he cannot find it, but begs his father-in-law not to get angry, as he will go to his elder brother Luwö, who will provide it for him.

5

Nu ŋuro ŋa Moru na
Nagon piti mujuri, Aripa,
Nikaŋ na Moru na
Möni geleŋ nye nagon nake,
Kö ko Sokolo kweja kala.
Tupineta Wani kotumalu.
Ŋuro likaŋ, Jambu lo Goŋgo,

This dear maiden from the Moru,
Fair her face and firm her figure,
Such a maid we love, Aripa
Möni, she alone inflames us,
She and Sokolo, sweet-smiling.
Go tomorrow unto Wani,
Ask our son if we speak truly.

Nye lu puriye ko twan,
Matu ŋo 'bi piti,
Lokora lo kulya,
Adi, ta lulukun Kudöki kine ti nyo ?
Jambu lo, Kilani
Ko medya ŋwajik nakeke,
Nye lo kökörŏju,
Ayuwa Aripa lo Morjan.

Jambu, son of Goŋgo, sickens.
'Tis the Matu who devour us.
Speak, Lokora, " Why, O Jambu,
" Why this calling to young mothers ?
" When Kilani sees such maidens
" He despoils them of their virtue."
Give us answer, O Aripa.

Möni is a Moru girl.

Aripa Morjan is a Nyangwara headman. *Wani lo Wala* is the author of the song. (See No. 2 above.)

The *Matu* are a section of the Moru tribe, popularly supposed to be cannibals, who, while walking with their heads hanging down, by night turn into wild cats, leopards or lions, and enter houses to devour the inmates.

Kudöki are young mothers with babes at the breast. *Kilani Murjan* is a Moru. Jambu wishes to play with the young mothers, but Lokora is reproaching him for this.

6

Mokoto Mabe lo,
Köji na depa ko wayi.
Loŋo lo woŋ i kiko lo tu Jeja.
Yi meara ko Maraŋ yu.
Loŋo woŋe i mere mukök.
Kine rata ko wayi.
Ŋutu kulu kekendya kase Wöri Mindwöt.
Juŋgutu ! ŋotindya kwe na monye.
Dokani gworoŋ lo mogga.

Mokoto, O son of Mabe,
Raids have ruined this our village.
Loŋo lows on Jeja's pathway.
We will drive our cows to Maraŋ.
Loŋo lows behind the mountain.
See, she strays in fear of raiders.
Wöri Mondwöt call a council.
Seek thy father's corpse, Juŋgutu.
Seek the lurking beast that seized him.

The father of Juŋgutu, called Köri Yawa, was carried off by a lion. The people of the village went out after it ; they found Köri's head and buried it, but the lion escaped

7.

Kwörö, Kwörö, gor lo mede.
Kwörö jurŏn ŋini.
Kune kulya ŋo yöŋ nan.
Nan lo gwe a mule lo jurŏn.
Nan tuköni kugi na mere.
Do joŋ ŋuro ŋina da ?
Kaniku ŋo yeŋga mere lo wöli.
Mayat na po jambu kase, a ruŋga do.
Kwiyiti na po, nye luluŋgu nyo kwe ?
Tu pijita kisuk nagon ko Male.
Ŋutu poni ko Wini.

Tell of warfare in our household,
Tell the tale in every village.
Words like these are heavy on me.
I am feared in every village.
In the cavern on the mountain
I take refuge. Whither take ye,
Whither take ye this fair maiden ?
Kaniko, towards the mountain
In the desert she has wandered.
Now the locust is among us,
And is plotting our destruction.

A nye poni kaŋ ni.
A nye kökörŏju mede nikaŋ koriri.

The grain-eater is among us.
What is he demanding of us ?
Go and tell the cows of Male.
Now a wizard with his poisons
Has come here to spoil our village,
Come to spoil us ere 'tis evening.

The grain-eater is not, as might be supposed, a synonym for the locust, but refers to a bird that ravages the crops as they ripen. To ward them off, the Bari build tall platforms in their fields and post their small sons upon them. All day long the children cry out and pelt the birds with mud pellets hurled from slings.

8

Lu ŋutu tutu ko wandu
Mani jore, Jukeria,
Wandu parikan,
Mani jore, Losuwa.
Yi meara reka Wyangwara.
Kisuk kaŋ duke lo'deka ko luru
Demeja mede na Roji,
Kune wörö lön-di.
Lowe likaŋ lo lunsak.
Mirje kaŋ, wate kaŋ, gwoŋga le köji.

He is evil, Jukeria,
And his sorceries are evil.
Evil are the spells, Losuwa,
And his witchery is evil.
Now our cattle to the pasture
Of the Nyangwara are herded.
Cows come butting at our houses,
And the dust hangs thick above them,
Going to the home of Roji,
Many are our kine at pasture ;
Many are the Lunsak arrows,
All our village, all our women,
Churn our milk beside the cow kraal.

The possibility of poisoning is a constant terror with these people. This came out strongest when their first Court Houses were being built in their own country. The Nyangwara refused to have it in Fajulu country, and the Fajulu objected to its erection in Nyangwara country, because each tribe vowed that they would be poisoned by the other's women. It is the rich herds of the village that are likely to arouse the jealousy of others, who might resort to wizards to kill their flocks. The opening thought is rather, " There is a man coming who is evil, though we are ignorant of his identity."

9

Na Mirje ! ta wöki gwa ŋina ko mörö
Nase Farajalla.
Yi lo riŋa, Maraŋ lo, yi lo riŋa.
Ta wöki adimini tinana.
Yi lo riŋa Maraŋ lo, yi lo riŋa.

O my village, why disperse ye,
From the men of Farajalla ?
We are conquered, Maraŋ, conquered.
Flee ye, never backward glancing.
We are conquered, Maraŋ, conquered.

10

KÖLI LO FAJULU.[1]

Yi kökö kak na le.
Yi tu Bari,
Yeŋga mere lojo
Monoja na Köduwök nu wörö a yari.
Renyaka durun kak na rereyan 'diri
Yi ködyö yiŋga wayak lo Miri ŋilo.
Jönsuk ŋo morja ko Miri nase.
A yi kulo ko yiŋgi löri na woŋe.
Kijakwa kaŋ durun yi.
Yi a kondya nyo ?
Mirjö durun kak na rereyan 'diri.
A yi kulo ko yiŋgi wayak lo Miri.
Jönsuk ŋo morja ko Mirinase.
Ɓo jo 'bitö 'diri dio Lömi lo.
Jadia kulo popo,
Yi mönundyö Mamur lo po.

A FAJULU SONG.

Why desert we this our dwelling ?
Why resort we to the Bari,
Even to the hill of Logwek ?
Our young men have many cattle,
Those, whose strength knows no gainsaying,
Have dispersed us ; we are scattered.
Should we list the words of Miri ?
Jönsuk now has joined with Miri.
We have heard the drum-beat sounding.
'Tis our foes, who have dispersed us.
What our crime, that Mirjö's people
Are dispersed in fell disorder ?
Shall we list the words of Miri ?
Why, O Lömi, do they scourge us ?
See the foreigner is coming,
Let us wait the judge they send us.

The Jadia, though originally applied to the Arab invaders, is now used to describe any foreign government.

This is the lament of Lömi, who is now known as Gindalla Lomurö, the chief of the Wunduruba Fajulu. In the time of the Belgian regime, Lukudu, father of Fataki, who is the present Nyangwara chief of Gwörökorongo, was appointed chief of all Nyangwara and Fajulu. This was unfortunate for the latter, who had an age-long feud with the Nyangwara. (See above, Drinking Songs, No. 8.) The Nyangwara chief ordered the Fajulu to provide a labour gang requisitioned by the Belgians, and when Gindalla defaulted, he was bound up in ropes and his people scattered. This is his lament :—

Wani po nyin.
A yi ko juŋgu ko do, Kombo.
Do teraddu bot yu
Teraddu 'yure,
Jutit lo ŋule lo nye lo woŋe tinada ?
Nye luluŋgu Renyaka nikaŋ na.
Kure kur 'bolot kulo, ŋuro lo Köyi !
Lödorela se ŋisa ko yi nyo, Boŋga ?
Ɓutu gwogwo'di i kiko,
Gwine ŋuro lonyit.
Lowaya, Könyi ŋo likin.
Mönik likaŋ lo wowori, dogga mere lu Wöli.
Loŋga mere lu Wöli
Demeja ruba na Kombo.

Come, O Wani, we, O Kombo,
Will remain with you ; tomorrow
You will journey to the mountain.
You, O Gwile, you will journey,
Back again towards the sunrise.
Why is Ɓule's horn resounding ?
He is calling the Renyaka.
Till the corn, O son of Könyi.
Why do grasshoppers, O Boŋga,
Make such evil war upon us ?
On the road there stands Lumökö,
Who bewails his sad bereavement.
" Why is Könyi dead, Lowaya ? "
See our bull in anger goeth,
To the mountain in the forest,
Compasseth the desert mountain,
To the site of Kombo's village.

This is another reference to the death of Könyi Bilal. (See also Drinking Songs, No. 1.)

[1] Also spelt Fajelu and Pöjulu.

12

KÖLI LO MERAN.

Teŋ lio lo woŋ ;
Kudu ŋo jön.
'Bi birye ko Lömi,
Lu'baŋ, yi gwo ya ?
Loŋo na woŋ i waka.
Lako Lado parana ko rinö.
Yi kulo 'depa ririŋa,
Yi möju yawa pa'de'de.
Lug-wulö lo amaŋ kerenya.

"A DRUNKEN SONG."

Lows my bull ; the rain has fallen,
And he sports amid lush grasses.
O Lu'baŋ, how fares it with us ?
By the pool Loŋo is lowing.
Lako Lado sings for ever.
In the day time ; we are punished
By our rulers, and our drinking
Is but light. Oh, hell upon them !

This is a typical drunken song, with a bewildering mixture of ideas—my bull, the rain, green grass, doubt as to the prosperity of the house, the lowing cow, Lako Lado's ceaseless songs, the evils of our rulers, our lack of corn for beer-making, and lastly a tremendous insult against the rulers.

Literally translated, the last line means, "The larger intestine has been torn by force,"—an objurgation which has no equal in English.

13

Ko yi malu ŋo met,
Yi rembu lele Bari.
Ŋis-a ko yi tina.
Lowe likaŋ yöyöŋ koloŋ.
Yi a riaka.
Kito lo Bura joŋga yi remo.

If tomorrow we should see him,
We would kill a Bari stranger ;
Thus the feud is fierce between us,
And the prowess of our archers
Will outlast the sun. We perish,
For the spearshaft of the Bura
Drives us onward to the slaughter.

A reference is made in this song to some occasion, when the insistence of the Bura, a clan of the Nyangwara, led the latter into battle with the Bari, with disastrous results, in spite of their archers' prowess.

14

Ŋwajik mone a Yawa,
Ko parana ko rinö,
Wöri lo Ŋora.
Koŋe lo Mila ŋo 'bolo,
Ta Pereŋ gwanda ?
Löri na woŋe.
A yi rembu lele.
Teŋ lio woŋ köji.
Ŋutu kulo nyamele ŋutu le.
Yakulo kulya kase Kirijo, tiŋa ?
Ŋa den kulya kase, Mila.

Beer is what our children smell of,
Singing ever in the day-time.
Touchéd is the eye of Mila.
Pereŋ, say how fares it with ye ?
Do ye hear the drum-beat sounding ?
We will go to war with others.
In the kraal my bull is lowing.
How our foes for ever try us !
Listen, Kirijo, O listen—
What is this they say about us ?
Mila, who can tell their meaning ?

(The *Peren* are a clan of the Nyangwara.)

15

Kulya kaŋ na yeka Miri, Wöri Lado !	Miri judges us, O Wöri.
Nyoma lu 'dume a 'dioŋ lu Dakgeleŋ.	Nyoma by the proud Dakgeleŋ
Ŋuro lo a ko moka könin lo.	Is most shamefully maltreated.
A moka tinan-a, Wöri Jukeria.	Ill of access is our ruler,
	Ill of access now, O Wöri.

A section of the Nyangwara put under Lukudu by the Belgians are lamenting the insolence of their chief and his shameful treatment of their representative, Nyoma.

16

Sonye loŋe ko Lado yu.	Send a message out to Lado.
Isaka lo kulya.	You are bidden by Isaka.
Sonye ko ŋuro lo Gu'be i kiser,	Send a message to Kataki.
A yi mörö ko wilo.	In the rains, for men are calling
Ŋutu luŋuri pioŋ.	Call for water, he is strutting,
'Beleŋ 'beleŋ mugun ti töröbi.	And he calls for gift tobacco.
Lepeŋ luŋuri taba,	Poni's son has many cattle.
Teŋ na ŋuro lo Poni.	Waŋgi bellows in the evening.
Waŋgi na woŋ kwaje.	

Isaka is the present clerk of Chief Fataki. The chief is urged to do something for the cultivators, who need rain, but he is proud and calls for gifts.

"*'Beleŋ 'beleŋ mugun ti Torobi*" is practically untranslatable—"He throws his body about as he walks in a proud manner, like a Töröbi (a large leaved tree)." "Strut" is the nearest equivalent. Another reference to Isaka and his unwelcome ways is to be found in Bari Studies, *Sudan Notes and Records*, 1932, Vol. XV, page 68.

II. Marriage Songs.

The following are a collection of marriage songs taken from the Nyangwara. There are at least two occasions on which these would be sung—at the Nyerja, which is a beer-party and dance held to celebrate the fact that the prospective husband has handed over a large proportion of the bride-price, and later when he has satisfied his relatives-in-law and goes to claim his bride.

1

Mokenya 'but liŋ.	Kindly is your mother, kindly
Lutujin 'but liŋ.	Are your sisters, O beloved.
A nan ko luŋgi pioŋ ko moken,	When I beg a cup of water,
Kölumundyö yawa.	Meed is offered me. To-morrow
Kisuk kaŋ kune yi malu yeke do.	I will bring my tale of cattle.

The singer is obviously an eligible suitor, who has been kindly received by his beloved's family.

2

Ŋo jeje 'baŋ lio, twör miji.	Come you dancing with my daughter ?
Ŋo jeje 'baŋ lio, twör jondya gure.	What is this ? Why not bring rodents ?
	Are not turtles doves more comely ?

The father-in-law is addressing a laggard suitor who has not produced rich enough gifts for him. The occasion is a dance given by the former. It is customary for the Bari suitor to make gifts to his relatives-in-law, even after he has handed over the full bride-price originally fixed on. In the first song, the beer is given to him in the hopes that he will be even more generous in the matter of gifts. In the second, the humble suitor is receiving the traditional treatment meted out by a scornful father-in-law.

3

Walele ! Lojo'be, Lojo'be sunana,	O beware ! Our bull is fattened ;
Kaŋ kisuk galani 'baŋ lokwe,	Fat our bull. We seek not cattle,
Kaja kaŋ galani 'baŋ lo yawa.	To be married with a sloven.
	Seek we calves to give in marriage
	For a bride whose beer is famous.

'Baŋ lokwe literally means "a white enclosure," i.e., one in which freshly ground and clean flour is to be seen. The daughter of such a house will be a good wife as a maker of excellent beer.

4

LALET LO YOYO.	"THE HUSBAND SINGS."
Barun barun ko kopo,	Bring me beer, but pour it gently ;
Do de kuliemba kutuk kana.	Speak good words, O speak them kindly.
A do baran ku'dikan.	Bring me beer, but pour it gently.
Wanijo lo yugu kisuk.	Wanijo, he herds my cattle.
'Baŋtat ilot mone ti gör lolo, Mone.	Mone's home is evil-smelling.
Lu mönik wiri ya ?	Tell me where my bull is lowing.
Wiri Lumugö	He is lowing at Lumugö.
Wanijo lo yuggu.	Wanijo, he herds my cattle.
Morbe, ko yuk ŋini.	Morbe, do not drive them hither.
Bekari wiri ya ?	Tell me where Bekari bellows.
Wiri Lumugö	He is lowing at Lumugö.
Wanijo lo yuggu.	Wanijo, he herds my cattle.
Morbe, ko yuk ŋini.	Morbe, do not drive them hither.
Dukin ko Jöbi Luköbi.	Drive them not to Jöbi's tillage.
Gworoŋ lo Digo, lepeŋ lo mu'diŋ	Wild the beast that lives at Digo.
Ŋilo yöŋ nan yöŋ.	The wild raider of the forest
	Raids my goats and never ceases.

The husband has many cows and goats, and can sit and drink a little beer, while Wanijo and Morbe herd them for him. He implores the herdsmen not to drive the herds towards his or Jöbi's cultivation, otherwise, being so numerous, they will cause great damage. Despite

also the fact that the lions and leopards raid his flocks daily, he is still rich in cattle. Jöbi is the name of an ox.

5

	The Seducer sings :—
Köji no Wöni ŋina.	Hark, O Köji, child of Wöni,
Ko nye na gwo'de i kore,	As thou standest on the dance-ground ;
Galambek 'du'duŋö a lokore.	Galambek is slain for eating.
Ŋuro gwondi kolok kolok.	Melt, O maiden, melt towards me,
Yawuja na Jukeria.	Nyoma's sister, O Yawuja !
Nan 'duŋö könin,	Swoon from love, and melt towards me !
Nan suwa koŋe,	I would give my hand to win you,
A nan juŋgi a mutu.	Give my eyes, would you but love me.
	Give my eyes to win your kisses.
	(Galambek is the name of a bull.)

Kolok kolok is an onomatopœic adjective ; its literal meaning is " boneless," and it is used to describe the physical state of the girl whose resistance has broken down before an ardent wooing, and who is ready to accede to her lover's desires. One Lömiö sang this song to Yawuja, the sister of Nyoma Jukeria, a Nyangwara headman, and so won her from her affianced husband, Lokonja. The chief reports that this song is an infallible aid to seduction.

6

Ko yi tu Moru,	If we travel to Moru
Yi rumöki i baŋe na Morjan ko Wudu.	We shall meet her on the borders,
A yi ko mete nu ŋuro na Jambu,	Where Morjan is one with Wudu.
Mura kaje kweja kala.	We shall see the child of Jambu,
Kulya ti toro'bo na yöŋgi nan.	Meet with Mura, ever-smiling ;
Sörö joŋgi sita gine,	White the teeth of smiling Mura ;
Sörö joŋgi ŋuro na Jambu,	Be no talk of marriage payment ;
A yuyubbö na ta ko Wande.	Sörö take this hoard of money,
Nan nyonyobba Jebi Wöri Mare,	And of cattle. Wed with Mura.
Pirit nikaŋ a naron.	May she bring you joy for ever,
Jake a 'ben mörö,	You with Wande. Hear our crying
Jake mörö ko monye.	To the son of Wöri Mare.
Yakulo ! ŋwajik kaŋ ayiŋga kulya.	Shall our land for ever languish ?
Yi gwi Warun,	Jake ceases not to quarrel ;
Ayi gwine Lomole.	Jake quarrels with his father ;
Pirit nikaŋ na naron,	But our sons obey the orders
A yi ŋuti da kirut ?	Of their fathers. Listen to me !
	It is Warun whom we weep for ;
	We are weeping for Lomole.
	Shall our land for ever languish ?
	Whither wend we in disaster ?

Mura is the second wife of Sörö Könyi,[1] chief of the Rokon Nyangwara. She is the daughter of a Moru called Jambu Lowoŋ. This is

[1] This name is also spelt Kenyi or Köni.

the song sung at the marriage. *Wande* is Sörö Könyi's chief's Police sergeant, who is quartered in the chief's enclosure. *Jake* is the son of Abdulla Bilal, uncle of Sörö Könyi. *Warun* was the sister of Sörö Könyi, and is now dead. *Lomole* is another name for Könyi Bilal, father of Sörö Könyi. (For other references to his death see above, Drinking Songs Nos. 1 and 2, and *Sudan Notes and Records*, 1932, Vol. XV, page 64.) After rejoicing over the new-found bride of their chief and wishing him peace in his house, there is a swift transition to what appears to be a lament. Is it, however, by implication a triumphant song of joy? "Hitherto," the people are saying, "we have been surrounded by death and disaster, our chief Könyi Bilal died and our land languished; but now that his son has married a second wife, we are strong again, and although we still lament the death of Warun and Könyi, we know now that the land will not languish and that disaster is no longer before us." The other explanation of this gloomy intrusion is that it is traditional, and its incongruity not a matter of concern to the singer.

ANTIQUITIES AT SENNAR.

By F. Addison.

(PLATES V—VII.)

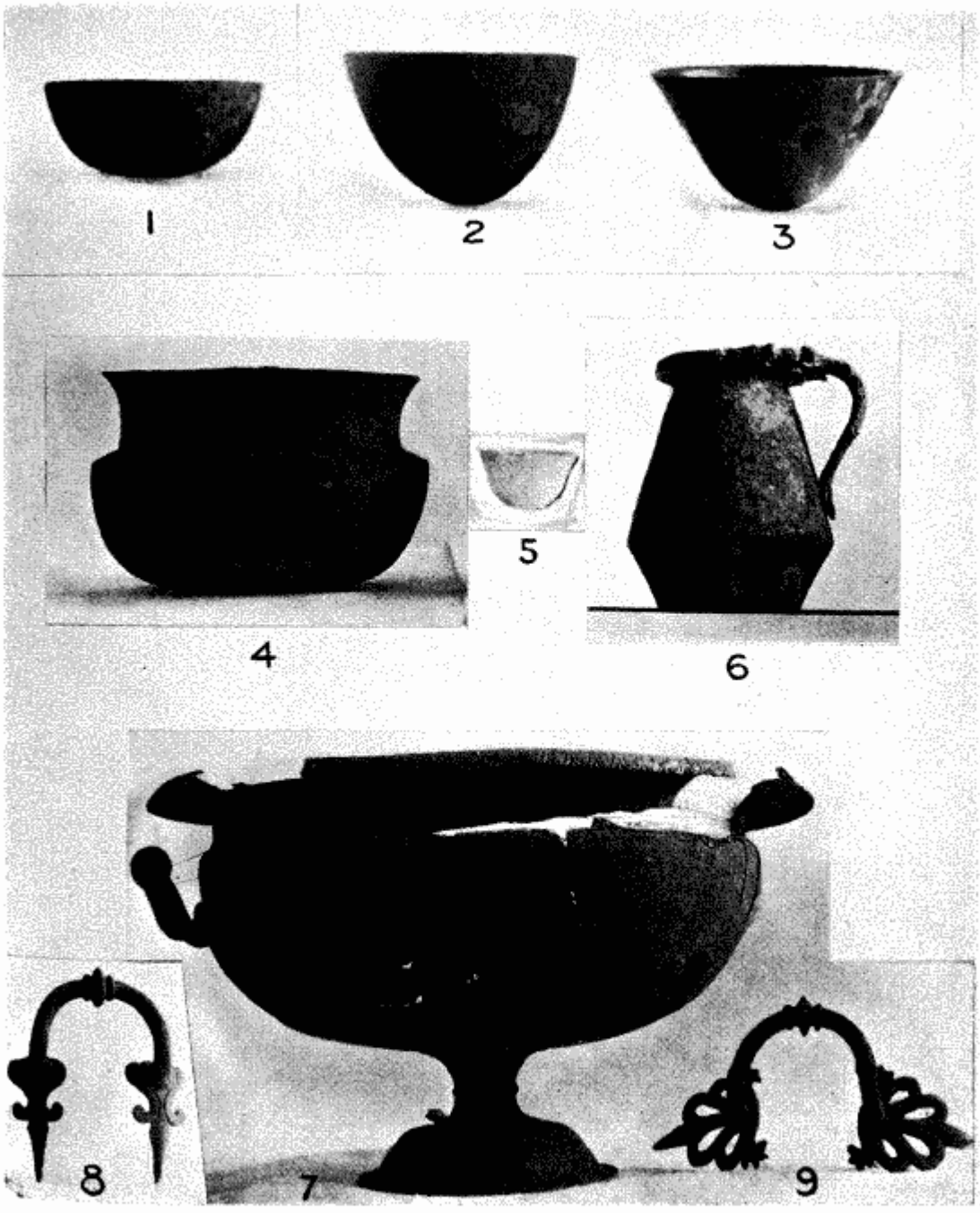
THE recent interesting publication by Mr. Arkell[1] of accidentally disturbed ancient burials in Sennar district suggests that it may be well to put on record two earlier discoveries of a similar nature in the same region. These were made, one on the east bank of the river in 1921, and the other on the west bank in 1924, at what was then known as Makwar.

The finds on the east bank were made during the excavation of a railway cutting incidental to the building of the Sennar Dam. This cutting was a short distance from the river bank and a little downstream of the line of the dam, and it cut through a cemetery of the Middle Meroitic Period. The ground at this spot consists of red conglomerate on which alluvium has been deposited to a depth of about a metre. The graves had been dug in this layer of alluvium, and several could be seen in the sides of the cutting at the top when I visited the site in March, 1922. The spoil from the cutting had been dumped on its eastern side, and on the west were sheds, stacks of bricks, and other materials, so that further examination of the cemetery at the time was out of the question. Its extent is therefore uncertain.

As the graves had first been ploughed up by mechanical excavators and subsequently ransacked by labourers, there was very little to be learned as to the type of grave or method of burial. The burial chambers were not very large, and at the time of my visit no bones were left in them. I was informed, however, that each appeared to contain more than one interment, and that in one case what appeared to be the remains of six bodies were found.

The objects from the graves were unfortunately widely scattered. Some of them doubtless lie mingled with the spoil bank; others were probably carried off by the labourers working on the cutting; and only a few, which had been preserved by Mr. E. A. U. Coxen, of the Sudan

[1] "Three Burials in Sennar District," by A. J. Arkell, M.B.E., M.C. S.N. & R. Vol. XVII, Part 1.



TYPES OF BRONZE VESSELS FROM SENNAR, EAST BANK.

Irrigation Service, came at last, and then only temporarily, into the custody of the Antiquities Service. The largest of these are shown in Plates V and VI.

The various types of bronze vessels are shown in Plate V. The most common form is the hemi-spherical bowl (1). Ten bowls of this shape were preserved, varying somewhat in size, but mostly about 15 cms. in diameter. This type is widely distributed and has been found on every Meroitic site on which excavations have been made. Two specimens of the deeper form (2) were preserved, the larger being photographed. It is a less common form than (1) but examples have been found as far north as Karanog, in Lower Nubia. Three straight-sided bowls of type (3) were recovered. This is somewhat unusual for a bronze form, and it may be a local variant of (2). There were also three vessels of shape (4), which again is a characteristic Meroitic type. Similar bowls were found by Dr. Reisner in the western pyramids at Meroë, and others have been found further north. Most of these bowls were in quite a good state of preservation, but, as far as could be seen, they were all devoid of decoration; (5) is a small drinking cup.

The jug (6) was actually found on the Meroë city site by Prof. Garstang in 1910, but it is identical in size and shape with one from the cemetery under notice which for some reason was not photographed at the same time as the other objects.

The basin (7) was the largest object recovered. The pedestal was made in two pieces and, being of thick metal, was still sound; but the basin itself was badly corroded, and difficulty was experienced in piecing together sufficient of the oxidised fragments to enable the photograph to be taken. It originally had two handles, one of which is shown in position and the other at (8). Altogether the remains of three basins of this type were found. The other two had the same design of rim, but their handles were of the pattern (9). These basins were in all probability imported, just as were the many objects of Greek and Roman manufacture found by Dr. Reisner in the pyramid tombs at Meroë.

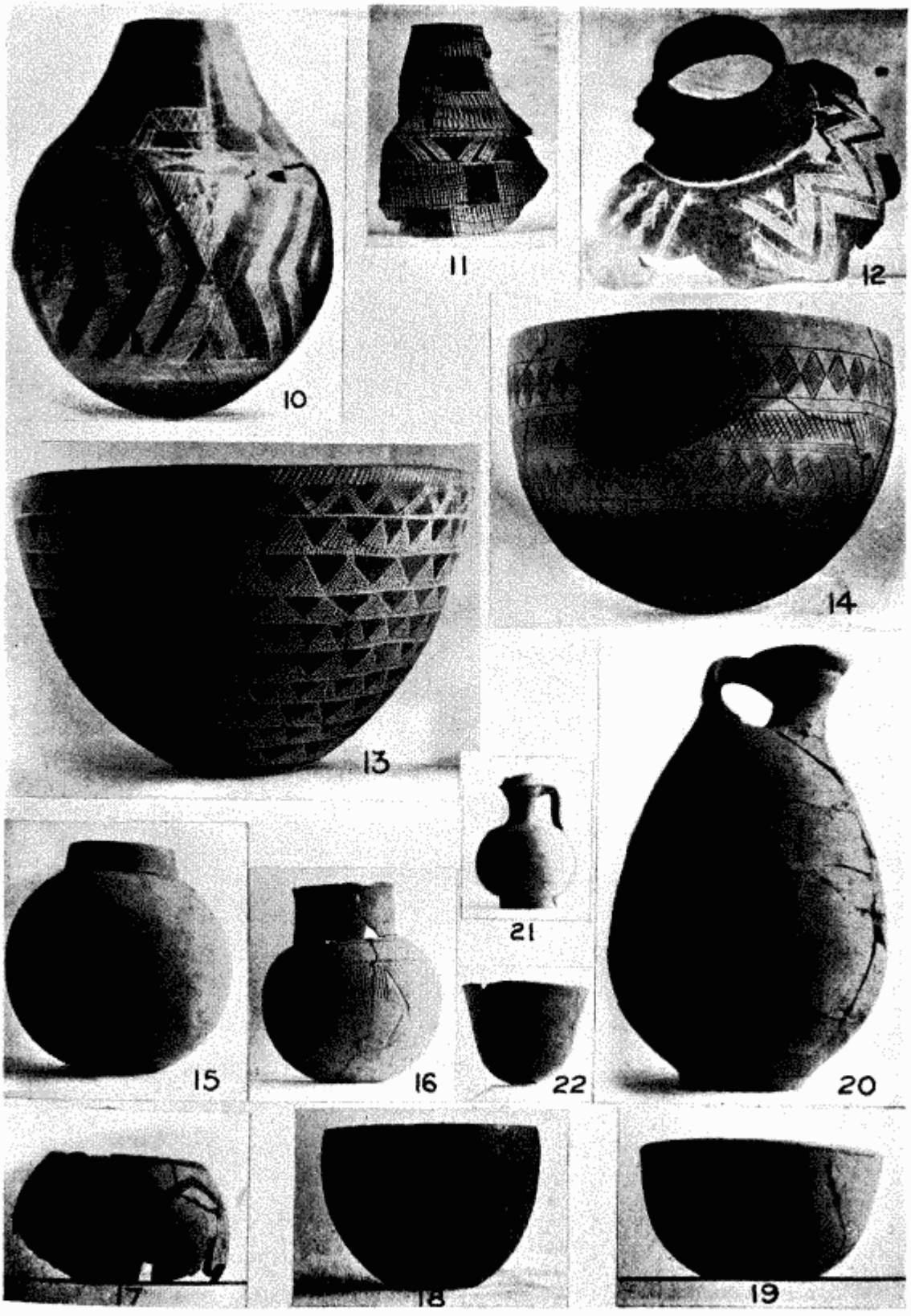
The pottery was all badly broken and only two whole pots were found. Much of it was probably shattered during the excavation of the cutting, and many pots had no doubt been deliberately broken by their original finders for the sake of the treasure which it was hoped they might contain; so only fragments were recovered. A number of pots

were reconstructed, mostly by Mr. Coxen, and these are shown in Plate VI. Where traces of an original white filling were observed the decoration was rubbed with chalk to render it more visible in the photograph.

This pottery was mostly hand-made of coarse ware with designs of lines or "rocked" dots, but there were also two wheel-made jars of finer material, and one small cup of black-topped red-polished ware. The material of the hand-made pottery was poorly levigated and showed a dark red fracture with large yellow grains. Some was badly fired.

The vessels illustrated include several characteristic Meroitic types. The jar (10) was greyish-brown in colour, pebble-polished on the outside, and round the neck was a conventional design of giraffes feeding from the tops of trees—a favourite subject of the artists of the period. The hatching of the design on the body of the pot was done with a rocker. Jars of exactly this shape and with similar decoration have been found at Buhen (opposite Wadi Halfa). Portions of similar jars, reconstructed sufficiently to show the designs, are shown at (11) and (12). The former was of the same shape and texture as the jar just described, and the design was also made up of rocked dots. The latter was of a slightly different shape, having a more pronounced shoulder, and the material appeared to have been insufficiently fired. The design was of incised white-filled lines and of a type usual in this class of pottery. There were, in fragments, other jars of the same shape as (10) and (12), but they did not appear to be of sufficient interest to warrant the trouble of piecing them together. Jars of this kind have been found at Meroë (W. Pyramids) and also at Buhen, though these latter were unpolished and the decoration crude.

The bowl (13) was hand-made of thick, coarse ware, black-polished inside and out, and had a decoration of white-filled rocked dots which is clearly seen in the photograph. This design of triangles, presumably in imitation of basket work, goes back to very early times. Also hand-made, but of thinner, better fired fabric, was the bowl (14). The design incised upon it with a blade did not appear to have ever been filled in with colouring matter. The upper part of this design is of quite a common type, but the crude human figures at the bottom are of interest. The upper portion of this bowl was dark red, but the bottom was discoloured black on the outside in a manner to suggest that it had been used as a cooking pot.



0 10 20 30 cms.

POTTERY FROM SENNAR, EAST BANK.

The jar (15) was of coarse black ware, unpolished, with a slight ornament of dots round the shoulder, and was one of the two pots found unbroken. The other was a smaller jar of the same shape, but of finer, greyish-brown ware. The small jar (16) was of well fired red ware, and the fabric was the finest of all the pottery recovered, with the exception of the cup (22). Both (15) and (16) are well-known Meroitic types.

Of the bowls or basins recovered (17) shows a portion of a black-polished hand-made bowl with an incised ornament which was originally filled with some red pigment ; (18) and (19) show other hand-made bowls. The former was of thick red ware, polished on the outside, with a crude design near the rim which is visible in the photograph. The other was of thick black ware, also polished on the outside, but plain except for a slight-hatched ornament round the rim.

The handled jar or *askos* (20) was one of two recovered. Both were wheel-made, and the one shown was of hard, well burnt red ware showing a fracture red all through. It was covered with a buff slip on which some kind of crude ornament was painted in black. The other had traces of a white slip, and bore a highly conventionalised human figure roughly daubed in red. Jars of this kind were found at Buhen, and also in the tombs in the later part of the southern, and the early part of the western, cemeteries at Meroë. Another wheel-made product of red ware was the small jug (21). Many examples of this type have been found at Buhen and Faras.

The small cup (22) was black-polished inside and red-polished, with a black top, outside. It is a late imitation, or a recrudescence, of the Kerma pottery of the period 2000—1700 B.C. Cups similar to that shown were found by Dr. Reisner at Barkal in 1916, and attributed by him to the first century B.C. This example was of finer ware than any of the other pottery found at Sennar, but inferior to the original Kerma pottery.

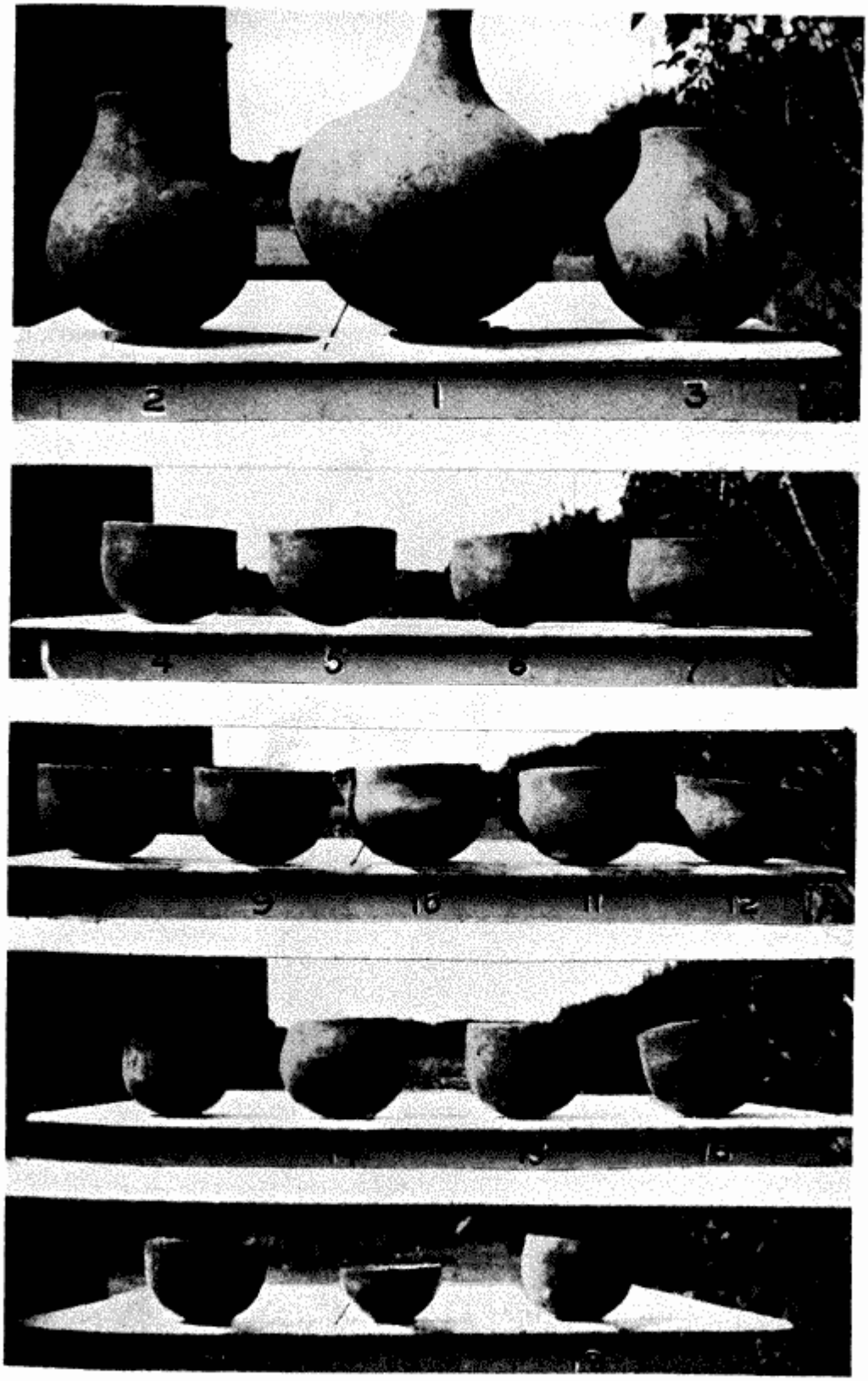
In addition to the bronzes and pottery, a number of beads and other small objects were recovered. The beads and amulets were all of a well-known Meroitic type, such as have been found at Faras and in the pyramid tombs at Meroë. Amongst the other objects were a well preserved mud impression from a seal ring ; two amulets, one in the form of a frog of mottled grey granite, and the other a fish of glass or crystal ; a faience Bes figure $5\frac{1}{2}$ cms. high ; and a faience figure of the

Amon Ram with sun disc 8½ cms. long. The design on the seal impression represented a bird (ostrich) in the act of picking up food from the ground, and bore a striking resemblance to the design on a gold seal ring found by Dr. Reisner in one of the pyramid chambers at Meroë.

This cemetery at Sennar can with some confidence be dated to a period covered by the closing years of the first century B.C., and the early years of the first century A.D. The objects from it which have been described were not in themselves of any particular value or interest, and it has been noted that most of them could be duplicated from other sites in the country. But it is precisely in this fact that their real interest lies. The finding of exactly the same types of object at such widely separated sites as Faras and Buhen in the north, Meroë in the centre, and Sennar in the south, must indicate a fairly uniform level of culture over the whole country between the limits named. This in turn shows the settled conditions and freedom of communications possible only under a good administration. These conditions are known, from other evidence, to have obtained over the northern half of the country in the Middle Meroitic Period, but these finds at Sennar show how far they extended to the south.

The actual settlement or town to which the cemetery belonged must have been of some size and importance, for only members of a prosperous community could have imported such comparative luxuries as the large bronze basins shown in Plate V (7). It is tempting, but at the moment idle, to speculate on the possible connection between this town and that which, centuries later, became the capital of the Fung kingdom. Is it just chance that the Meroitic and Fung towns were founded so close to each other? Did some tradition or trace of the ancient town linger on into the Fung period? Or is it more likely that the same geographical considerations led at different times to the establishment of both towns?

The discovery on the west bank was made in July, 1924. Here a large grave was encountered during the digging of a small irrigation channel to lead water to the Merkaz garden. From it were obtained a number of pots, a few beads, and some human teeth and fragments of bones. Water was flowing over the site when I visited it later in the



POST-MEROITIC POTTERY FROM SENNAR, WEST BANK.

year, but Mr. Hancock, then Assistant District Commissioner at Makwar, told me that the grave was circular, about two metres in diameter, and was approached from the north-east by a sloping passage, the entrance to the tomb being closed by a stone slab. As the grave had been cleared by Saidi labourers before Mr. Hancock saw it, he was unable to give me any information as to the disposition of the pots when found.

The pots—such as were recovered—are shown in Plate VII. The largest (1) was a hand-made necked pot, red-polished, and faded. No design could be found on the shoulder or mat marking on the body. A thick red slip seemed to have been applied to it before polishing. The pot (2) was hand-made, black-polished, and faded, and had a red-filled decoration round the rim. The jar (3) was also black-polished with a red-filled design round the rim, but on the body was a design which might be the front legs of a giraffe ? It was impossible to tell the colour of the original filling of this design, but it was rubbed with chalk before being photographed. The remaining bowls (except No. 18 which was red-polished) were hand-made, black, and fairly thin. The surface was smooth, but the bowls did not appear ever to have been highly polished. There was no decorations on the outside, but most of them had a slight incised design inside the rim. The colour of the filling, where it could be traced, was red.

This pottery is much later in date than that found on the east bank, and belongs probably to the fourth—fifth centuries A.D. It is of a type not found at all in the northern Sudan. It comes from the period when the Meroitic Kingdom was breaking—or had already broken up, and the culture of the northern and southern parts of the country had already become differentiated. It is of much the same type as that found by Mr. Arkell in his " Burial No. 2," and, as he has suggested, is of the same date.

In this connection perhaps Mr. Arkell will allow me to add that the pottery from his " Burial No. 3," is similar to some found at Shendi, and in a late city cemetery at Meroë itself. This is of later date than that just described, and has been termed " Aloa " ware. But though it may quite probably belong to the early period of the Christian kingdom of Aloa the attribution has not yet been established with certainty.

NOTE ON MANUFACTURE OF NUBA STONE KNOB STICKS.

By C. W. Beer.

(PLATES VIII & IX.)

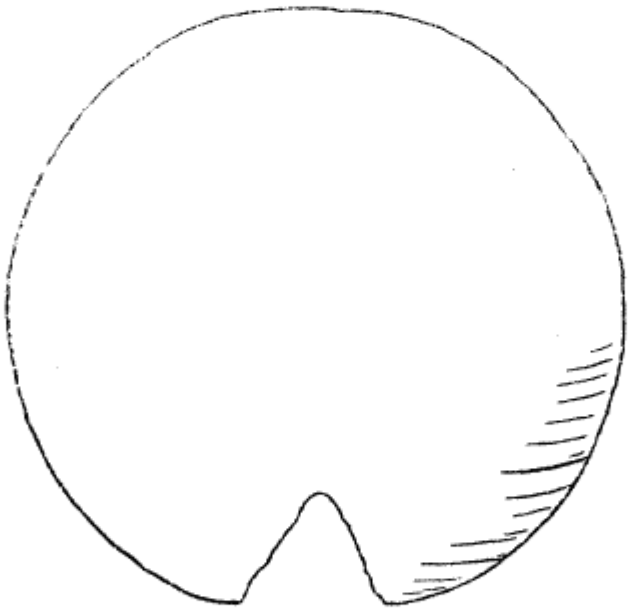
THE stone-knobbed Nuba stick is found generally over the district, carried by Nuba youths who are not fortunate enough to possess the coveted rifle. The making of the stone-heads is carried out in the Kadugli group at Korongo Abdullah, Tuma, Katcha, Kafina, Daloka, Eheimer, Teis, Kua and Fama. (The last three hills are more closely related to the Mesakiin hills of Talodi than to the Kadugli group.) The whole of the Miri group makes them and also Shatt Dammam and Shatt Safiya. Heavy metal rings purchased in the market are now being substituted for the stone heads and in time may replace them altogether. The fashioning of the stone head is done by youths of from ten to twenty years of age, but in Miri it is a common practice for pregnant women to undertake the task, apparently to keep themselves from idleness while compelled by their condition to abstain from heavier work. The stick is usually about 3 ft. 6 inches long, the stone spherical head being about $2\frac{1}{2}$ inches across and 8 inches in circumference and weighing about $5\frac{1}{2}$ ozs. Although it cannot be classified as a throwing-stick, it is thrown with success at rabbits and rats when parties of youths hunt small game by firing dry grass.

The stone of which the heads are commonly made is dark green or black in colour and appears to be serpentine. Mottle stick-heads of diorite flecked with small porphyritic felspar crystals are much sought after, this composite rock being obtained at Angola in the Mesakiin hills of Talodi. Having selected a likely looking block of stone the worker splits it up into smaller pieces by striking it with another stone. Plate VIII (left). The resultant pieces, eneven in shape but roughly 3 to 4 inches square are taken separately and fashioned into rough spheres of varying sizes by chipping at the surface with a large flint. The large flint used for this purpose can be seen in the foreground to the right in Plate IX (right). The corners and excrescences are gradually knocked off and the surface is then roughly smoothed by rubbing and rolling the sphere along a flat stone





slab. The sphere is then ready for perforation in order to have the stick fitted in. The stone sphere is then taken in one hand and gripped firmly in the palm. A small block of stone is brought and placed on the ground, and the operator squats beside it holding a thin flint from 1½ to 3 inches long in the fingers of the other hand and bedding it firmly on the block of stone. Plates VIII (right) and IX (left). The sphere is then brought down on the point of the flint and gradually a hole is made in its surface. At the beginning of the operation small light blows are struck until a small cavity is made, but after this the sphere is brought down on the flint with considerable force. This process goes on, accompanied by much spitting into the cavity and by the splitting of many flints and the substitution of new ones, until the cavity is about half an inch deep. The hole in the head is then as shown in Fig. 1.



(Actual size.)

FIG. 1.

In order to keep the sides of the cavity parallel (the action of the flint described above being concentrated mainly on the apex of the cavity and only slightly on the sides) a different method of attack becomes necessary. A flint is broken up and a small piece shaped so that it will rest evenly in the cavity about half-way down. It is dropped in, the sphere is held with the cavity uppermost, and the broken flint is pounded from above with an old iron spear-ferrule. (See Fig. 2).

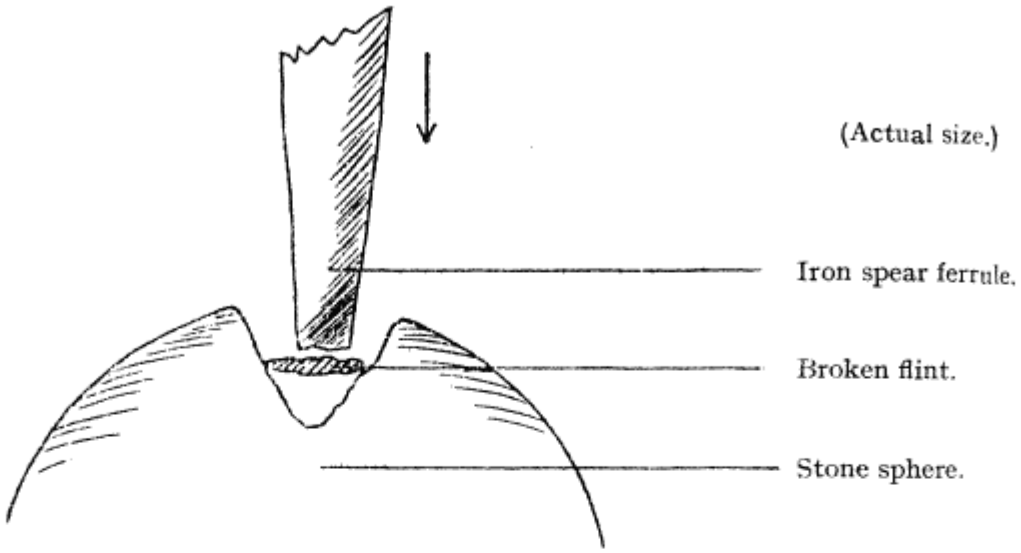


FIG. 2.

When the sides have been smoothed down a little the operator reverts to the original method shown in Plate VIII (right). When the stone sphere has been hollowed out to the half-way line the sphere is reversed and attacked from the other side until the two cavities meet. The final clearance of the middle portion is done by forcing the iron ferrule through from side to side. The complete operation takes about 15 days, presumably working several hours a day. Plate IX (right) shows the large chipping flint, seven thin flints used for perforation, the stone bedding-block, three partly worked stone knobs, and an ordinary match-box to indicate size.





THROWING KNIVES IN THE SUDAN.

By L. F. Nalder, C.M.G., C.I.E., C.B.E.

(PLATE X.)

THROWING knives are to-day found in only three areas in the Sudan, and those practically as far apart as is geographically possible :

i. In the Ingessana hills, near the Blue Nile towards the Abyssinian frontier ;

ii. In Northern Darfur ;

iii. In the far south, among the Zande, who are now divided between the Sudan, the Belgian Congo and French Equatorial Africa.

Specimens from the three areas are figured in the accompanying plate. Their general similarity evidently struck Schweinfurth, who, describing those of the Zande, wrote as follows (" Heart of Africa," Vol. II, p. 9) : " The word '*trumbash*,' which has been incorporated into the Arabic of the Sudan, is the term employed in Sennar to denote generally all the varieties of missiles that are used by the negro races ; it should, however, properly be applied solely to that sharp flat projectile of wood, a kind of boomerang, which is used for killing birds or hares or any small game : when the weapon is made of iron, it is called *kulbeda*. Iron missiles very similar in their shape are found amongst the tribes of the Tsad basin ; and a weapon constructed on the same principle, the " changer manger," is in use among the Marghy and the Musgoo."[1]

1. The Ingessana tribe inhabit the Tabi hills some 40 miles west of Roseires. They are exceedingly dark skinned, but, although often with very broad noses, are not as a rule pronouncedly negroid in feature and often have, perhaps due to the setting of the eyes, a remarkably open and pleasing expression.[2] As well as cattle they keep pigs. Their religion is

[1] " Here (around Lake Chad) survive such pagan ' aboriginals ' as the Buduma of Lake Chad, the Mosgu and the Mandara, who inhabit the swampy region of the Shari Basin." (Seligman, " Races of Africa," p. 65.)

[2] They are described by Evans-Pritchard in *Sudan Notes and Records*, Vol. X. See also the plate opposite p. 420 of Seligman's " Pagan Tribes." Owing to the rather soft curves of the face, a photograph of a youth's head might often be almost mistaken for that of a girl. One not infrequently sees men with breasts so unusually developed that they almost resemble those of a girl.

believed to be based on sun-worship. They have no tradition of migration from elsewhere; their language is completely dissimilar to that of their various neighbours, and no relationship has so far been detected between it and any other language. In the past they attained notoriety as determined and ferocious fighters and raiders.

In their case the throwing knife is associated with the wooden throwing stick (Ar. *trombash*: Ing. *luin*) which is also widespread amongst their Berta neighbours Of this Seligman says ("Pagan Tribes," p. 413), that it "can best be summarily described as resembling the Australian non-return boomerang." It is figured on the ancient Egyptian monuments. The Ingessana and Berta are extremely expert in its use, obtaining a perfectly flat trajectory of 60 yards and over, at the end of which it often soars high into the air. One type of throwing knife (No. 1 in the plate) is so like it in shape that it is tempting to regard it as an adaptation of the trombash in iron, and in a paper entitled "Survivals of the Throwing Knife in Darfur (MAN: Vol. XXXIV, July, 1934) Dr. Olderogge has an illustration of a wooden Hausa throwing knife almost identical with the Ingessana type, No 4. in the accompanying plate, not only in shape but in ornament, particularly in regard to the two crosses. The Ingessana knife is very accurately described by Evans-Pritchard (*Sudan Notes and Records*, X) as follows: "This is a hacking and slashing weapon made from iron and is to-day the national weapon of the Ingessana. Perhaps I should say ornament rather than weapon, as there is no more war and as it is of small use in hunting. It is called *kolbeda* in Arabic and *koleth* in Ingessana. . . . . Though generally used for striking it may also be hurled at short range. Most, if not all, Ingessana men carry one of these weapons, and they are exported to other hills. In the past the art of making *koleth* was learned from the west but now it is a distinctive Ingessana weapon and is rarely found amongst neighbouring peoples."

The *koleth* are made by the Ingessana themselves, who are expert smiths. Their knives are noticeably more massive and better finished than those of Darfur and of the Zande. The projecting prong is used to support the weapon on the shoulder.

The *koleth* is sometimes seen among the neighbouring Berta, but in their case there is I imagine, little doubt that it is borrowed from the Ingessana.

2. For the following note on the Darfur knives I am indebted to Mr. C. G. Dupuis, Governor of Darfur.

" The throwing knife in Darfur is used by—

(*a*) The Kobbé tribe of the Zaghawa group who live in north-western Darfur and overlap into French territory about 15 N. and 22.43 E. These Zaghawa are believed to be akin to the Dago in origin. It is not used by other tribes of the Zaghawa group. (For the Zaghawa see MacMichael, " History of the Arabs," p. 54.)

(*b*) The Goraan or Kuraan (*v.* MacMichael op. cit., p. 54), who inhabit the Ennedi plateau of French Africa and the fringes of the Libyan desert between roughly 16 and 17 N. and 23 and 24 E. They are not really a Darfur tribe but they occasionally raid that Province.

(*c*) Bedayat (*v.* MacMichael, op. cit., p. 52, 3).

The general name for these knives is *kurbağ*. The Bedayat call their pattern *Erdi* ; the Goraan model is called *guna*. The Kobbé use the *Erdi* (which is the type figured in the plate).

It is used both as a throwing and a striking weapon. The tribe concerned do not have the wooden throwing stick but the other Zaghawa tribes who do not use the *kurbag* have various forms of wooden throwing sticks."

All these tribes are mainly a mixture of the Hamitic Tibbu and negro, with Libyo-Berber affinities, and the Tibbu also are said (Seligman, " Races," p. 152) to use the throwing knife. They are all pastoral peoples living in desert or semi-desert regions. MacMichael quotes Mas'udi for a belief that they reached their present habitat from the east and mentions the general dislike in which smiths are held, especially by the Zaghawa.

The Darfur throwing knife illustrated in the plate differs in workmanship from the others in having a central ridge prominent at the top and carried faintly down the back of the handle. It is not otherwise ornamented : it is made of very soft iron, bends very easily and the hammer marks are very plain, giving a very rough surface. The dropped spur could not very comfortably be used as a shoulder rest : the under edge, though not actually sharp, is not flattened out at all.

Dr. Olderogge (op. cit.) reproduces drawings from Muhammad el Tunisi's " Travels in Darfur (1845) " of iron *kurbağ* carried by old

women at certain ceremonies, very reminiscent of the well known curved camel stick, but with curious projections recalling the spur on the throwing knife.

3. The Zande name for their throwing knife is *kpinga*. Five different shapes are illustrated by Schweinfurth (op. cit., p. 11), all of which, however, agree in having a head formed by a large blade at right angles to the shaft, generally with a smaller subsidiary blade above it and, on the other side, a large blade at about 45° to the shaft and just above the handle. This feature is lacking in both the Darfur and Ingessana models and would seem to make the weapon obviously more effective in a whirling flight. One of those he gives has incised ornament ; that in my possession is plain and very crudely made. Schweinfurth says that the " Monbuttoo, who are far more skilful smiths than the Niam-niam, supply them with most of these weapons," but states explicitly that the Monbuttoo did not themselves use the throwing knife. The *kpinga* was carried inside the big shield. Larken (*Sudan Notes and Records* IX, p. 40) states that " they are no longer in general use and like the shield will soon no longer be carried." As far as I can ascertain they do not and did not use the boomerang-like throwing stick. Similar knives are found among the Kreish and other tribes to the west of the Zande.

Whether they still exist there or not it would be interesting to know, but it seems that formerly similar knives were found at Gallabat. In the " Anglo-Egyptian Sudan " we read (p. 108) that " the inhabitants (of Gallabat) are almost entirely Takruris, originally from Darfur. . . . . They possess curious jagged throwing knives which their ancestors are said to have brought from the Upper Congo."

West and south of the Sudan the throwing knife is wide-spread. In an article (JRAI., LV., 1925) entitled " The African Throwing Knife," Mr. E. S. Thomas figures a great variety of shapes made by different tribes and marks their location on a distribution map (in which, however, Darfur and Wadai are left blank ; one specimen is shown from " Kordofan ").

They fall into two groups, the " F " type, of which No. 1 in our plate is characteristic, and the " Winged " type, well represented by our Zande example, in which the spur shoulder-rest has disappeared and has been replaced by the " Wing " on the other side. A bird-headed type used chiefly by the Fan tribe almost forms a sub-group by itself ; it obviously

No 4. Ingessana.
No 3. Zaghawa.
No 2. Zande.
No 1. Ingessana
1ft.
2ft

represents the head of a pelican or stork, but the head and beak are convex and not concave like our Zaghawa example : there is no " spur " but a rudimentary Wing :—



The " F " type is shown as occurring—

(*a*) In the Shari-Chad basin ;

(*b*) To the N.E. in the Tibesti highlands ;

(*c*) On the Upper Blue Nile (Ingessana), and to these can now be added

(*d*) N. Darfur and Wadai.

The winged type is very widespread in the Northern Congo basin especially along the Welle, Ubangi and Sanga, some of its principal users being the Zande, Fan and Bushongo tribes ; the name of the latter means " People of the throwing-knife," and they are said by Seligman ("Races," p. 206, 208–10) to have a highly organised society and system of government and to have " come originally from the far north, from the neighbourhood of the Ubangi and Shari rivers." It stretches westwards into the Gabun and Cameroons and, reaching northward in French Ubangi, joins up with the " F " type.

From Mr. Thomas' map it would appear that the winged type, though contiguous with the " F " type, does not mingle with it, but that in the Congo basin in the midst of the winged knife there are sporadic examples of the northern pattern.

For the purposes of determining whether a Libyan admixture can be postulated in these Congo tribes it would obviously be important if the winged knife could be shown to have developed from the other. Actually it would appear very difficult to arrange Mr. Thomas' types in any such series, though the Fan pattern mentioned above might conceivably serve as a bridge, as might a group from the Sanga tribes, very similar to the " F " type but with the spur on the reverse side.

Except for those of the Ingessana and (borrowed) Berta, the throwing knife does not anywhere exist east of the Nile, and these are so obviously of the "F" pattern that it seems reasonable to suppose a direct connection with the west or north west.

In view of the tenacious paganism of the Ingessana Mr. Thomas' suggestion that the knife here was introduced by western pilgrims would appear very unlikely.

It would be interesting to have a drawing of the Gura'an *Guna* and information as to whether the knife is known to have ever existed in the Nuba mountains or in the hills of Northern Kordofan ; and also to know whether there is any clue as to the language from which the words *trombash* and *kolbeda* have been borrowed. Dr. Olderogge says that it is obvious that *kurbağ* and *kulbeda* are variants of the same word.

My thanks are due to my wife for the drawings.

SOME NUBIAN ROCK PICTURES.

By J. H. Dunbar, M.C.

(PLATES XI & XII.)

PERHAPS readers of *Sudan Notes and Records* will be interested in a few of the points that have arisen during correspondence and discussion on my paper, "Some Nubian Rock Pictures," which appeared in Vol. XVII, Part II, 1934.

Mr. E. S. Thomas, of the Pitt Rivers Museum, wrote asking if I had seen, on the Nubian rocks, any signs, particularly anthropomorphic signs, such as those illustrated in his paper, "A Comparison of Drawings from Ancient Egypt, Libya, and the South Spanish Caves" (Jour. Roy. Anthr. Inst., Vol LVI, 1926, pp. 385–394). Although I was familiar with this paper I was unable to make any reference to it as I did not read it until after my own article was in the press. On the accompanying Plates, Figs. 1–38, are included such designs as I have found on the rocks in Lower Nubia. I had in mind Nos. 1–14 when I wrote of human figures that were in a state of poise, or in the familiar Hadendoa attitude, or that resembled camel brands and letters of the Tifinagh alphabet. Nos. 7, 8 and 9 might be dancing perhaps. Nos. 3–6 are the most common and suggest Libyan affinities. Similar figures are found incised on Middle Nubian or C-Group pottery. No. 5 seems to be the oldest, on the rocks, and from the weathering, I should date it to predynastic times. It will be seen that No. 5 is in the "pecked" technique.

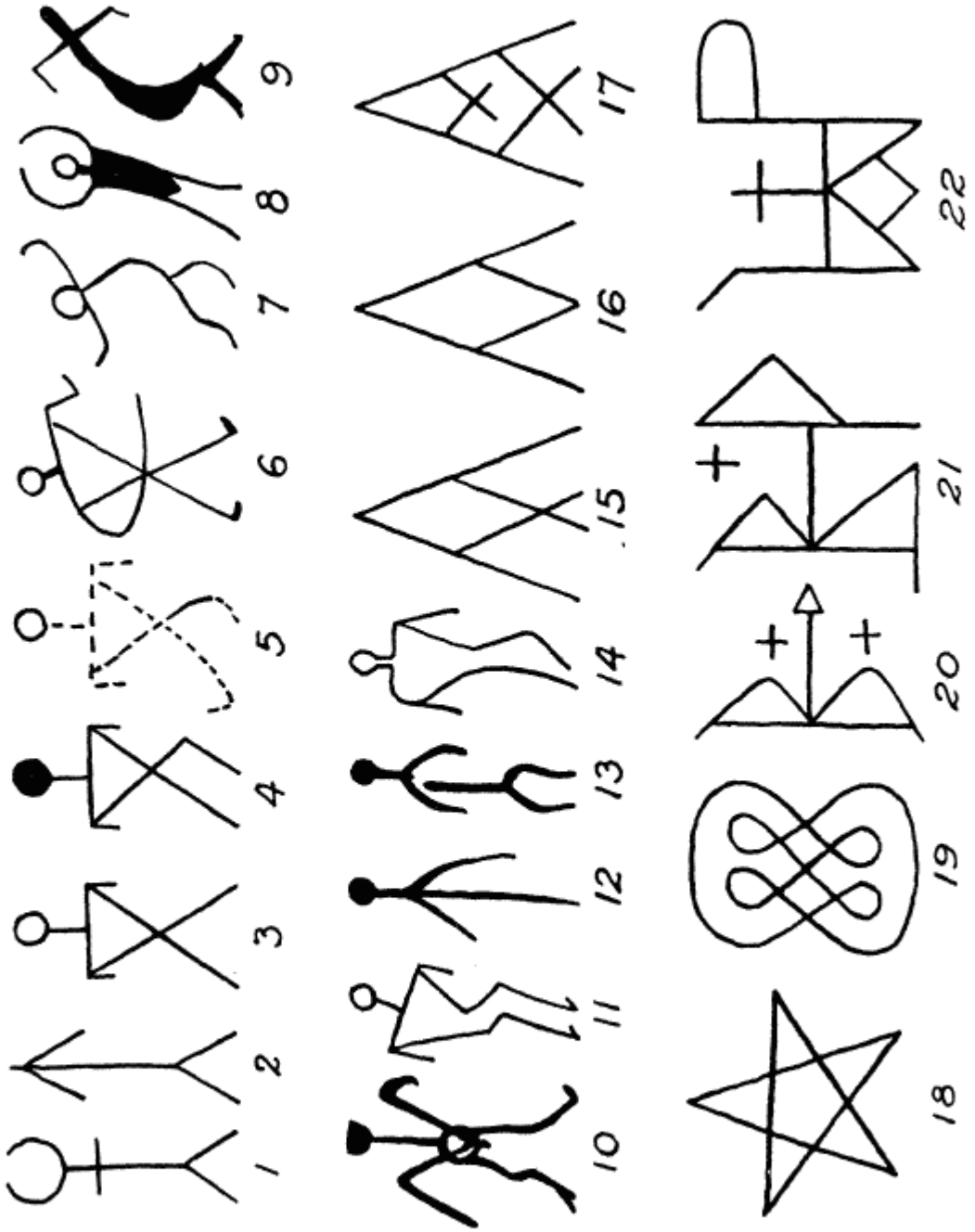
I ought to make it clear that none of the figures shown on the Plate are, comparatively, plentiful. For every one of even the commonest of these figures, there are hundreds of rock pictures of animals and boats, while Nos. 10 and 20 are, so far, unique. Nos. 18, 23, 31 and 32 may be particularly mentioned in connection with Mr. E. S. Thomas' paper. No. 18, of which I have found two examples on the rocks, both extremely well drawn, seems to be very widely known. In this form of the pentagram, or true pentacle, and in the form of two intersecting equilateral triangles it is familiar to native magicians as "The Seal of Solomon," though it certainly goes back nearly 3,000 years beyond Solomon, for it is incised on protodynastic pottery from Faras. It is also on the Babylonian pottery, c. 2500 B.C. from Jamdat Nasr. It is inscribed

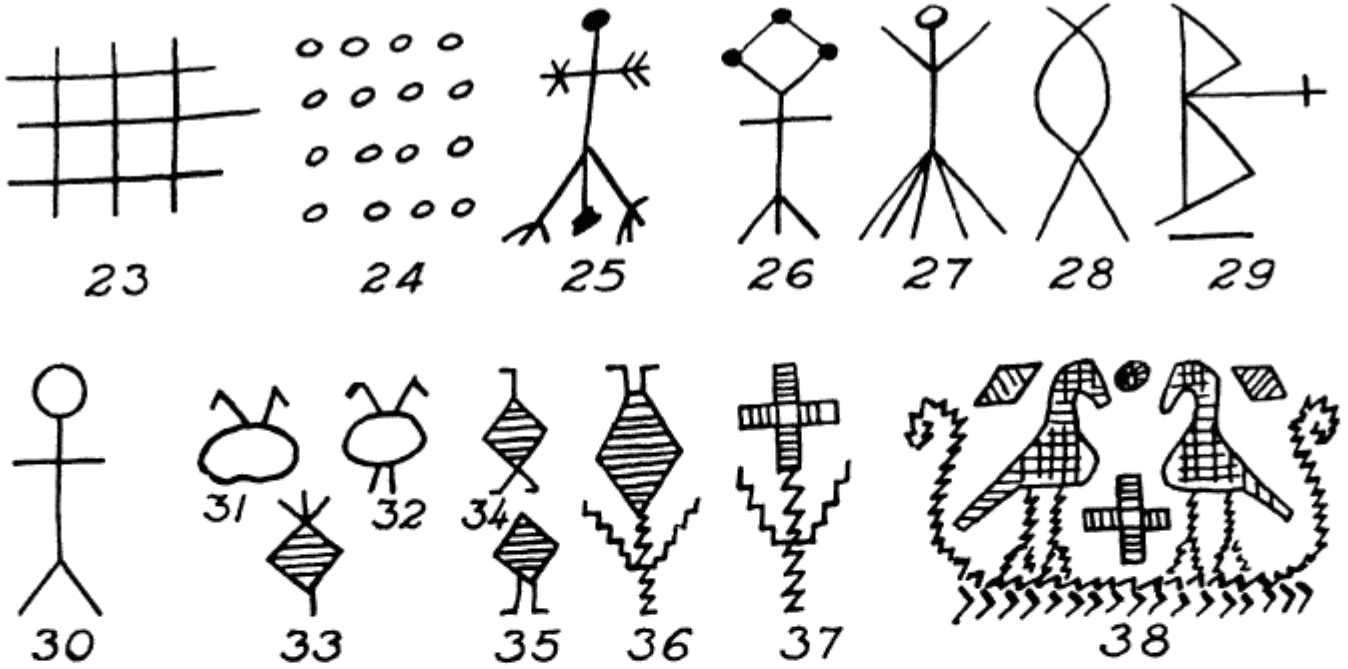
on a stone object amongst the Coptic Antiquities in the British Museum and I have seen it worn as a badge by a racecourse tipster at Epsom.

No. 23, the "grating" pattern, being so often associated with animals, has been regarded as representing a pitfall or an enclosure. The "gratings" that I have seen on the Nubian rocks are not in association with animals and, as they are on the flat, I think that Nos. 23 and 24 (cup-stones) might have been used for such games as one can see played to-day in Egypt and the Sudan. Perhaps they were used for divination. (For this and other interesting points see "Mysteries of the Libyan Desert," Appendix III. W. J. Harding King, 1925.) On the other hand I have seen a rock picture of a giraffe which seemed to be caught by the foot in a spiked wheel-trap. Nos. 31 and 32 are not Nubian petroglyphs, but are copied from Thomas (op. cit.) and represent head-dresses, No. 31 being from Southern Spain (Early Neolithic), and No. 32 from prehistoric Egypt. I mention these to introduce No. 33, which is a design on present-day Sudani needlework. No. 34 is from Middle Nubian or C-Group pottery and No. 35 is from the present-day Sudani needlework designs, as are also Nos. 36, 37 and 38. The vertical, horizontal, and zig-zag lines are intended to represent the stitches of the needlework. There can be no doubt that these needlework patterns are very old. Some of them may be anthropomorphic, and it is even possible that their origins are to be sought in rock pictures and in pottery marks.

I have seen half-a-dozen examples of Nos. 15, 16 and 17, on the Nubian rocks and near them are some crosses, presumably Christian. No. 15 is matched, and No. 21 is also found, among the scratchings on "Medieval Potsherds from Christian Sites in the Dongola Province" in the Gordon College Museum.

No. 20 is a petroglyph from Toshki East. The "bow and arrow" part of it is rather like a Meroitic pottery decoration. Compare it also with No. 21, already mentioned as a scratching on a Christian pot. Nos. 29 and 30 I found, cut on the rocks, up the Wadi Hammamat along the Luxor-Kosseir road, and near them was an example of the true pentacle. Compare No. 29 with No. 20 and No. 30 with No. 1. No. 22 is a Christian sign cut, not in the naked rock, but over the doorway of the church inside the temple of Wadi es Siboua. Compare the lower half of this with No. 16.


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21
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The figures are not drawn to scale. The usual size is about six inches. The smallest is N°.2 which is 2½". The largest is N°.25 which measures 13"

Nos. 15, 16, 17, 20, 21, 22 and 29 form an interesting group. Apart from their frequent association with crosses one would see in them a Christian influence for they seem to include variants of the Alpha and Omega and other Coptic sacred symbols.

Of No. 19 there are three examples on the rocks at Gerf Hussein, about half a mile north of the temple. One of them is so beautifully done that it might be the work of a craftsman employed on the temple. This design is incised on both the protodynastic and C-Group pottery from Lower Nubia.

Nos. 25–28 are lightly scratched on the rocks, No. 25 at Derr, and Nos. 26-28 at Armena. Is it possible that No. 26 is a Trinitarian sign of the Christian period ?

In the course of a long and interesting letter, Mr. J. F. E. Bloss, Sudan Medical Service, describing some rock pictures he found during the summer of 1934 at the oasis of Merga, some 300 miles south-west of Selima, wrote : " The oasis is at the southern end of a wadi, called Wadi Hussein. At the northern end of this wadi there are a few small sandstone hills of a pinkish colour, one of which is marked on the maps as the Sphinx Rock. In a cave-like depression at the top of a small gebel near the Sphinx Rock there are some rock pictures. The cave is on the southern side of the gebel and is about 12 feet high and 10 feet wide. The drawings represent antelope of various kinds and also cattle, both the large horn kind and the small horn kind. The drawings are all line drawings scratched with deep lines in the soft sandstone. Giraffe, and in one place what appeared to be giraffe feeding off the tops of palm trees, were also there. In another corner we saw what we thought was a baboon sitting down, though of course this might possibly have been something else. The size of the drawings was variable. The giraffes were as much as two feet high and the cattle were as long as about 15 to 18 eighteen inches. The rock was well weathered and there were traces of other line drawings that were too indefinite to be identified."

From what Mr. Bloss writes of the weathering, the disappearance of the oldest drawings, and the subject-matter of the pictures, one has reason to suppose that the shelter was occupied very long ago and over a very considerable period. With his letter Mr. Bloss most kindly sent me a very clear photograph on which are shown a dozen bulls and a giraffe. There is one case of superposition in which the legs of a bull cut the back

of a giraffe. The most interesting feature of the photograph is the marking on two of the bulls. Down the flanks of these bulls are two parallel and vertical lines. There is a good example of this marking in the top figure on Plate VIII of my paper. Mr. L. P. Kirwan, the present director of the Oxford University Expedition in the Sudan, tells me that such markings are of frequent occurrence on the bulls incised on certain pottery vessels of the so-called " C-Groups " from Lower Nubia. The type of vessel upon which these drawings of bulls occur seems to be roughly contemporary with the Twelfth Dynasty in Egypt (c. 2000–1790 B.C.)."

Mr. G. O. Whitehead who, with Mr. F. Addison, contributed " Meroitic Remains " to *Sudan Notes and Records*, Vol. IX, No. 2, 1926, very kindly sent me some photographs that he took in 1927. They show rock pictures of giraffes at Gebel Geili and graffiti on the walls of Mussawarat es Sufra.

From what Mr. Whitehead tells me I think the giraffe rock pictures are the same as those mentioned by Mr. J. W. Crowfoot in " Old Sites in the Butana " (*Sudan Notes and Records*, Vol. III, No. 2, 1920).

The upper limit of the graffiti can be fixed by the date of the building but one does not see such graffiti on the temples in Nubia. Except for a few drawings of camels by British Tommies in Expedition days, the only scribblings I have seen on the temples in Nubia are confined to names, initials and dates, and very few of these are more than 100 years old. There are numerous Christian paintings and prayers on the walls of the old temples, but I do not count these as graffiti.

I have had several letters from Mr. A. E. Robinson, late Sudan Civil Service, in one of which he writes, " I think that the elephant and giraffe probably roamed on the western banks of the Nile as late as the early dynastic period, as far north as the cattle countries of the Wawat, Mentiu, etc. The local conditions then would be similar to those in the Gezireh from February to May, when elephant used to roam near Sennar and go to the Blue Nile to drink in the last century, as late as 1890."

When I wrote my paper I had not seen Mr. Robinson's " Rock Pictures " (*Journal of the African Society*, October, 1934). Everyone interested in prehistory should read it. Mr. Robinson's chief concern with rock pictures is, at the moment, the bearing they may have on the history of the camel. Such a difficult and complicated question is far beyond the scope of this letter, but I am collecting what petroglyphic

evidence I can in Nubia. I understand that there will shortly appear, in *The Journal of the African Society*, a paper on the camel by Mr. Robinson.

Since you published my "Some Nubian Rock Pictures" I have been fortunate enough to find many new pictures and to have opportunities of revisiting the old sites. Broadly speaking, the fresh evidence confirms what I have already written, though there may have to be minor modifications in a few instances. I am now engaged in plotting the levels of all the pictures, but more than ever I feel "there remains quite an amount of work to be done before the last word can be written on the Nubian petroglyphs."

EL RIH—A RED SEA ISLAND.

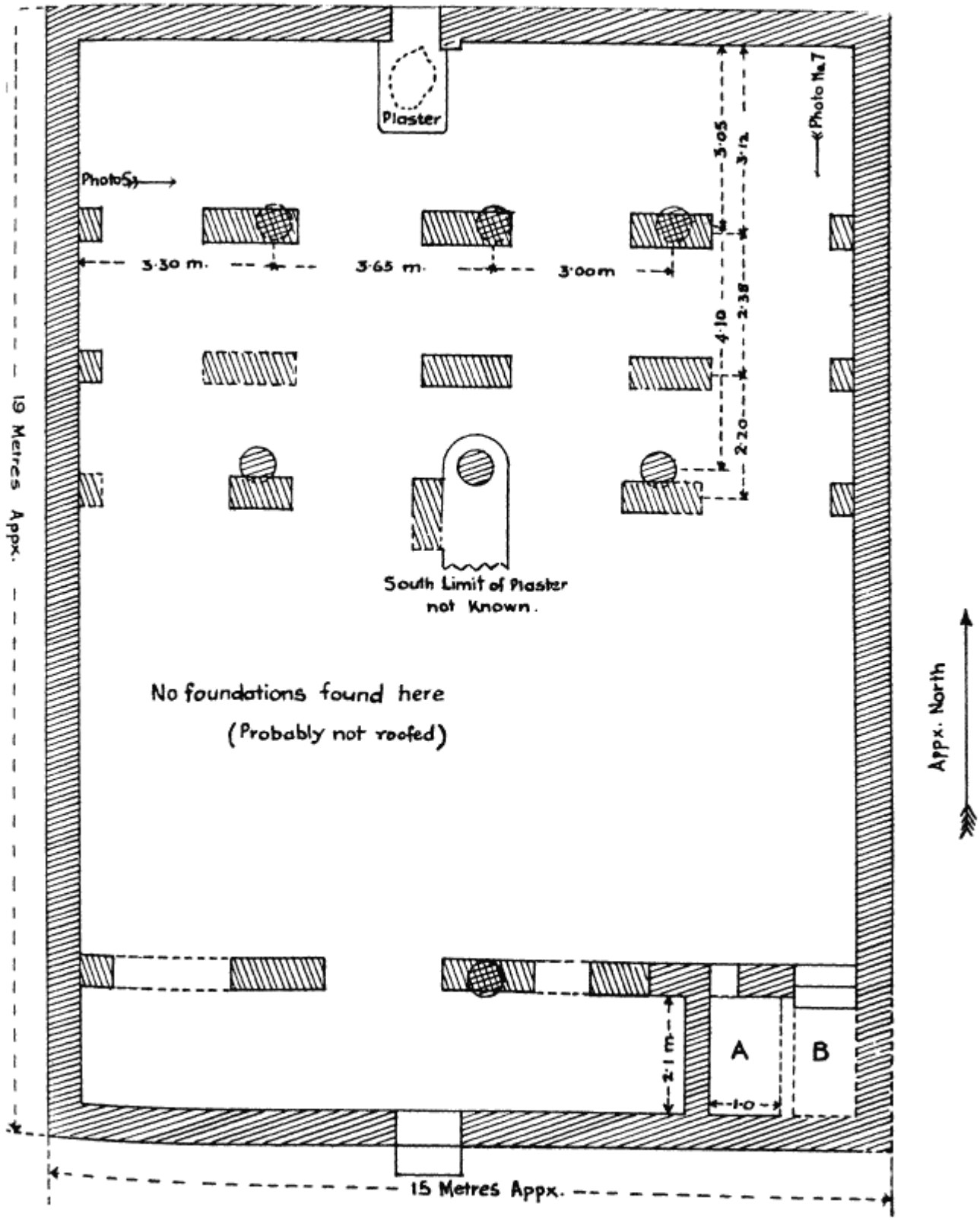
By Major H. E. Hebbert, D.S.O., M.C.

(PLATES XIII—XVIII.)

ON page 523 of the *Geographical Journal* for May, 1911, there is an interesting article by Mr. J. W. Crowfoot on the subject of certain Red Sea ports. He had visited some of the sites and had endeavoured to identify the places mentioned in various ancient and mediæval writings. In his article, he gives the arguments in support of his identifications and a general summary of the conditions which led to the location and temporary duration of most of the ports. One of these sites is on the island of El-Rih, about 50 miles south-east of Tokar and is identified by him as Badi, a place of some importance during the first four or five centuries of the Mohammedan era. We do not know when it was first built but it was in existence in 650 A.D. and was in ruins in 1170 A.D.

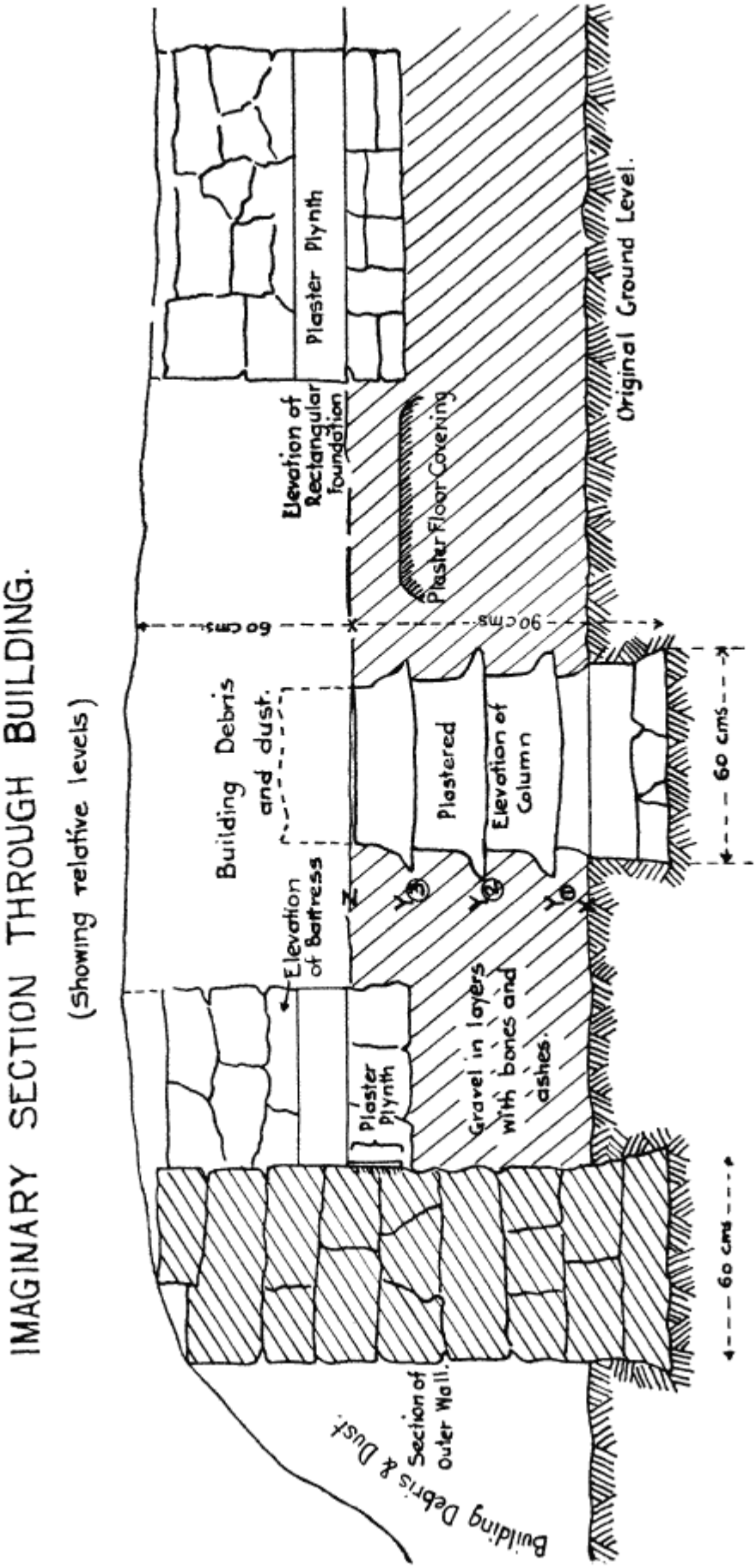
The earliest traders must have had their ports of call and watering places in the Red Sea, but nothing now is known about them. The first records are provided by the Greeks, and trading activities since their time may be divided into definite phases. The first of these, from about 300 to 30 B.C. was the Ptolemaic, and in this period we find European pioneers exploring the coasts of the Red Sea. They were concerned with the coast itself and have left fairly detailed accounts of that coast and of their trading enterprises. Alexander the Great had encountered squadrons of elephants in India and during the early years of their power the Ptolemies proposed to arm themselves in a similar manner with African elephants. For this purpose expeditions were sent to the coast of the Red Sea and the chief port for this purpose was Ptolemais, which is probably the modern Agig. Subsequently the African elephant was found to be useless for war and the trade collapsed.

The next phase was the Roman, and it is apparent that conditions had very much altered. The overland route to the Far East having now been closed, the Sea route was of vital importance, and during this period nearly all developments were towards its improvement. The Romans being pre-occupied with the richer region beyond, did not take much interest in the Red Sea Coast and they have left little record of their



Earlier Work.

Later Work.


IMAGINARY SECTION THROUGH BUILDING.
(Showing relative levels)
Plaster Plynth
Elevation of Rectangular foundation
Original Ground Level.
Plaster Floor Covering
60 cms.
90 cms.
Building Debris and dust.
Plastered
Elevation of Column
Elevation of Battress
60 cms.
Plaster Plynth
Gravel in layers with bones and ashes.
60 cms.
Building Debris & Dust.
Section of outer Wall.

occupation if any, and of their activities there. We do know that Ptolemais still existed and that there was trade between it and Egypt and India.

The third phase began with the rise of the kingdom of Axum and continued till the arrival of the Arabs. During this period Ptolemais is still mentioned as a port for the local trade, but it probably shared its importance with Adulis, the old port not far from Massowa.

The fourth and last stage, and the one with which we are concerned, is the Arabian. It may be assumed to have begun about 640 A.D., when Arabs conquered Egypt and were expanding generally. From then onwards nothing is heard of Ptolemais and a port of the name of Badi is first mentioned. It is impossible to say why Ptolemais should have declined in favour of Badi, and whether it was pure chance or deliberate policy. If Badi is correctly located on the island of El-Rih, it was nearer to Arabia than Ptolemais and the protection of an island site may have been desirable.

Having seven days local leave I thought of spending them on El-Rih, investigating the site generally and possibly excavating one of the buildings. From what has already been said, it was unlikely that I should find anything earlier than the seventh century or anything of architectural or other merit.

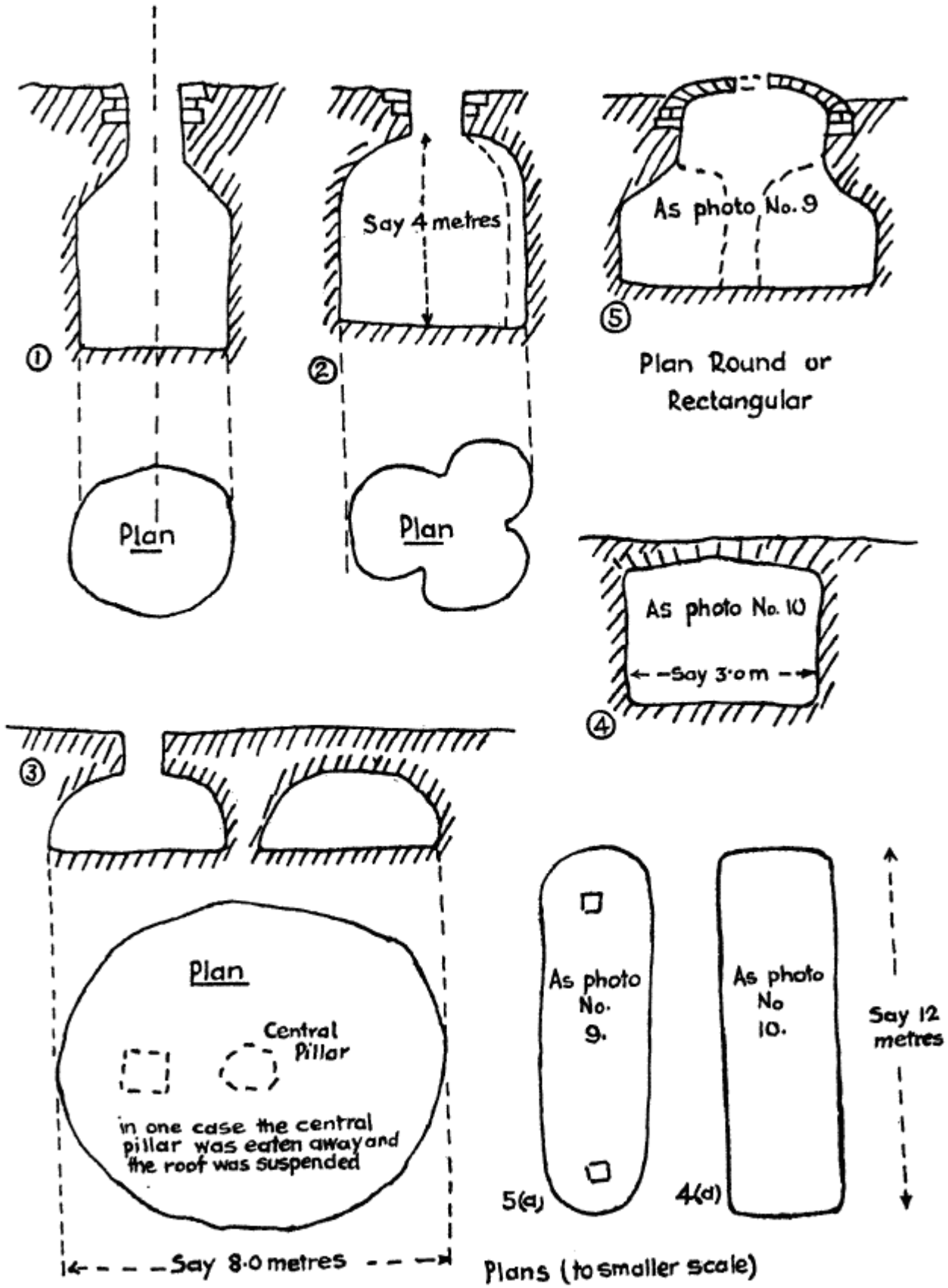
I can add nothing to the general description given by Mr. Crowfoot, but for those who have not read his article, I would divide the antiquities into buildings, cisterns and rubbish heaps. The most prominent objects as one approaches are large mounds about 30 feet high and located in a semi-circle across a spit of the island. The surface of these mounds is covered with stones and they look as if they might well be the ruins of buildings. A few moments examination soon shows their real origin to be rubbish heaps, and excavation failed to reveal any object of interest. Their size is noteworthy as they are much larger than anything at Adieb (Suakin El Gadim), which as a town seems to have been larger. Surface relics also provide an interesting comparison with Adieb. At the latter place one finds glass, china, pottery, beads and broken glass bangles scattered over the site in profusion; at Badi there were comparatively few beads, while china and broken bangles were entirely absent. I understand that broken bangles have been found, but not a single piece was found by any of my party.

The china found at Adieb is the Chinese "Celadon" of the Sung dynasty. Though this was first manufactured in the tenth century, it is not known to have been exported to the west till the twelfth, and its absence therefore confirms the suggested terminal date of Badi as a town.

The only objects of interest actually found were an inscribed tombstone, half a grind stone and the remains of a signet ring. The tombstone was lying by itself at a considerable distance from the cemetery area; it is of hard felsite and the inscription is fairly well cut, but it had been lying on its face on salty ground and some of it is badly corroded. Plate XVII (top left) shows the stone after I had pencilled in the inscription as nearly as I could decipher it. The grind stone was about 13 inches diameter and 2 inches thick, made of a peculiar sponge-like black stone; I thought at first that it was blackened coraline but it was much harder and black right through; both of these are now in the Khartoum Museum. The most interesting find was the signet ring, of which the stone and the ring were there but the setting missing. The stone is onyx, roughly oval, about 12 millimetres by 10 and 2 millimetres thick and rather crudely cut. The device is a tree with fruit and the British Museum authorities report it to be merely decorative and without special significance.

My intention in excavating one of the buildings was to discover the method of construction and the style of architecture. I had also considered making a general plan of the village, but it was soon apparent that this would involve a considerable amount of digging and the idea had to be abandoned. The general plan of a dwelling house seemed to be an enclosure about 25 metres square, with the main building on one side and subsidiary buildings on the other; in the middle there was generally a cistern which will be described later. At the northern end of the village the outline and location of the buildings was rather clearer than elsewhere and they seem to have been grouped round an open square. The building which I chose for my purpose fronted on this square and had no obvious surrounding wall. The ruin was rather bigger than most and I hoped that it might be that of a public building.

Plate XIII shows the foundations finally uncovered and there are quite a number of points of interest. I was unable to remove all the earth from inside the walls and it is possible that there were other foundations which I did not discover, but I investigated probable places and I do not think so. The ground to the south of the isolated foundations was less covered with



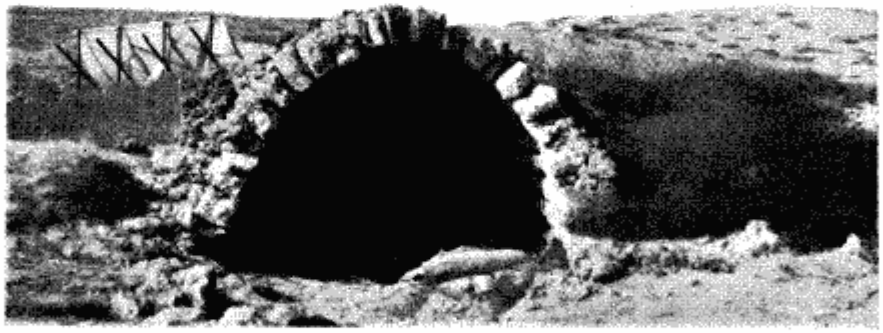
THE ABOVE ARE REPRESENTATIVE ONLY OF THE MANY FORMS OF CISTERNS FOUND.



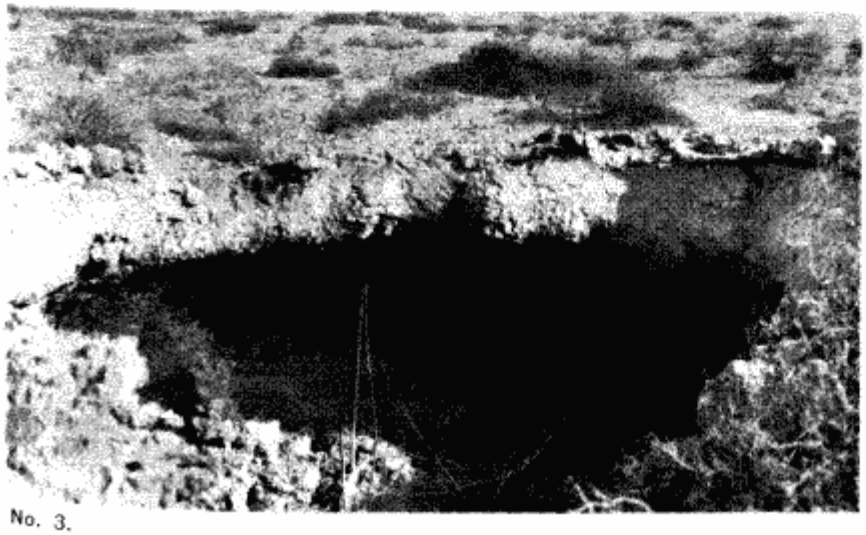
No. 1.

GENERAL VIEW OF EXCAVATION, LOOKING SOUTH-EAST.

THE MOST COMPLETE BUILDING IN BADI, OCCUPIED BY ME DURING MY VISIT.



No. 2.



No. 3.

LARGE CIRCULAR CISTERN WITH COLLAPSED ROOF.

debris and much lower than elsewhere, and I believe that this portion was not originally roofed. It may be seen that there are two distinct sets of foundations, and between these the difference in level is about 60 centimetres. The older set consists of the surrounding wall and the columns, and these were carried to about 25 centimetres below the general outside ground level. They are located on sand and not on rock though the latter was not more than about 60 centimetres deeper. All masonry was of coral stone in lime mortar, but the workmanship and the lime of the columns and the outer wall were much better than those of the later work. The columns had evidently been cut off when the upper set of foundations was constructed, as the site was covered with carefully shaped column segments which had apparently been used in the second roof. The original roof would appear to have been quoined arches of coraline masonry, but the spacing of the columns is surprisingly wide and irregular considering the load and the casualness of the foundations.

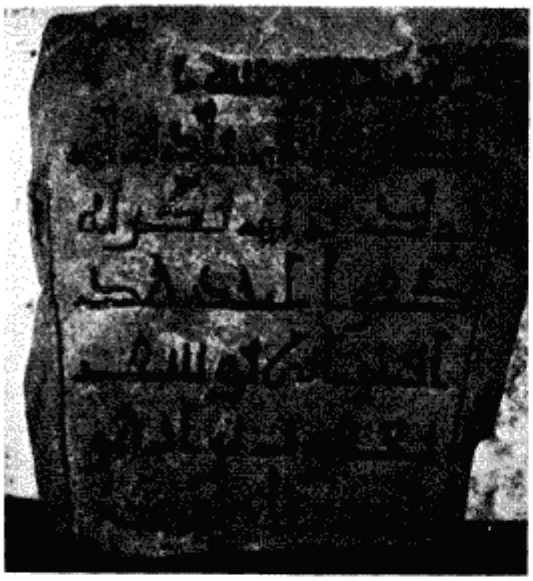
Plate XIV represents an imaginary section through the building and shows the relative levels of the different parts. The projections from the columns are skirts of plaster and seem to indicate the floor level when repairs were carried out. The lower floor filling consisted of very fine gravel or coarse sand and had probably been imported. Bones and charcoal were found in layers above it, and there were no indications that the columns skirts had been continued as floor coverings. I found two areas of plaster on the floor in the places shown in the plan but these were turned down for about 10 centimetres at the edges and had definite limits as if for some special purpose. That at the north door was worn away in the centre as if by traffic. The outer wall was not generally plastered internally except for a skirting at the Y3 level, which corresponded to the top skirt of the columns. This plaster continued behind the buttresses, thus proving that they had been added at a later date.

Apart from the third row, which I could not understand, these buttresses and the rectangular foundations had evidently supported coralstone barrel arch roofs. They had a plaster skirting at what had been the last floor level (z) but no attempt had been made to continue this on the outer wall, where the existing skirting was at the lower Y3 level. If these roofs had been built with good mortar they would no doubt still have been standing, but the damp had evidently attacked the mortar and disintegrated it, just as it does at ground level in Suakin. While at

Badi I lived in the only remaining building of this type, and this is shown in the second photograph. The mortar in the roof was surprisingly hard and tough but there was practically none left at ground level and the building was apparently in imminent danger of collapse. I argued that, as it stood for a thousand years, it was unlikely to collapse during my visit, but I took care not to lean against it. The camp bed seen in the background was to direct the prevailing wind through a hole in the end as the ventilation was not very good and the weather was very hot.

The outer wall at the south east corner of the building which I was excavating, had been very much damaged and I could not locate it. I excavated the room, marked A, whose surrounding walls were standing higher than anywhere on the site. The deep walls on the north, west and south were plastered down to the X floor level and the bottom was plastered as if it had been a cistern. The north wall though complete on the surface, was broken through between levels X and Y3. The area B was filled with debris and as I could not locate the outer wall, I did not attempt to excavate it. There were two steps from the Y3 level and it is possible that this corner was filled in to act as watch tower. The wall between A and B, the portion above the hole in the north wall of A and the bits of walling between the piers, as shown dotted, were all of still later construction than the rectangular piers. There was plaster but no skirtings on the central southern column.

Mr. Crowfoot mentions that a special area was set apart for the sole purpose of collecting rain water. Behind the semi-circle of ash heaps everything seemed to have been arranged for this purpose, but the cisterns and collecting arrangements were by no means confined to this area. Cisterns were distributed amongst the buildings, and every courtyard was so provided. These cisterns were of many shapes and sizes, and some sample designs are given in Plate XV. The courtyard cisterns were generally bottle-shaped up to five metres in diameter, and entirely sunk in the natural rock. This was about two feet below the surface and the total length of neck before the rock was under cut, was usually about four feet. Some of the cisterns in the building area and the majority behind the rubbish heaps were rectangular in plan. Some of them were excavated completely in the natural rocks, while others had arched roofs built over them. Examples of these are given in photographs 9 and 10, while 3 shows a circular type nearly nine metres in diameter. They were all



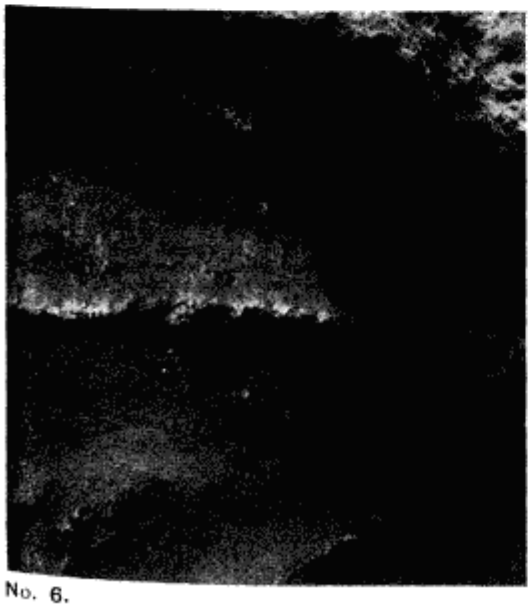
No. 4.

TOMBSTONE OF FELSITE.



No. 5.

NORTHERN ROW FOUNDATIONS.
The base of a column can be seen projecting from rectangular foundations in foreground.



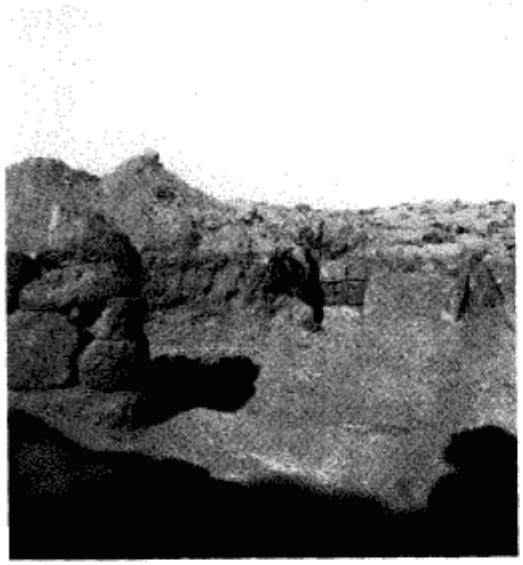
No. 6.

BASE OF A COLUMN SHOWING PLASTER SKIRT.



No. 7.

EASTERN WALL SHOWING THE LATER ROOF BUTTRESSES.



No. 8.

SOUTHERN ROW OF COLUMNS.

Spare sectors were collected and placed on the columns. A portion of the plastered floor is seen in the foreground.



No. 9.

A CISTERN ABOUT 12 METRES LONG, 2 METRES WIDE, EXCLUDING UNDERCUTTING.



No. 10.

ANOTHER RECTANGULAR CISTERN.



No. 11.

CISTERN WITH COLLAPSED ROOF AND SHOWING HOD ON LEFT.

Acacia twig in over-flow pipe.

originally plastered internally with lime, as coral stone is of course very porous. All of the cisterns were more or less silted up and the existence of many is only indicated by the luxuriance of the vegetation. I had no time to excavate and find out original depths, but the greatest existing depth of a bottle necked type was about five metres, and the cistern of photograph 9 had only about 40 centimetres of mud in it.

I actually descended about 40 of these cisterns, and in nearly all of them the mud was damp and there were large numbers of mosquitoes. These examined were culex and not stegamiei or anopheles. Unless special precautions were taken to protect them, there must have been large quantities when the cisterns were in use, and this may account for the evacuation of the port. Some of the cisterns had recently been used, and I was told that the Arabs go over to the island during the winter and draw their water from a well and from some of these cisterns. With a very small expenditure many of the cisterns and collecting systems could easily be restored to their original efficiency.

Mr. Crowfoot found a small plastered hole beside one of these cisterns which he assumed to be for the collection of money. With so many cisterns in a small area this seemed unlikely and I searched carefully for it. Photograph 11 shows this or a similar hole (indicated in the photograph by twig of acacia) and on being cleaned and examined from below, it proved to be an overflow pipe. Water was drawn up through a hole in the roof of the cistern and emptied into vessels placed in the *hod*, the remains of which can be clearly seen. Any water which was spilled ran back into the cistern through the pipe. This cistern was of the same construction as that shown in photograph 9, but the roof had fallen in. The end of the arch can be seen, and also one of the rain water entry ducts.

SAQIA TERMINOLOGY IN DONGOLA.

By H. A. Nicholson.

AS might be expected in a country like the Northern Sudan, where extensive cultivation of the (river) land has been the main occupation of the people for centuries, and especially where so much of this cultivation involves an elaborate system of artificial irrigation, there has grown up a large vocabulary of specialised terms. Some of these are common Arabic words used in other parts of the country, but others have apparently been invented or adapted for a particular local use. In addition, there are many words which have survived from the old Dongolawi language which, in fact, still is the primary language of the Dongola district.

The new-comer in a " Saqia " country is liable to be somewhat overwhelmed by the specialised vocabulary in use, and, as many of the words are of Dongolawi origin, they cannot be found in the Arabic dictionary. It is hoped therefore that the following list compiled in Merowe District of Northern Province may be of value to others who find themselves as confused as the writer.

THE SAQIA.

Plot of land cultivated by a water-wheel : also used for the wheel itself	SAQIA	ساقيه
Well saqia	MATARA	مترة
Water wheel on a khor or canal	JARTŌDA	جرتودة
Water wheel (complete) ...	DOLAB	دولاب
Subsidiary wheel below main DOLAB	KALATŌD	كلتود
Small wheel used to water high land at the back of the saqia (rare)	FAKRIYA	فكريه
Large cogged driving wheel ...	HALAQA	حلقه
Small cogged driving wheel ...	HALEIQA	حليقه
Frame wheel carrying water bucket chain	'UTFA	عطفه

NOTE—The Editors have not altered the Author's transliteration of Arabic words as the Arabic text is available for reference.

Double rope to which buckets are attached	ALS	ألس
Bucket or plot...	QADUS	قادوس
Cross strips in ALS to which individual buckets are tied	'AQLUQ	عقلوق
Horizontal driving spindle ...	TOREIQ	توريق
Perpendicular driving spindle	MISHSHIQ	مِشّق
Beams (two) running back from the river below the TOREIQ on which the whole DOLAB rests	HAMĪR	حمير
Wedge between TOREIQ and HAMĪR on the inside ...	KALEIK	كاليك
	KALOK	كالوك
Cross block between HAMIR on which the KALEIK rests	HOSAN	حصان
Beam supporting TOREIQ in front	INSIKAK	انسكاك
Block below MISHSHIQ ...	KADIS	كديس
Cross bar in which upper end or MISHSHIQ revolves ...	DIYU	ديو
Cog of HALAQA and HALEIQA	SANDAQEIQA	سندقيقه
Cross piece of HALAQA ...	TIMSAH	تمساح
Driver's seat and spar ...	TUKM	تكم
Platform on which bulls walk	SAWI	صوى
	RASIS	رسيس
Part of platform over the well, which is built on cross beams (MIRIQ)	JIBIT	جبت
Rest of platform built up (on solid ground)	DAQITTI	دقتّى
Trough into which the water falls	SABALUKA	سبلوكه
Small secondary trough on side of SABALUKA	ABU RASEIN	أبو رأسين

Narrow trough from ABU RASEIN	QALABA	قلابه
Trough from QALABA to head of JADWEL	DELU	دلو
	DIRWA	دروة
Water conduit	JADWEL	جدول
Pipe or syphon under road, etc.	BERBAKH	بربخ
	AWWAR	أور
Saqia well in river bank ...	KODEIK	كوديك
Hole in which the buckets dip	QAWATTI	قوتى
Channel from QAWITTI to river	JABIA	جابيه
Hole in which buckets of matara dip	QADEIQA	قديقه
Wooden frame on which brick lining of matara is built ...	KHINZIRA	خنزيرة
Yoke of the Bulls	ITNAQ	اتناق
	ISLAQ	أسلاق
	ISLANJ	اسلانج

MEN EMPLOYED ON THE SAQIA.

Chief Cultivator	SAMAD	صمد
	ARBAB EL SAQIA	أرباب الساقية
Cultivators	SHURAKA	شركاء
	ARABIB EL SAQIA	أرابيب الساقية
Labourers	TURBAL, TURABLA ...	تربال - ترابلة
Arbitrator in disputes ...	SAHIB EL 'ADA	صاحب العادة
Bull boy	ARWATTI	أروتى

THE LAND.

New silt	TIN	طين
	TUMI	طمى
	AZIN	عزين
Old silt	QUREIR	قرير
Fresh silt cracked by the sun...	KARKATTI	كركتى
Poorer soil inland from river (suitable for wheat) ...	BARJOQ	برجوق

Land behind the true saqia land, liable to flood in the Damira; *e.g.*, in basins	KARU	كرُو
High (*i.e.*, saqia) land... ...	'ELWI	علوى
Low (*i.e.*, seluka) land ...	MUWATI	مواطى
Seluka land (*i.e.*, land sown after being flooded) lying on a steep bank between 'ELWI and MAWATI, also sometimes used for MUWATI	JERF	جرف
Strip of Seluka land (jerf or muwati)	SHATI	شاطىٔ
Fallow land	BUR	بور
To fallow	BAWWAR	بوّار
Uncultivable land	FASAD	فساد
Sown land after first watering	BUGHA	بوغه
Sown land after second watering	TEILAN	تيلان
Plot for watering	HOD (plur HEIDAN) ... (جمع حيضان)	حوض
Ridge between HEIDAN ...	TAQANA	تقنه
Row of HEIDAN watered by one JADWEL	ANQAIA	انقايه
Boundary mark	NATUR	ناطور
Boundary parallel to the river	MIRIN	مرن
Boundary at right angles to the river	FASIL	فاصل
	HADD	حد
Land held in undivided shares, *i.e.*, cultivated communally	ROKA	روكة
	MUSHA'	مشاع
Land divided; each owner holding and cultivating his own share	MUQASSAM	مقسم

NOTE.—Land held BI ROKA may be divided up for the cultivation of each crop, or all the partners may cultivate together and divide the crop at the end of the season according to their several shares in the saqia.

When the land is "muqassam" each partner has his own known boundaries of his plot or plots within the saqia.

Measurements of the Land.

Every saqia, irrespective of area is divided into 24 parts.

1/24th of a saqia	Qeirat	قيراط
1/24th of a Qeirat	Sahm	سهم
1/12th of a saqia (two Qawarit)	'Azm	عظم
Cubit (.58 metres approx.) the length of the forearm from elbow to fingertips plus the breadth of the other hand, or in the case of a tall man, one or two fingers' breadth	Dhira'	ذراع
Measure of length used for all land in Berber Province, but chiefly for island land in Dongola Province. It varies from 2½ to 5 Dhira' in length, but usually is 3 or 4	'Ud	عود
	A'wad	اعواد

Implements.

Hoe for digging over the land...	Fas	فاس
	Fas Toriya	فاس طورية
Plough	Muhrat	محراث
Wooden instrument for levelling ploughed land, making jadwels, etc.	Wasuq	واسوق
Shovelling instrument for levelling high land—drawn by bulls	Qasabiya	قصبية
Small wooden hoe for covering seeds	Arbel	اربل
Dibbling stick	Seluka	سلوكة
Archimedean screw	Tambura	طمبورة

The Shaduf (or Water Scoop)

Machine with bucket and counterpoise for lifting water ...	Shaduf	شادوف
	Nabaru	نبرو

The long stick on a pivot with bucket tied to one end and weight at the other ...	YAD EL SHADUF	يد الشادوف
The bucket	DIRWA	دروة
The weight (usually clay) ...	TUQAL	ثقال

ACTIVITIES.

Scrape with TORIYA to plant dura	NAJJAH	نجاح
Heap up earth for jadwels, etc.	SANNAD	سنّاد
Dig over	AZAQ	عزق
	KARRAJ	كرج
Spell of work	TITTIQ	تتق
Morning shift (6–12)	FAJRAWI	فجراوى
Afternoon shift (12–6) ...	'ASHAWI	عشاوى
Extra shift (8 p.m. to 2 a.m.)	KASWARI	كسوارى
Threshing wheat with bulls or donkeys	NURIJ : DARRAS	نورج - دراس
	NUREIQ	نوريق
Thresh dura	DUQQ	دق
Thresh simsim...	HATT	حت
Winnow wheat or barley ...	DARRA	ضرى
Winnow dura	NAFAD	نفض
Water land	SAQA	سقى
	QARA' EL MA	قرع الماء
	RAWA	روى

VARIOUS.

Rent in kind, *e.g.*, A cultivates B's land and pays part of crop as rent	TEDDAN	تدان
	TIZRA'	تزرع
Voluntary work party for special work as cleaning land, harvest, etc.... ...	FEZA'	فزع
	NAFIR	نفير
Inundation by the Nile ...	FEIDAN	فيضان
Obstacle to watering (*e.g.*, sand bark). Difficulty in getting water for saqia ...	AMKANJ	امكانج
Erosion	HADDAM	هدّام

Crumbling bank liable to erasion	HARAF	هرف
Threshing floor for dura ...	TAQA	طقا
Threshing floor for wheat ...	BARAZA	برازة
Mud grain store	QASEIBA	قسيبة
Pit for storing grain	MATMURA	مطمورة
Bird scaring platform... ...	HAHAYA	حاحاية
Seeds	TEIRAB	تيراب
	TAQAWI	تقاوى
	BIZRA	بزرة
Head of dura	QANDUL	قندول
Ear of wheat	SUMBULA	سمبلة
Grain of dura, wheat, etc. ...	HABBA	حبة
Beard of wheat or barley ...	SEBIB	سبيب
Stubble of wheat or barley ...	ASAD	اسد
Stubble of dura, etc. (or stalks)	QASAB	قصب
Bundle of QASSAB	WARTABA	ورتاب
Fresh growth from old roots (of dura)	BUTTIQ	بتق
	KHILFA	خلفة
To sprout	FASAKH	فسخ
Rust in wheat, etc.	DANQEIL	دنقيل
Smut	SUEID	سويد
'Asal (a sticky condition caused by a parasite)	'ASAL	عسل
Summer (April to July) ...	SEIF	صيف
Flood season (Aug. to Oct.) ...	DAMIRA	دميرة
Winter (Nov. to March) ...	SHITA	شتاء

These seasons are not exactly divided and tend to overlap.

Season usually applied to DAMIRA or the DAMIRA crop ...	MASUR	مسور
	MASRA	مسرة
Harvest season...	MUSIM	موسم
Harvest...	HASAD	حصاد
Yield or produce	MAHSUL	محصول

PUMP SCHEMES.

Pump	TULUMBA	طلمبة
Engine	WABUR	وابور

Steam engine	BAJUR	باجور
	WABUR BUKHAR	وابور بخار ...
Pump well	BIARA	بيارة
Pump scheme	MASHRU'	مشروع
Take off conduit parallel to main canal	JANABIYA	جنابية

BASINS.

Canal (inlet canal)	TUR'A	ترعه
Drain	MASRAF	مصرف
Bridge with dam gates or head regulator	QANTARA	قنطرة
Basin	HŌD (plur. AHWAD)	حوض (جمع احواض)
Water level required for correct flooding	TAMAM RAI	تمام رى

DATES.

Clump of date trees	HUFRA NAKHĪL	حفرة نخيل ...
Single tree	TAMRA	تمرة
	NAKHALA	نخله
	'UD (plur. 'EIDAN)	عود (جمع عيدان)
Shoot taken off for planting ...	SHATL	شتل
Shoot on parent stem ...	NISL...	نسل
	ASSIQ	اسق
Dried dates	TAMR	تمر
Dates on tree and also dried...	BALAH	بلح
Moist fresh dates	RUTUB	رطب
Moist mass of dates	'AJWA	عجوة
Immature date (that falls off)	DIFEIQ	دفيق
Date-frond ; espec. rib ...	JARIDA	جريدة
Stump of JARIDA on main stem	KARROQ	كروق
Leaf	SA'AF	سعف
	ZA'AF	زعف
Main stem bearing the fruit ...	SABITA	سبيطة
Spray from SABITA from which the dates grow	SHAKHALOB	شخلوب

Date stone	HASA	حصا
	HASAYA	حصاية
Date fibre	ASHMEIQ	عشميق
	LĪF	ليف
Fertilize	QAFFAS	قفاس
	JARAH	جرح