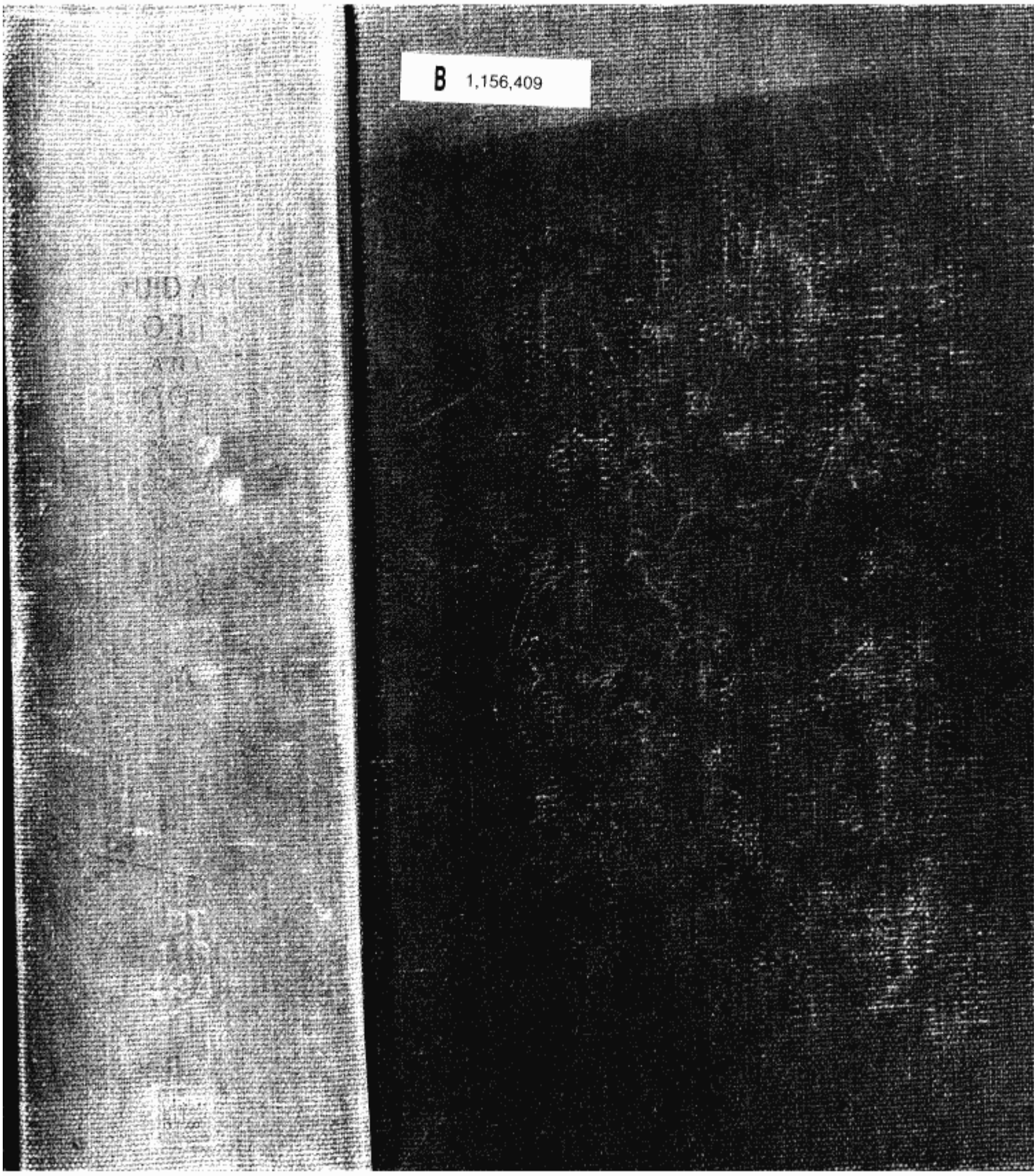

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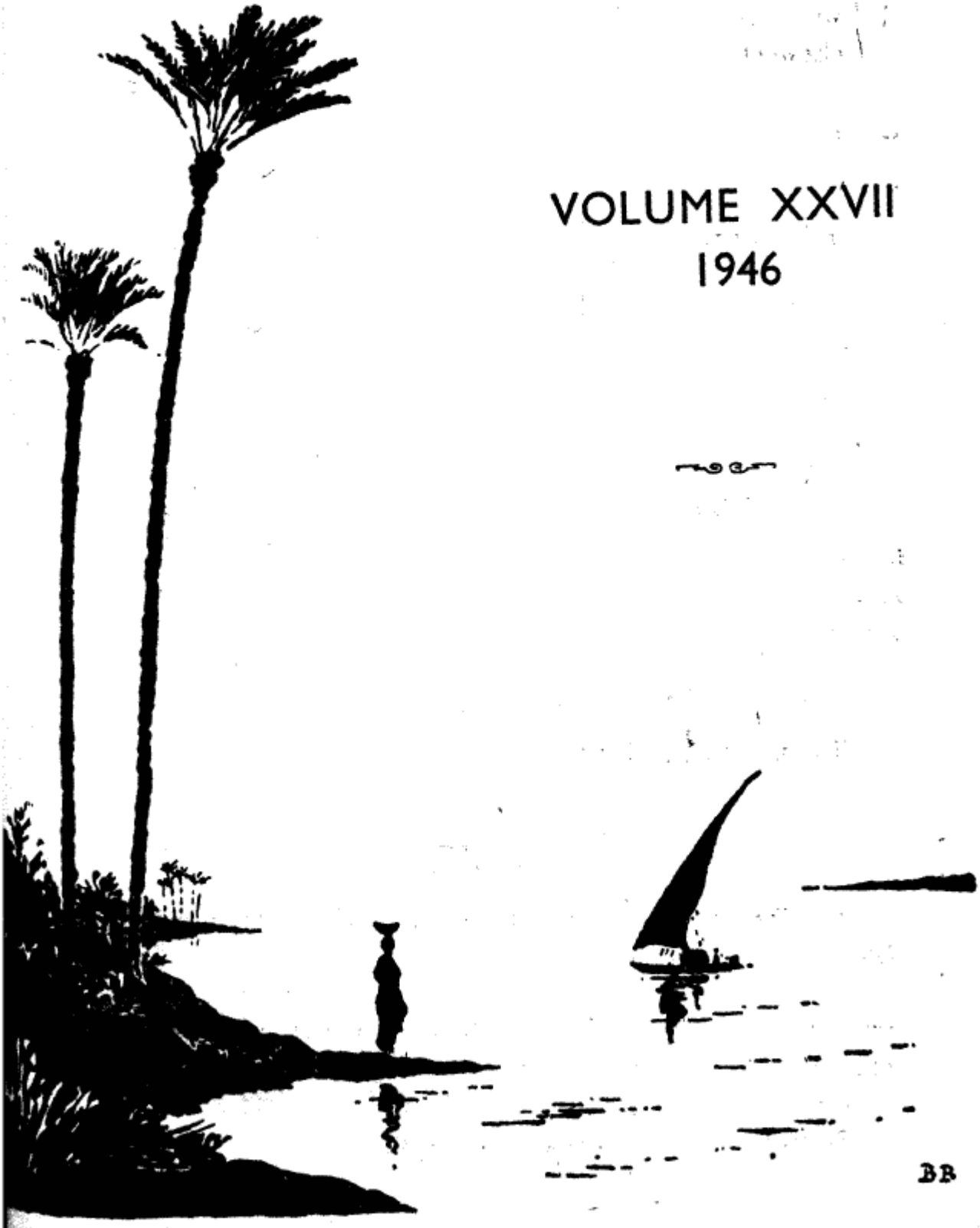
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SUDAN NOTES & RECORDS



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1946

Transliteration of the Arabic Alphabet

adopted by the Editors of *Sudan Notes and Records*

ا	at beginning of word omit, hamza (') elsewhere	ذ	dh (coll. d)	غ	gh
		ر	r	ف	f
		ز	z	ق	q (coll. g)
ب	b	س	s	ك	k
ت	t	ش	sh	ل	l
ث	th (coll. t or s)	ص	ṣ	م	m
ج	j or g	ض	ḍ	ن	n
ح	ḥ	ط	ṭ	ه	h
خ	kh	ظ	ẓ	و	w
د	d	ع	'	ي	y

VOWELS.

fatḥa	a,	lengthened	ā
kasra	i,	,,	ī
ḍamma	u,	,,	ū

DIPHTHONGS.

يَ—ai (as in aisle).

وَ—au (as in mauser).

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), ḥosh.

Ei may be used as an alternative to ē.

SUDAN NOTES & RECORDS

FOUNDED 1918

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SUDAN NOTES AND RECORDS

Vol. XXVII. 1946

EDITORIAL NOTES

We have lost at least one subscriber recently, because he considers that our "exclusively antiquarian and ornithological tone is out of touch with reality, and had hoped that the publication of memoranda on colonial policies etc. (1943) marked a new orientation of policy".

We would however remind our readers of the Foreword by General Sir F. R. Wingate published in our first volume on the foundation of this journal :—

> 'Knowledge is power, in Africa and elsewhere, and if this journal will be the means of recording and disseminating information that will conduce to a clearer outlook on the country and a better understanding of its natives, their past history, social conditions and future development, it will confer a lasting benefit not solely on those responsible for government but also on the community at large'.

We do not admit that we are out of touch with reality. Our scope is wide. We are prepared to publish almost anything that is an addition to knowledge about the Sudan. But it is not the business of an editor to write articles : his function is to select from articles offered to him for publication. *Sudan Notes and Records* can only be what its supporters make it. If any reader feels that *Sudan Notes and Records* is not what he would like it to be, it is up to him not faint-heartedly to withdraw his subscription but to endeavour to remedy matters by producing or encouraging the production of articles on the field of knowledge which he misses. We ask critics not to stand aloof but to cooperate.

* * *

Plans for a permanent museum that could be built on the site of the River Hospital, when it is vacated by the Medical Service, have been made by Mr. W. G. Newton, the architect designing the additions to the Gordon Memorial College, and have been accepted by the

Archaeological and Museums Board. The Board has requested the Sudan Government to provide in its Post-war Development Programme for capital expenditure of £E. 115,000, to enable the construction of the first stage. This sum is made up as follows :—the adaptation of the existing ward blocks of the hospital as natural history and ethnology museums, and the construction of an entrance hall between them, £E. 10,000 ; the construction behind these blocks of a permanent antiquities museum, £E. 60,000 ; the transport to the museum of certain large antiquities, £E. 10,000 ; and the provision of show cases and other equipment, £E. 35,000.

The plans include a second stage, in which the ward blocks are replaced by permanent museums of ethnology, natural history, agriculture and geology, for a further capital expenditure at present rates of £E. 100,000.

The construction of a permanent museum will also necessitate additional recurrent expenditure of £E. 8000 per annum. The Sudan at present spends £E. 4508 per annum on its antiquities service and museums out of a total budget of £E. 7,519,086 ; while Palestine, a country less than a tenth of the size of the Sudan, spends £P. 43,160 per annum on its antiquities service and antiquities museum alone out of a total budget of approximately £P. 19,600,000.

At the present time it seems very doubtful whether the Sudan Government will consider that it can afford to include the museum in its Development Programme. In the meanwhile the Curator of the Egyptian Department of the Museum of Fine Arts in Boston, the Curator of Egyptology in the Brooklyn Museum, New York, and the editor of the *Topographical Bibliography of Ancient Egyptian Texts, Reliefs* and *Paintings*, who have recently toured the ancient sites in the Northern Province, have publicly deplored the destruction which has overtaken many of the Sudan's ancient monuments since Lepsius visited the country and recorded them about a century ago. Many of the remaining monuments can only be preserved from the ravages of the weather and the ignorant by being placed in the near future inside a permanent museum. A temporary building will not

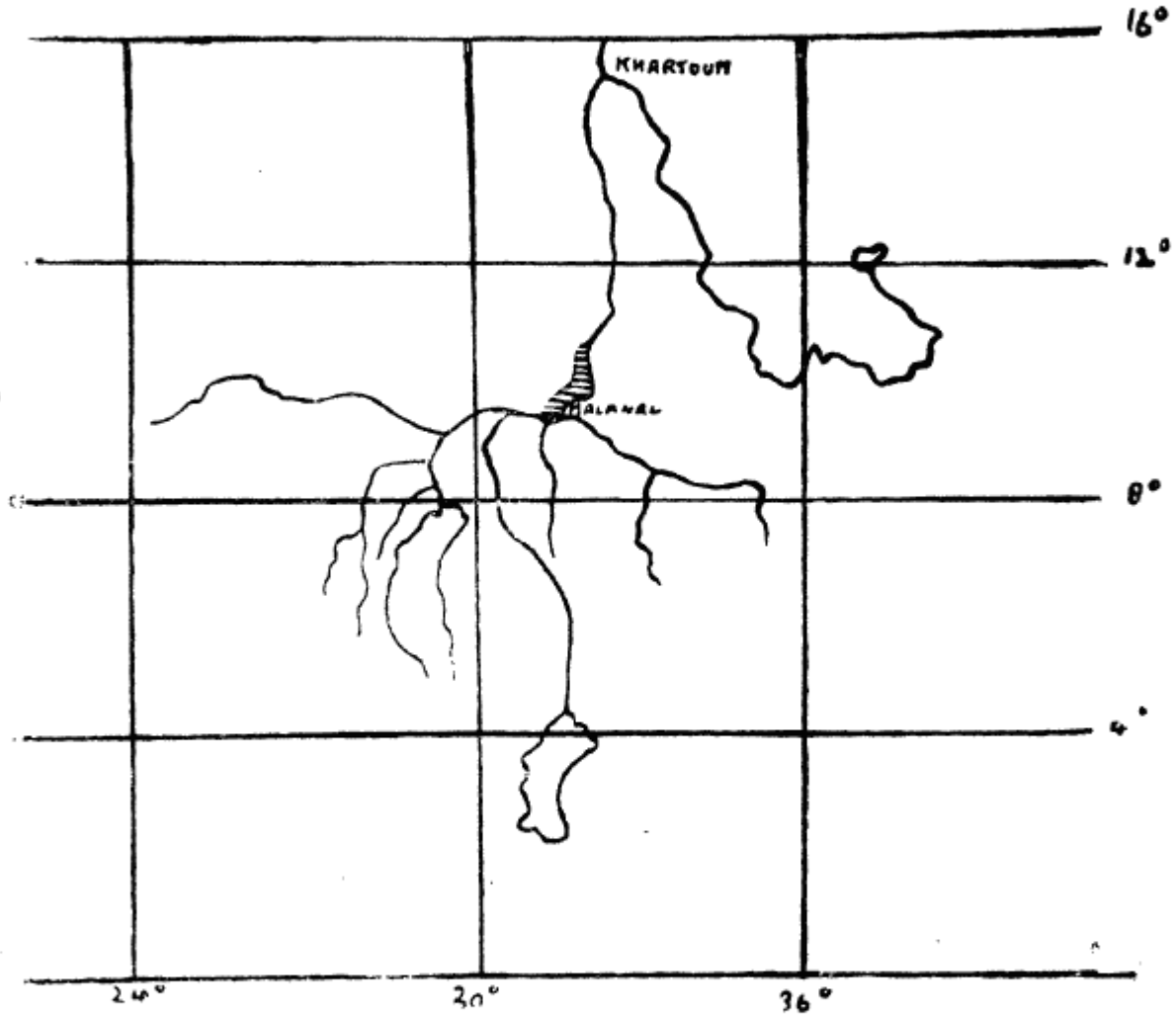
do, for the monuments are almost all of soft and decayed sandstone, and too fragile to be moved and re-erected more than once. Unless the country is to fail in its duty to posterity, the necessary funds must be found somehow.

* * *

The proposed museum is to be the Sudan's national museum, but so sited that it will be on the edge of the grounds of the Gordon Memorial University College, and provide that institution with opportunities for research, without which higher education cannot keep alive. The proposed museum, if erected, will be not only an instrument of conservation but of education. The various exhibition rooms of the antiquities museum are designed so that the visitor will be able to see, as he walks round the museum, the various stages by which the inhabitants of the Sudan rose by slow struggle from the Stone Age through the beginnings of civilization to be a world power which ruled the whole Nile valley, and then lost their conquests and broke up into a number of petty kingdoms and wild tribes, withdrawn from outside influences which today in the Aeroplane Age they cannot escape. The lessons of the history of their own country, which such an exhibition will teach them clearly through the eye, will give students the balance and broad vision which are needed in dealing with present-day problems, and which are at present so rare. A knowledge of history will sow the seeds of a national culture, the roots of which can draw nourishment only from the past; and will lead to a realization of the causes, both moral and economic, which once operated to raise the Sudan to a world power, and then reduced it to an unknown back-water, causes which are still operative today, and may lead to future disaster if ignored.

* * *

The Annual Report of the Antiquities Service and Museums, 1945 is now on sale at the Sudan Bookshop and the Khartoum Museum at P.T. 5 per copy.



THE SHADED POSITION SHOWS THE TERRITORY OF THE SHILLUK TRIBE.

THE DEATH OF A RETH OF THE SHILLUK AND THE INSTALLATION OF HIS SUCCESSOR

By P. P. Howell and W. P. G. Thomson

INTRODUCTORY

(P.P.H.)

The Shilluk are a Nilotic tribe who occupy a narrow strip of country mainly along the west bank of the Nile from about Lake No to about Lat. 12° N. They are of the same stock as the Nuer and Dinka tribes who border them to the south and east, but they are more closely related in language, culture and in their mythology to the Anuak,[1] who live along the Baro and Pibor rivers on the frontier of the Sudan and Abyssinia, to the Acholi, Lango, Alur, Jopadola, and the Shilluk-speaking Kavirondo or Jaluo who live as far south as the north-eastern banks of Lake Victoria. Other smaller and more scattered tribes live up the Bahr el Ghazal. These tribes have been classified as the Shilluk-speaking group, though there is now little contact between them. Their mythology suggests a common origin and certainly their language is closely allied. The name Shilluk is probably an Arabic version of the word Colo, which is what the Shilluk call themselves.

According to tradition the Shilluk migrated from the south via the Bahr el Ghazal into their present country under the leadership of Nyikang who is their tribal hero and the founder of the present dynasty of Shilluk kings. They conquered and mixed with the original inhabitants, who were probably not a Nilotic people at all, and extended their country by raids and infiltration a good deal north of their present boundaries. Tradition, confirmed by tribes other than the Shilluk and by the Arabs who live north of them, states

1. See Evans-Pritchard "The political system of the Anuak" (Monographs on social anthropology No. 4) 1940.

that Shilluk country once extended as far as Gordon's Tree which is just south of Khartoum. Whether there were Shilluk settlements permanently occupied in that area or whether this represents the furthest point to which they penetrated in raids and hunting parties is not certain.

The Shilluk are now a sedentary people and do not have any large scale migration in search of fresh pastures during the dry season. Their permanent villages, built on the high ground close to the Nile, are occupied all the year round, and only the youths go into the cattle camps, which are never more than a few miles from the villages. The cattle camps are mostly situated on islands and dried out watercourses which run parallel to the river.

Territorially the country is divided into two great provinces Gerr and Luak. (Note 1) These two provinces are again divided into further divisions, the functional meaning of which is difficult to discover, but which retain according to Shilluk tradition a vague feeling of mutual co-operation in times of stress. These divisions were made by order of Nyikang. In most cases these divisions have been utilized by the Government for administrative purposes. Finally the country is divided into a large number of settlements, which are made up of many villages. Shilluk clans are not territorial in basis for distinct lineages of one clan may live in many and widely separated settlements. The largest unit exclusively occupied by a kinship group is the village or *pac*.[2]

The Shilluk people are divided into four main classes or groups of clans.

(i) The Kwareth, the royal clan who trace descent from Nyikang and from whom the *reth*[3] is chosen.

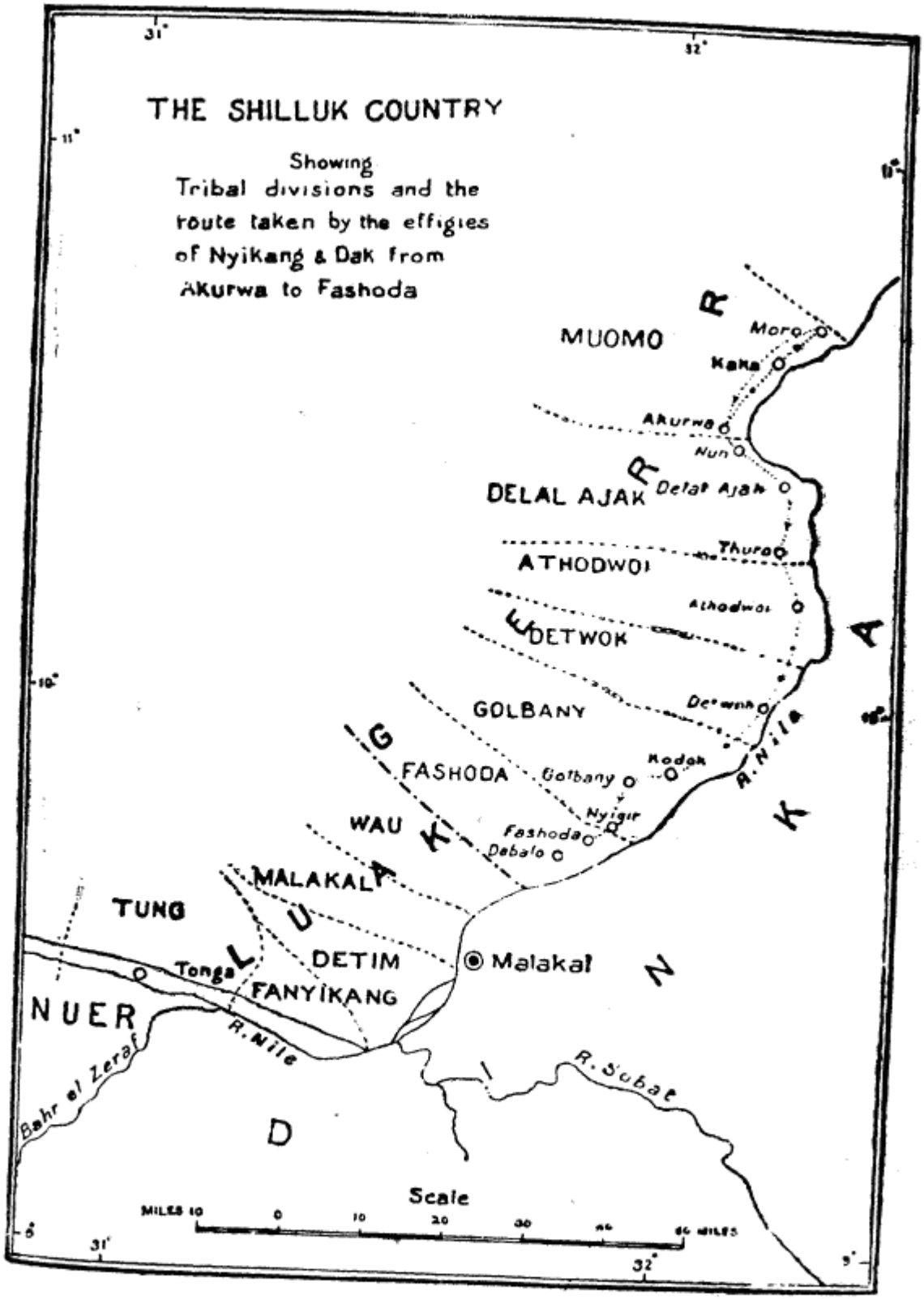
(ii) The Ororo, a disinherited branch of the royal house, who do not differ from commoners except in the special functions

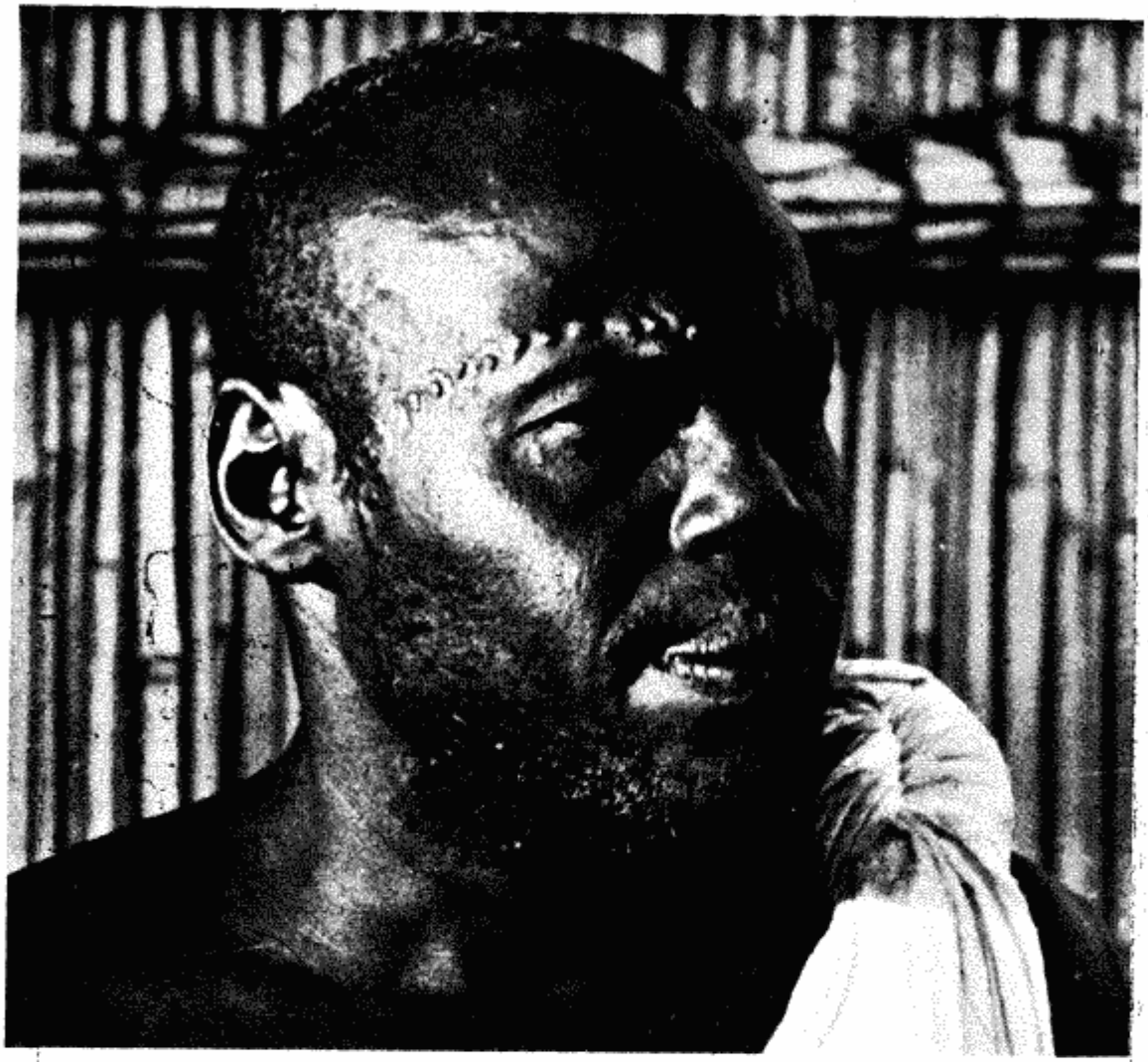
2. See P. P. Howell, " The Shilluk Settlement " : *S.N.R.* XXIV. 1941.

3. The word *reth* has often been translated as " king." We prefer to use the Shilluk term throughout.

For Notes see pp. 75 ff.

FIG. 2.


THE SHILLUK COUNTRY
Showing
Tribal divisions and the
route taken by the effigies
of Nyikang & Dak from
Akurwa to Fashoda
31°
32°
11°
10°
MUOMO
Moro
Kaka
Akurwa
Nun
DELAL AJAK
Delal Ajak
ATHODWOI
Thura
Athodwoi
DETWOK
Detwok
GOLBANY
Golbany
Kodok
FASHODA
Fashoda
Nyigir R.
Dabalo
WAU
MALAKAL
TUNG
DETIM
Malakal
Tonga
FANYIKANG
NUER
R. Nile
Bahr el Zeraf
R. Subat
SHILLUK
Scale
MILES 10 0 10 20 30 40 50 MILES



ANEI KUR, RETH OF THE SHILLUK.

they perform in connection with the *reth*. They are a distinct clan.

(iii) The Colo—the name refers collectively to the main body of Shilluk clans (*kwa*), of which there are a large number — trace descent patrilineally from (a) the original followers of Nyikang, (b) those individuals of other tribes who have migrated and settled in Shilluk country from early times onwards, and (c) those who are lost in antiquity, but who may have been the people who occupied Shilluk country before the arrival of Nyikang: their traditions certainly confirm this.

(iv) The Bang Reth, the personal attendants of the *reth*, his wives or wives of the past *reths*, which are in many case inherited by the successor, and the descendants of the royal slaves obtained by capture, from those who volunteer to serve the *reth* by reason of their possession by the spirit of Nyikang, or paupers who volunteer to serve him in order to exist at all, and those persons who were enslaved because their brothers committed homicide.

There is no real caste distinction between the Kwareth and Colo. Moreover the Kwareth are themselves a patrilineal clan and therefore exogamous, and there is no mutual ban on marriage between them and the main body of the people, except in the case of the *reth's* daughters, who are not allowed to marry at all. The Kwareth, however by reason of their connection with Nyikang and previous *reths* are treated with special respect.

The Shilluk have less cattle than their Nuer and Dinka neighbours and being predominantly sedentary rely more upon agricultural products. Apart from cultivation—almost entirely millet—and the milk and meat from their cattle, the Shilluk supplement their diet with fish and they have the reputation among other tribes of being exceptionally skilled fishermen. Except for the more permanent territorial basis of their settlements, the basic social structure is very

similar to that of the Nuer and Dinka. They have, however, an established and theoretically omnipotent monarchy, of which there is no counterpart among their more democratic Nilotic neighbours, and which shows more definite and developed principles than those found in the institution of kings among the Anuak and chiefs among the Acholi. Whether this established and institutionalized monarchy is the result of diffusion from elsewhere or a natural and spontaneous development from the politico-religious functionaries who exist in embryo form among other Shilluk-speaking peoples is a controversial subject, which we do not propose to discuss here.[4].

Shilluk religion and the tradition of Nyikang.

The all-powerful being who exists in the minds of the Shilluk as a remote and amoral diety is called Juok. Juok is the Shilluk conception of God and is present to a greater or lesser degree in all things. Juok is the explanation of the unknown, the reassuring justification of all the supernatural phenomena, good or bad, of which life is made up. The principal medium through whom Juok is approached is Nyikang. The distinction between them is not clear. Nyikang is Juok, but Juok is not Nyikang, for Nyikang is also a mythological figure who takes his place as the hero-leader of Shilluk tradition. He is also the first *reth* of the Shilluk and the founder of the royal house. Further the soul of Nyikang is reincarnate in every Shilluk *reth*, and thus exists both in the past and the present. Nyikang is the *reth*, but the *reth* is not Nyikang. This paradox of the unity yet separation of the three is not easy to define. The Shilluk themselves would find it difficult to explain. Juok, Nyikang, and the *reth* represent the line through whom divinity runs, a conception which may be expressed as an analogy to the ancestor cult, only the cult is symbolic of the tribe as a whole rather than of the Kwareth alone or other individual kinship groups. The *reth* is clearly himself the medium through whom both Nyikang and, more vaguely, Juok are approached, and is the human intercessor of mankind with God. Voluntarily by

4. See C. G. Seligman, *Egypt and Negro Africa*. George Routledge and Sons, Ltd. (1934), p. 60.

ritual acts, involuntarily by reason of his very existence, the *reth* affects the fortunes and fertility of the tribe and controls the natural phenomena which react upon crops and cattle. The *reth* is therefore the central figure of tribal religion as much as he is the actual symbol of political unity. He is responsible for their welfare and fortunes both spiritually as the present manifestation of Nyikang and temporally as the leading tribal authority. No Shilluk would seriously dispute the *reth's* divine attributes (unless a follower of some alien religion) though some might resist his more mundane powers.

The genealogy of the royal house of the Shilluk goes back for fourteen generations, but Fafiti Yor, who ruled the Shilluk since 1917, was the 29th *reth* because in many cases the succession has passed to brothers of the same generation or even back a generation to an uncle. This is clear from the genealogy recorded by Hoffmeyer and adopted by Seligman and Pumphrey. (*Vide* Appendix IV).

The main factors governing the succession of Shilluk *reths* are these :

1. That only the son of a *reth* who has ruled the Shilluk is eligible. More distant relatives have no claim. The son of a *reth* is entitled *nyireth* in Shilluk.

2. That it is recognized that a *nyireth* may at any time attempt to usurp the throne after killing the *reth*.

3. For this reason the *reth's* sons or sons of previous *reths* are always potentially in opposition to the ruling *reth*, and they are not allowed within the confines of Fashoda at night. Theoretically at any rate, the *reth* must take every precaution to avoid this danger. For example it is never known in which of the many huts he sleeps at night ; he is said to move from one to another, and prowls round Fashoda at night if he suspects a marauder. The new *reth* Anei showed us some spears with a special black finish, which he had imported from Dinka country, and

which he said were for his personal use at night, since they would not glint and reveal his movements.

4. All sons of *reths* are brought up in a village away from Fashoda (either their mother's or that of some Shilluk chief who has agreed to adopt them), and there lead a somewhat secluded life.

The king or *reth* of the Shilluk is a classic example of Frazer's conception of a divine king. The argument resolves itself into the following essentials :-

1. The king has power over nature, which may be exerted voluntarily or involuntarily.
2. He is considered the dynamical centre of the universe.
3. Hence the well-being of the universe depends upon his actions and the course of his life ; both must therefore be carefully regulated.

The fourth essential, which Frazer stresses later in the third edition of the *Golden Bough*, is that of ' king killing.' By this he means that the physical condition of the king reacts upon the fortunes of his people and must not be impaired. Therefore, if the king shows signs of senility or physical imperfection, he must be removed, and a successor substituted.[5] The only way to remove him is to kill him. Among the Shilluk there is abundant and current evidence of the first three essentials both in the regulations which control the *reth's* life and the rites and ceremonies performed at his installation. There is evidence also of ' king killing.' There are in fact two forms of ' king killing ' among the Shilluk :-

(i) According to tradition the *reth* may be strangled or suffocated by his wives if he fails to satisfy them, or shows signs of illness or senility, which may effect the welfare of the tribe. This is supported by tradition only.

---

5. See C. G. Seligman. *Egypt and Negro Africa*. p. 4.

(ii) The *reth* may, at any time, be killed by a rival claimant to the throne. This is clear from tradition and is supported by the current evidence of the extraordinary precautions taken to avert possible attack during his lifetime, especially during the installation, and from the more recent events of Shilluk history.

These two forms of 'king killing' are not quite the same thing. The first is motivated by a desire to avoid the national consequences of the *reth's* waning physical powers upon the people as a whole. The second is motivated by the desire of a rival claimant to seize the *reth* ship. There is, however, a connection between the two, since the rival—always the son of a *reth*—will have more chance of success if the *reth* is unpopular because of tribal disasters which are attributed to his physical deterioration.

In September 1943, *reth* Fafiti Yor of the Shilluk, who had held office for twenty six years, died. That same year Anei son of *reth* Kur was elected his successor, and was finally installed at the capital of Shilluk *reths*, Fashoda, in March 1944. The late Professor Seligman speaking on the subject of divine kingship[6] said, "If it be permissible to speculate on the deeper significance of the beliefs and ceremonies I have described, more weight should, I suspect, be given to the complicated installation ritual of the Divine King than has hitherto been the case. In the past there has been an over-emphasis on his ceremonial death. It is for future research to unravel the many emotional trends woven into the installation and rejuvenation ceremonies. For it is in these especially that the emotional projection upon the Divine King of his people's deepest desires for life, fertility, and prosperity find their clearest expression."

Our purpose here has been to record as accurately as possible all the ceremonial, all the diverse ritual and the public events which took place to ensure that Fafiti was safely laid to rest and his soul conducted peacefully to a new status in the ancestral hierarchy of the royal house, and to establish his successor firmly upon the throne.

---

6. *loc. cit.*, p. 61.

Our task has not been easy. It was almost impossible—particularly during the more public events which were attended by thousands of Shilluk—to observe all the individual ritual acting which occurred, often simultaneously. The scene was set from Kwomo to Tonga—a distance of about 160 miles—and the whole tribe entered into the spirit of the occasion. Moreover, it was not seemly to interrogate the performers while the ceremonies were going on. Thus, while in many cases we observed behaviour, ritual and emotional attitudes displayed by individuals or crowds, we were not able to interrupt to demand an explanation from the participants. Most of the onlookers knew little more than we did, though the events had to them an accepted meaning in the context of tradition stamped on their minds from birth, but only vaguely so, for Shilluk tradition rests in the minds of the elders. In a series of ceremonies, which are carried out by many clans each with its peculiar duties to perform, each man knows with any degree of accuracy only the part that he must play. Subsequent interrogation was often sterile. Sometimes the Shilluk do not know, sometimes tradition exists only as such and the meaning is lost in antiquity. Interest after the event—at the time roused to a high pitch of emotional excitement—soon dies down. Answers were therefore often evasive, contradictory and even misleading.

Subsequent events, prolonged leave in England, accumulated administrative duties, etc., have made it difficult, if not impossible, to pursue our investigations. The installation of Anei Kur is three years past, and the results of our observations must be published now at the risk of criticism. We have omitted in many cases to explain fully the meaning of the varied forms of ritual, and failed to include a full description of the origin and significance of the many sacred and material objects used. At this stage of our investigations it would be misleading to speculate too deeply into those things about which our knowledge is far from complete.

It is not easy to draw conclusions, but certain facts are abundantly clear :-

1. Since the well-being of the Shilluk tribe depends so necessarily on the very existence of the *reth* and every action he takes, the death of a *reth* and the installation of a successor must be most carefully regulated by ritual and religious observances.

2. The occasion demands strict observance of all the rites and ceremonies necessary to carry the tribe no less than their figure-head from one status to another. A false step will cause disaster to the tribe.

3. The period of the interregnum is one of intense danger for the Shilluk tribe. Spiritually it is dangerous, because there is no human symbol of tribal cohesion. The *reth* is "out of status"; the whole tribe is in a like position. The soul of Nyikang is without a home. The newly appointed *reth* will later incarnate the spirit of Nyikang, but he does not yet possess fully the divine attributes which have the effect among his people of stabilizing his position. To the Shilluk the political situation also is full of potential danger because civil war may break out at any moment over the choice of a successor. Even after the new *reth* has been appointed by the traditional college of chiefs, his life is endangered and every effort must be made to safeguard him.

4. Therefore each stage in the burial and installation ceremonies successfully concluded is yet another crisis passed. Emotional tension is manifest throughout—a rise and fall of political and religious feeling until the final climax is reached when the new *reth* is confirmed in his position by the homage of the temporal heads of the country. Although the Sudan Government did not intervene either in the choice of the new *reth* or in the form or timing of the events, the Shilluk knew well enough that no blood-shed would be tolerated. How much greater then must

this emotional tension and political excitement have been in the past.

5. Although many of the Shilluk treated the ceremonies light-heartedly and on occasions with much laughter, deep in their hearts was a profound respect for their own religious beliefs and a feeling of awe at the presence of Nyikang.

6. Despite the stormy path of recent Shilluk history in which *reths* were assassinated, hanged and exiled by an alien government, and despite the disintegrating influences of civilization, the continuity of tradition and the pious attempt to follow it was remarkable.[7]

7. The songs and ceremonies were characterized by a marked anti-Dervish attitude which dates back to the persecution of the Shilluk and their rulers by the followers of the Mahdi. The facts show that these attacks increased rather than weakened the unity of the tribe and indeed, strengthened the institution of the *reth* as the symbol of tribal cohesion in the face of opposition.

It is sometimes difficult to translate Shilluk terms accurately and concisely into English. Original Shilluk terminology is therefore used extensively in the text. The following Shilluk terms are consistently employed :—

Reth: The "king" of the Shilluk.

Nyireth: A son (or daughter) of a *reth*.

Kwa: Literally "descendants of", refers to a clan and precedes the name of the clan. Thus *Kwa Okelo* "the descendants of Okelo", *Kwa Reth* "the descendants of the *Reth*."

Nyikang and Dak: Tribal heroes of the Shilluk. The first king of the Shilluk and his son.

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7. Cf. P. Munro. "Installation of the Reth of the Chol." *S.N.R.* Vol. 1. pp. 145 ff. (and reproduced in full in C. G. Seligman. *Pagan Tribes of the Nilotic Sudan*. Appendix I.)

In Part III the effigies of these kings are referred to simply as Nyikang and Dak, for they are thus referred to by the Shilluk.

Mudir—the Turkish governor of a province, still used in Arabic for a provincial governor.

Khor—Arabic for watercourse; commonly used in the Sudan.

N.B. In the spelling of Shilluk words the sound Ch is represented by "c" in accordance with the agreement made at the Rejaf Language Conference.

Recent Shilluk History.

(W.P.G.T.)

From the time when the Turkish Government first occupied Kodok, and called it Fashoda[8] in 1867, the history of the *rethship* has been disturbed; successions have either produced large factions and revolts among the Shilluk, or else successive governments have had to step in to avert major civil war within the tribe.

During the time of the Turkish regime, the Mahdia, and the early years of the present government, the position of the reigning *reth* was always insecure; he was at any time liable to be ambushed and killed by an ambitious *nyireth*, who fancied his chances of gaining the support of the tribe, and becoming *reth*, in accordance with Shilluk tradition; but he was also liable to be the victim of informations laid against him to the authorities, and to be deposed, or killed by government.

Reth Kwathker, who was reigning at the time of the Turkish occupation, was deposed by the *mudir* of Fashoda on a suspicion of disloyalty, (Note 2) and replaced by a nominee Ajang Nyidhok, who was never accepted by the southern Shilluk. This produced civil war

8. Fashoda the capital of the *reth* is actually 12 miles upstream of Kodok.

between the north and the government on the one side and the south on the other. Kwathker was captured and died in chains in Fashoda gaol. Ajang Nyidhok, who had never been tribally installed, was soon deposed also on ground of disloyalty, and the *reth*ship was abolished by the *mudir*.

The experiment of administering the Shilluk without a *reth* did not work, and the troubles of the government were if anything increased. After a massacre of government troops at Kaka in 1875, the experiment was given up, and Kweikwon, a son of *reth* Kwathker was appointed *reth*. Some five years later in 1881, Kweikwon went on an expedition with the *mudir* of Fashoda to attack the Mahdi at Jebel Gadir in the eastern Nuba Mountains. The force was annihilated, and Kweikwon and the *mudir* were both killed.

An interregnum then occurred, until Yor Akoc, having gone to El Obeid and received the blessing of the Mahdi, installed himself in Fashoda. Relations with the Mahdi, however, and his sucessor, the Khalifa Abdullahi, did not long remain cordial. The Shilluk people were expected to provide corn and slaves in abundance, and when *reth* Yor failed to do so willingly, the wrath of the Khalifa descended upon him. The Emir Zeki Tummal set up a fort near Kodok, and ravaged the Shilluk country from top to bottom, eventually capturing *reth* Yor near Tonga and beheading him in the Dervish camp.

Kur Nyidhok, a first cousin of Kwathker, threw in his lot with the Emir, and went to Omdurman to pay homage to the Khalifa, who confirmed him as *reth*, and called him Abd el Fadil. While Kur was away in Omdurman, Akol, a son of Kwathker, raised a faction, and after a struggle, was prevented by the northern Shilluk from installing himself in Fashoda. *Reth* Kur lasted till 1903, when he was deposed by the present government on the grounds that his rule was unjust and oppressive; he may have been a victim of slanderous reports sent in to Kodok by eligible *nyireth*.

He was replaced by Fadiet, a son of Kwathker, a government nominee.

Fadiet died in 1917, and once more the Shilluk were divided between Fafiti Yor and Coti the son of the Turkish puppet Ajang, with the south supporting the latter; the government, had to intervene and instal and protect Fafiti by force.

From this short account it can readily be seen that the customary procedure of the *reth's* election had not taken place undisturbed for nearly one hundred years and perhaps much longer.

The effect of this stormy history in 1943 made it very difficult for the elders to remember what the procedure was in all the details. There was a constant urge to get back to the old tradition, but often quite important items were omitted or forgotten, and had to be done at the last minute in a hurry. Not even Shilluk custom stands still; it varies with the capacities of people's memories and also it is affected by outside influences. It is not a hard and fast pattern into which everything must fit. The Shilluk would like it to be, but are not always equal to the task. Certain aspects of the traditional ceremonies cannot now take place; it is no longer practicable to keep up the traditions of Dak, the son of Nyikang and great Shilluk conqueror. For example in days gone by, two subsections of the Shilluk, Akwabai near Fashoda and Abuor near Kaka, used to raid north to get the various things required in the ceremonies for the installation of the *reth*. There is now a tendency to buy these things in Kosti market.

The events which we describe fall in to four main periods:—

1. The death and burial of *reth* Fafiti Yor and the funeral dances held for him.
2. The election of Anei Kur.
3. The formal installation of *reth* Anei in Fashoda.[9]
4. Subsequent events which have occurred after his installation, which were motivated by a desire to confirm the *reth*, and which throw light on the nature and function of the Shilluk monarchy.

9. During the ceremonies of installation we were ably assisted by other observers, notably Mr. John Longe and the Rev. D. McClure.

PART I.—DEATH AND BURIAL OF RETH FAFITI YOR.

Reth Fafiti Yor had been unwell for a month or two before September 1943, but custom did not permit him to acknowledge the fact, or tell people about it. The news of his illness became public early in September. He was being attended by a Shilluk medical assistant, but it was evident that his illness was becoming more serious, and was not as simple as had been hoped. In the middle of the month the *reth* was visited by a British doctor, who diagnosed an internal obstruction, which might or might not be cancer. The *reth* did not wish to come to Malakal hospital, and the doctor saw no good reason to persuade him. He decided that he should stay under observation for a month. Some days later news began to come in that his condition was much worse; and in the afternoon of the 21st a message arrived in Malakal that the *reth* was unlikely to last the night. In fact, by the time the message arrived the *reth* was dead.

Piny bugon—"There is no land—the Shilluk country has ceased to be."

The day after the *reth* died he was laid in state in the house in Fashoda where he had passed away. The body lay on a mattress on its right side shrouded in white cloth. Some eight or nine women were fanning the corpse with fans made from the wings of wild geese. The women were the daughters of the *reth* and the daughters of *reth* Fadiet. None of the *reth's* wives were there. Two small gourds of water were placed by the knees of the body. The part of the house in which the body lay was screened off by grass mats made by the *reth's* wives some three feet high, and above the mat was a curtain of white cloth, which was drawn aside for people as they paid their last respects. There were no signs of mourning or wailing in Fashoda.

The next night the body of the *reth* was carried secretly to Golbainy, five miles north of Fashoda, where it was at once buried in the *reth's* private village in the house of his senior wife. It is traditional for the *reth's* body to be sealed into a Shilluk house near Fashoda and not buried for a year after his death. *Reth* Fafiti on his deathbed expressed

a wish to be buried at once, as his father *reth* Yor had been buried at once after being executed by the Dervishes.

The grave of a *reth*, and of all *kwareth*, is a shaft dug in the ground with a cavity cut in the bottom of one side to form a vault. After the body is placed in the vault, it is shut off with stakes and the shaft filled up with earth.

Some few days before he died the *reth* was baptised a Christian. It is possible that his conversion affected the cermonial connected with his death ; the absence of his many wives from the ceremonies, and his request to be buried at once and not in accordance with traditional custom suggest this.

The *reth* is looked upon by the Shilluk as responsible for their prosperity, and his strength in their eyes causes the Shilluk, their crops and their herds, and the fish and hippopotamus in their river to increase. In times of famine or cattle plague, at once the Shilluk begin to feel that the *reth* is losing his powers. For two years prior to 1943 the Shilluk crops had been very poor. In 1942-43 the crops were worse than ever, and wholesale deaths from famine were only averted by large scale grain imports by the government. After the previous famine, which lasted for three years ending in 1935, the *reth* had become seriously ill. This time he was an old man, and knowing his responsibilities to the Shilluk, and feeling his physical powers failing owing to his illness, he doubtless lost the will to live, and wanted to die. Whether he was ceremonially strangled, as is traditional for *reths* and all the *kwareth*, we do not know, and cannot find out. We incline to the view that, as his death became certain, and he and his family held no further hope of recovery, he was smothered. It would have been unseemly to have held a post-mortem, and other information is not available. It might be put in this way ; it is possible that he was " assisted " to die.

After his initial election the new *reth* was soon busy thinking about the wake for Fafiti Yor. Shilluk opinion seemed to think it would not be held for a year after his death, and that the tribal installation

of the new *reth* would follow still later. It was thought that the time of the early maturing grain was the time to hold it. But the *reth*-elect and responsible advisers seemed to think it should be got over quickly; maybe the general quickening tempo of life had something to do with it. It may, and we think this more likely, be due to a desire to get all the ceremonial over without undue delay. For the *reth* had been elected without a fight, and the Shilluk were so pleased that he had been chosen without violence, or the taint of being a government nominee, that they wanted the period of uncertainty cut down as far as possible.

The attendance at the funeral dance was said to be a reflexion on the prestige and the popularity of the late *reth*. This would be an interesting gauge, for the last time, of the esteem in which Fafiti had been held by his people to the end. His prestige had gone through various vicissitudes. He had from the beginning suffered from being a government nominee, and the opposition of the southern Shilluk to his appointment, muted by government action, prevented his obtaining a willing and personal ascendancy over them for many years. As soon as his authority was complete, there followed a period of famine in the early 30's and the attempt by Nyawelo the son of *reth* Kur to assassinate him. This attempt would probably have been successful but for government intervention.

Again in 1936, Fafiti became ill, and the future for the Shilluk was once more clouded. He recovered however, and during his last years his influence throughout the Shilluk country was great, and he was held in high esteem by all his subjects.

Near the time of the funeral wake, the Shilluk chiefs and with their men began to collect bulls for driving to Golbainy to be slaughtered for the dance. There was no compulsion on anyone to do this, but public opinion required that those who could, should help according to their means. On the whole the pressure of public opinion was more insistent upon those who lived near than upon those who lived farther away.

(P. P. H.)

The funeral dance of the late *reth* was held in his private village on 7th, 8th, 9th of November, 46 days after his death. The dance is known as *wowo* in Shilluk, and is different from that held for other members of the tribe, which is called *ywok*.

All arrangements are in the hands of the *kwareth*, and Colo chiefs have no say in the matter at all. At the outset there was considerable argument among the *kwareth* over the form of the dance and the length of time it should last. The new *reth* and the family of Fafiti took one side and some of the *kwareth* chiefs the other. This argument affords an interesting example of how the form of Shilluk tradition becomes blurred from lack of use and the attention which is paid to past precedents. It is worth noting in this context that the dance held in 1913 for *reth* Fadiet lasted for two days only in his private village (*i.e.* the village where he had lived before he succeeded to the throne), and that he had held no dance at all for his predecessor *reth* Kur, no doubt owing to the circumstances attending the end of Kur's reign. This neglect on the part of Fadiet so angered his successor Fafiti, that he hurled the royal drums into the Nile, refusing to beat them for Fadiet, who had not fulfilled his traditional obligations to Kur, and held the dance with Fadiet's own drums. Therefore the dance of Fafiti had to be held with his own drums, for the traditional royal drums no longer exist (Note 5). The *reth* and Fafiti's family maintained that the proper period for a royal funeral dance was four days in the private village of the late *reth*. Other *kwareth* said that it should be two days only in the village of the late *reth* followed by an optional dance in Fashoda lasting four days at the discretion of the *reth*-elect. It should be noted, however, that this claim goes back to events several generations ago, for no dance was held at Fashoda either for Kur or Fadiet and probably not for their predecessors, who died unnatural deaths during the Turkish administration and the Mahdia. The new *reth* declared his intention of holding a dance of four days at Fashoda after the ceremonies at Pareth Fafiti, but at the last minute the counsel of the *kwareth* must have prevailed, for the

dance at Pareth Fafiti lasted three days only, and no dance was held at Fashoda at all.

The duties of organizing the dance and of beating the drums fall to a clan called Kwanyikir, the majority of whom live in the vicinity of Kodok. They are responsible for discipline among the dancers, and in particular for keeping unauthorized persons out of the sacred spots. About two hundred and fifty bulls were slaughtered for the occasion, fifty of which were provided by the family of Fafiti and the rest by well-wishers, who included a number of Arab merchants. The distribution of meat was arranged by Kwanyireth Kir, chief of Fadiang, who is chief of all the *kwareth*. As he is senile, blind and deaf, he was assisted by Kwanyireth Bol, chief of Lul and government court chief of the Fashoda division for the portion of Gol Nyikang.

The new *reth* has no special functions to perform, and it was noticeable how careful he was to keep himself in the background. He never appeared in public while the dances were in progress, and though he attended on all three days he always went straight to his hut on arrival, and remained there during the day, and until he was ready to return to Fashoda. It was obvious that the proceedings concerned the late *reth* alone, and it was his son Byawelo Fafiti who acted as host.

We had hoped that the form in which the contingents of dancers came in would throw some light on the traditional grouping of Shilluk sections and former political organization. We had been told by the *reth* that all sections in the three divisions of Fashoda, Golbainy, and Detwok would be represented, and no one else. In fact a contingent also came from the Athodwoi division from north of Detwok. As far as could be seen the size of the contingents corresponded with the poll tax lists, and from those contingents who did come, very few warriors could have been missing. In the confusion of the dance it was not easy to see how the sections grouped themselves, but we got the impression that the Golbainy division split up into what, in government terminology are called "sections," but which tribally are more like the other divisions which participated. For example the sections

of the Detwok division came together, and so did all sections of Fashoda division, but the component sections of the Golbainy division split and formed separate contingents. It is probable that there is no deep tradition behind this, but that grouping is largely governed by what is considered a suitable size for a contingent. Lemmo is a small section and could not produce a contingent of its own, so it joined up with Kodok its larger neighbour. It is not clear whether the sections of Shilluk society have any definite traditional function to perform at the funeral wake of a *reth.* The *reth* had orginally planned that the four days of dancing should be apportioned as follows :—

1. Fashoda 2. Golbainy 3. Detwok 4. Fashoda (again).

This arrangement was carried out on the first day, and the dancing confined to Fashoda division, but Nyigir turned up and were regarded as intruders. Next morning, however, everyone else appeared, and the decision was taken to cut the dance to two days only.

The late *reth's* mother (Note 3) was a Nuba woman from near Fungor, which is on the western boundaries of Shilluk country. Some of her relatives arrived on the second day of the ceremony. Naturally they played no significant part, but it is interesting that they should have come at all.

Layout of the village Pareth Fafiti.

Pareth Fafiti, also called Abwogatho, "fear of death ", the village which the late *reth* built for himself, (Note 4) is of medium size and of the usual Shilluk type. There are three cattle byres built round an open space, which is about 70 yards in diameter. The houses are built round the outside of this open space and five of these, in which the wives of the late *reth* reside, had been repaired and the fences round them renewed. The tomb of the late *reth* is the house where his senior wife lived, and in form is no different from any Shilluk homestead except for the eight cross bands on the fence and a stockade of withies outside, which was built after the late *reth's* burial. This

homestead, including the stockade, is the form of all tombs of Shilluk *reths*, and also of the numerous shrines of Nyikang which are scattered throughout the country. Outside the tomb a temporary semi-circular screen had been erected, and against this the banners of the divisions were leant and also the spears of the deceased. At the end of the ceremonies the horns of the bulls which were sacrificed were hung upon this screen.

The preliminary day of the funeral dance was confined to Shilluk chiefs. It was said to be a "dance of swords", and only the spears of the late *reth*, about thirty in number and carried by his widows, were brought at all. Those who possessed them carried swords, most of which had been captured from the Dervishes or the Turks, or bought from Arab merchants. The sword is not a Shilluk weapon, and it is probable that they were produced on this occasion to express the anti-Dervish nature of the ceremonies, an attitude of mind which was emphasized by the Shilluk songs of hate against the Dervishes, which on this day and later were sung at frequent intervals. It is difficult to say why the funeral dance of the *reth* has associations with their struggles with the Dervishes, but it may be connected with those Shilluk *reths* who were killed in battle, hanged or died in captivity. The dances are public, and, apart from the funereal aspect of the ceremonies, the defensive unity of the tribe against outside aggression must be made apparent. The tribe is without a *reth*, who is the symbol of their unity, and such occasions call for a dramatization of their co-operation against external enemies. Those who had no swords carried millet stalks, which they plucked from the fences in the village.

At four in the afternoon, the Kwanyikir, after they had set up the drums, (Note 5), walked in procession round them in an anti-clockwise direction, while the dancers began to collect in the centre of the village. After a short interval, a white bull was speared, and the carcase was handed over to the Kwanyikir as a reward for their service. The

THE FUNERAL DANCE OF RETH FAFITI.



1.—Shilluk trumpeters with kudu horns.



2.—The drums of Fafiti.

There were six of these set vertically in the ground.

drums began to beat, and the dancers, after dancing round the drums, moved off to salute the tomb of the late *reth*, singing the chant of Nyikang. They then broke up into smaller parties, each led by one or more of the important chiefs present, who brandished their swords in the air in front of them. The sons of the late *reth* did not take part in the dancing, but his wives and female relatives were much in evidence, dancing in front of and around the tomb and round the village, carrying the late *reth's* spears. Each party in turn visited the five huts of the late *reth*, the ordinary dancers singing outside and the chiefs dancing up to the entrances. During this ceremony and on subsequent days, old men and women would often execute *pas seuls*, the women with swords or performing the symbol of mourning by casting dust into the air. Some men imitated lions, and old people danced round the byres where the cattle of the late *reth* had been stabled

After half an hour of dancing the drums stopped, and everyone sat down, but they began again after a short interval and the crowds took up the chant of *reth* Yor. The songs of the other *reths* were also sung, of Fafiti (two in number), of Yor, Kur Nyidhok and Kwathker, and occasionally the chant of Nyikang. Shortly before sundown, the drums were drawn and carried outside the village. The *reth* left for Fashoda and the dancers dispersed to their homes.

The Public Dance.

Early the next morning, crowds began to collect in the village, and women, mostly *bangreth*, danced round the village singing and moving up to the houses of the late *reth* each in turn. No drum was beaten, the women advancing and retreating with a limping stride — one long pace, one short, with the emphasis and weight on the former. Individual women were also dancing around with sticks or with the swords of their husbands.

The new *reth* arrived at 10.30 a.m. and went straight to his house without appearing in public. Shortly after his arrival the warrior

contingents of Fashoda began to come in and marched around the outskirts of the village. The various performances carried out by each group did not vary to any appreciable extent except perhaps in the order. The main events recorded were :-

The warriors, (Note 6) with shields, spears and sticks, entered the arena regimented with remarkable discipline into their sections. They first marched round the outside of the village, sometimes kneeling down as a body and beating their shields with their spears. They then moved in procession round the drums, turned to face them and danced with a jumping motion in a circle round them, with their spears raised. They then turned to the tomb of the late *reth* and, mingling with the women who were standing outside and singing the songs of Fafiti, knelt in homage towards him, sometimes beating their shields and clapping hands in time to the drums. The word *wuo*, the traditional form of opening a conversation with the *reth*, was repeated by all at certain points in the song. They then arose and advanced round the village, once more visiting the houses of the late *reth* in turn, some of them peering inside the doors as if seeking for him. They then marched outside the village, and another contingent of warriors entered to take their turn.

Twice during the day, there was a spontaneous panic, and the crowds fled shrieking from the village. The explanation given was that the spirit of the late *reth* had been brought back by Nyikang and was now in their midst. Hands were clapped to drive the spirit away. The attitude of the Shilluk to this supposed phenomenon is important. There is no doubt that they were seized with fear, and fled as if the devil were behind them, but it was also regarded as a joke, and they all laughed heartily immediately afterwards. This mixture of fear and laughter is also characteristic of their flight from the effigy of Dak, which is described later. The panic was not started by any particular signal except that on both occasions someone heard somebody say "Nyikang has appeared."

The ceremonial dancing performed by the warriors and others, and the panic at the arrival of the departed spirit were repeated without

obvious variation on the second day, though different contingents took part. On each day, at the close of the ceremonies the drummers whisked the drums from their holes and rushed them out of the village. This was a signal to the dancers to disperse, and they did so with great speed and with mock terror. The spirit of the late *reth* was said to return on the drums being drawn, and hands were clapped by the onlookers as before. On the last day, the holes in which the drums had been set up were immediately filled, and water poured over the spot, and a sheep was brought to the site. This sheep was not immediately sacrificed, but was ceremonially purified and led off to be slaughtered elsewhere.

PART II—ELECTION OF THE RETH.

(W.P.G.T.)

The *reth* of the Shilluk is elected from the body of surviving sons of those previous *reths* who have been properly installed in Fashoda. Difficulties arose in recent elections owing to pretenders seeking the throne, who were the sons of men who, although they were proclaimed *reth* by the government or compassed Fashoda of their own accord, had never been installed by Nyikang.

In 1943 these "illegitimate" lines had died out, and all *nyireths* were genuinely eligible for the position of *reth*.

Apart from the law that all *reths* must be the sons of previous *reths*, there is no other rule governing the election. It is more or less understood now, though not in former times, that surviving lines of *nyireths* take it in turn to provide a *reth*, though we think agreement has to be obtained for this. The families of three *reths*, Fafiti, Fadiet and Kur contained among them some thirty or forty *nyireths* all technically eligible for election excluding infant children of Fafiti. In 1943, the two surviving sons of *reth* Yor were not considered owing to old age (one of them had left the Shilluk country some years pre-

viously, but was not known to have died). The sons of Fafiti were not serious competitors as it was generally agreed that it was not their turn; there was no doubt about that. The claim of the sons of Fadiet was not so easily settled. The head of the line was invited, with an elder from the same house, to an unofficial meeting, and he agreed to forego any claim for his line at the election, though the Shilluk say that he was given a more or less firm assurance that next time an election was to take place the house of Fadiet would provide the *reth*. Responsible Shilluk opinion accepted this, although we believe that unofficially certain elements among the southern Shilluk (Fadiet's country) would like to have seen a *reth* chosen from one of Fadiet's sons. Had one of them been chosen, we think it would generally have been held to be irregular. There remained the sons of *reth* Kur, who were considered to be more eligible than the others, as their father had been *reth* before Fafiti or Fadiet, and no *reth* had yet been chosen from his children.

It is often said that a *reth* nominates his successor. Fafiti, in his life time, agreed that that was the old practice before outside influences and governments started to interfere with the Shilluk, and this may well be so, or at least be the tradition, for Fafiti was a mine of Shilluk history. However in the last 100 years or so it has not been done, and Fafiti never intended to nominate his successor. It is clear, however, that a candidate nominated by a dying *reth* is still subject to confirmation or otherwise, by what we may call the "electoral college."

What Fafiti did do was to take under his wing Anei, one of the sons of Kur, and bring him up, as he himself had been brought up by *reth* Kur. Anei was known to be favoured by Fafiti, and he was even given outward signs of recognition by him, such as silver bracelets to designate him as a favourite. At Fafiti's death Anei was not nominated, but it was well known that in fact he was Fafiti's choice. Anei later told us that Fafiti used to say that if he were lucky he would be chosen *reth*. This designation by a popular *reth* would seem to be an important factor in the choice of the new *reth*.

THE FUNERAL DANCE OF RETH FAFITI.
(*Second day*)



3.—A Shilluk regiment enters the village of the late *reth*.



4.—Crowds squat down in front of one of the houses of the late *reth*.

The electoral college, in whom rests the responsibility for electing a new *reth*, is a very conscious survival of the traditional structure of the Shilluk tribe, and we believe it to be composed of those who are the descendants of the men who were, at any rate traditionally, the lords-lieutenant of the various counties into which Nyikang divided his kingdom, with the inclusion of three representatives from the large royal clan.

Shilluk society is divided into four main classes, the Kwareth, Colo, Ororo, and Bang Reth, two of whom the Kwareth and Colo together represent by far the greater part of the tribe and together provide the electoral college. The Ororo and Bang Reth have very important ceremonial functions in the installing of the *reth*, but no say in his election. As has been explained in the introduction the Kwareth "class" are really an extended clan, they are the descendants of the royal house, and they all trace their ancestry back to a *nyireth* and through him and his father directly back to Nyikang. The Colo are the mass of the Shilluk people divided into many clans, who may trace their origin to a family ancestor who "came with Nyikang" to what is now Shilluk country, or claim to be pre-Shilluk inhabitants of the country, or some of those non-Shilluk accretions, which Nyikang collected to him as he pursued his conquests.

Nyikang settled the west bank of the White Nile, from "Tonga to Mwomo," (the traditional boundary in the north is Moro some four miles north of the river port at Kaka, and in the south at Fafojo about ten miles upstream of Tonga). As he went he parcelled out the country among his followers, and made eleven of them chiefs[10] of the first degree, answerable to him and looking to him for their appointment and authority. When the organization became complete the lords of the marches of Tonga and Mwomo became even more important than the others by virtue of their duties in connexion with the defence of the Shilluk boundaries and their distance from Fashoda. But although these two were the most important on the executive side of

10. They were all Colo. Kwareth, who are descended from sons of *reths*, did not, of course, exist in Nyikang's day, for he was the first *reth*.

the traditional Shilluk polity, the two nearest to Fashoda were the greatest in the land in all constitutional and ceremonial matters, and in the prestige deriving from their office. These two were the chief of Kwom, the section immediately south of Fashoda, and the chief of Golbainy a section five miles to the north.

Nyikang divided the country into two halves separated by the Khor Arepejur just south of Fashoda. All the country to the south was called Gol Nyikang, and all to the north, Gol Dhiang. The chief of Kwom was in theoretical charge of the counties of Gol Nyikang, and the chief of Golbainy of those of Gol Dhiang. How far the writ of these two viceroys ran in executive matters within their provinces is not clear. Judicially they almost certainly had no say, and in executing commands of the *reth* they may have acted as messengers of the *reth*, but can scarcely have had authority of their own. In all matters concerning the election of the *reth* the deference shown them was a feature of the various meetings.

Details of these various officers are given in Appendix 1. Of the eleven Cclo chiefs, a number are still in fact the chiefs of government "divisions," which correspond in most cases with Nyikang's divisions, but others, whose lineage and following have shrunk, no longer have the support to press their claim to what is still regarded by all Shilluk as their office as of right. Though tradition counts for much and ancestry as well, these sanctions alone will not support the legitimate claim of a chief unless he has an imposing number of warriors prepared to back him. The present chief of Golbainy, for instance, has impeccable ancestry and traditional backing, but his lineage is now small in numbers and his position as chief much weakened on that account and by agitation from other stronger lineages to be granted the chieftainship. Another interesting example of this tendency is that in recent years Kwareth lineages which are generally strong, are pressing to be given the chance to fill these chieftainships from their numbers, against all traditional usage. The traditional great chiefs who are now "impoverished" are always called in on ceremonial occasions, but have been superseded by government or

the Shilluk themselves for everyday matters of administration.

Apart from these eleven Colo chiefs, three members of the Kwareth are also members of the electoral college. Each *reth* appoints one of his sons to be "responsible" for the family. This son is not necessarily elected *reth*—in fact we doubt whether he ever has been—but he is of considerable importance. The three members of the electoral college are the descendants of the heads of three great lines of the Kwareth. Why these three should be chosen, to the exclusion of other Kwareth branches is not clear. We think they are the most important because the ancestor of each, from whom his claim to membership of the college depends, was the chief son of those three branches of the family nearest to the throne. The chief of Fadiang is regarded as in some ways chief of the Kwareth, and though the other two Kwareth members are venerable chamberlains, all the houses now eligible to produce candidates for the *reth*ship are descended directly from the sons of *reth* Nyakwac, the chief of whose sons was the ancestor of the chief of Fadiang.

Such, as far as we can disentangle it, is the theory of the constitution of the electoral body. In practice there were certain difficulties due, as usual to the fact that Shilluk tradition is nowhere written down and relies upon the memories of the elder men. A comparison of the government files on the elections of 1903 and 1917 shows that the lists of chiefs forming the electoral college were more or less the same as those in 1943 and the variations were mostly accounted for by deaths, absentees etc.

The first thing that happened after the passing of *reth* Fafiti was an unofficial committee on "ways and means", whose main object seemed to be to discover what ought to be done, and who ought to do it. This process went on, more or less consciously till the end of the installation ceremonies. It was a refreshing of the memories of Shilluk tradition and history. At this meeting the members of the electoral college were decided upon and summoned to Fashoda. Certain influential chiefs seemed to think it would be impossible to

elect a *reth* without help from government, but in the event no difficulties arose.

Within a week of the passing of the *reth* the members of the electoral college had met at Fashoda, and many other influential chiefs and notables had gathered there as well. An unanimous choice of Anei son of Kur, the favourite of Fafiti, was made, and there seemed to be little discussion and no opposition from outside the electoral college.[11]

Several interesting points in connexion with the actual election procedure were noticeable. The electors divided into three groups, Gol Nyikang (southern Shilluk) under the chief of Kwom, Gol Dhiang (northern Shilluk) under the chief of Golbainy, and the Kwareth under the chief of Fadhiang. Agreement was first reached between the chief of Kwom and the chief of Golbainy upon Anei as *reth*, and when this agreement was announced to the other electors they seem to have agreed to it without much further discussion. This is an interesting fact, and one which is not in accord with normal Shilluk practice, where a man with decided opinions upon anything is seldom overawed by time or place in expressing them. The Colo chiefs seem to have lined up behind their respective leaders, the chiefs of Gol Nyikang and Gol Dhiang, and as the choice lay in the first place with Colo, the chief of Fadhiang, on behalf of the Kwareth, had nothing to add.

It was explained to us that the whole thing hinged upon agreement of the chief of Gol Nyikang and the chief of Gol Dhiang. Had they disagreed, their respective chiefs would have ranged themselves in opposing camps. What the Kwareth would have done is difficult to say. They said they would have followed the chief of Gol Dhiang, maybe because Fadhiang is part of Gol Dhiang but many, if not most Kwareth live in Gol Nyikang. On several past occasions when a *reth* has been elected there has been disagreement between Gol Nyikang and Gol Dhiang, presumably because the two chiefs failed to reach agreement. It was the disagreement between these two which produced civil war between the two halves of the country, or

11. The " canvassing " of one of the sons of *reth* Fadiet never amounted to opposition.

government intervention in the past. As several of the electors said, "if there had not been agreement between the chiefs of Gol Dhiang and Gol Nyikang, we should have gone home, each behind our leader" —presumably to prepare for war.

At the meetings of the electoral college etiquette was very strict, and as far as we could make out, the order, in theory, was that the chief of Gol Nyikang proposes a candidate to the chief of Gol Dhiang; no doubt this is in fact discussed privately by the two chiefs. The chief of Gol Dhiang replies agreeing to the proposal (or not, as the case may be). In fact there is not much more for the other members to say, though they doubtless know before hand, and may even have some say in who is to be the candidate proposed by their chief. Should any chief or notable, outside the electoral college, be sitting at their meeting, as did in fact happen, he would be very careful not to do more than listen. He would feel it quite out of place to express an opinion, however important his position might be. We think that on the surface at least considerable honour was paid to the observance of this etiquette. It would, however, have been odd if there had not been a great deal of "lobbying."

During the interval between the death of a *reth* and the election of his successor and his initial establishment in Fashoda there is an awkward period in which the Shilluk feel a sense of potential danger. Custom requires that all *nyireths*, potential claimants to the throne, should remain at home. Should anyone among them wish to defy custom and try to obtain a following to instal himself in Fashoda, this is his chance. After the electoral college has agreed upon a new *reth* the chances of a pretender become much less, though the period of danger is never quite over till after the installation of the chosen *reth* by Nyikang in Fashoda. The danger from ambush, illness, or disaster attributed to the *reth* always exists.

The procedure for seizing the throne of Fashoda by force is as follows. A *nyireth* who is living in a section of the Shilluk, and who fancies his chances of becoming *reth*, persuades, or is persuaded by the chief of his settlement or section to start an insurrection; without the co-operation of the *nyireth* and his chief an insurrection is impos-

sible, for only the settlement chief can call up the necessary force of warriors. Equally an insurrection must centre round a *nyireth*, for only *nyireths* are eligible to become *reths*. (It is for this reason that Shilluk custom enjoins upon all *nyireths* to remain quietly at home, as a safeguard, during an interregnum.) The procedure then varies with the fortunes of war. It seems probable that one settlement—there are some 100 settlements in the Shilluk country—would not of itself be able to start openly a campaign of violence. Should the electoral college fail to agree upon a single choice, then there would be a good chance of a pretender rallying half the kingdom to his cause, as Cuti Ajang succeeded in doing in 1917.

When the electoral college has settled upon a choice, the initial formalities take place very quietly, as if to avoid attracting attention. The new *reth* (who will not be *reth* in full sense till Nyikang has installed him) is brought by the chief of Gol Nyikang, traditionally after a mock duel, though we doubt whether this is obligatory. He is brought stealthily and by night, and at early dawn a bull is speared at Fashoda, and he is taken into the house favoured by his father in his life time in Fashoda, where he has to step over a sheep, held prostrate at the entrance to the house, and has a string of beads tied on to his ankle. The spearing of the bull and the tying on of the beads both symbolize his new status of what we may call *reth*-elect. We think the spearing of the bull is the more significant.

It is interesting that on this first day Anei was obviously under the stress of great emotion, natural in one who overnight, finds himself translated into the incarnation of the tribal hero, who is so closely descended from God.

Immediately on being introduced to Fashoda the *reth*-elect starts to receive the homage, unoffically and without ceremony, of the chiefs of his kingdom. They come from all parts of the country, and for a chief to fail to come would be a sign of disaffection, or at best gross discourtesy. The *reth's* brothers too all come, or should come, to pay homage, and other *nyireths* as well. His brothers appear to bear

him no malice, though his election has practically taken away their chances of becoming *reth* in future. All the same there remains potential danger to the new *reth*-elect from an angry or ambitious *nyireth* trying to ambush him by night. No armed rising is now likely, but an individual challenge remains a possibility for the *reth* till the end of his days.

The initial ceremonies are simple, and soon over. There remains an interval for the *reth*-elect, until he is installed by Nyikang. The funeral obsequies of his predecessor are largely arranged by others, though he has a say in fixing dates and procedure.

A final word may be said upon the part played by the intervention of government in this and previous elections. As explained above elections have taken place in 1903 and 1917 in the time of the present government, and before that there was a period of uncertainty, sometimes amounting to civil war during the Mahdia and "Turkia". There is what might be called a "traditional" tendency towards civil war at the time of the election of a *reth*, which is the customary way out of an impasse caused by the disagreement of the two "kingmakers". Since the advent of the present government steps have been taken to get the *reth* elected by peaceful means, in spite of the disagreement.

In 1903 the governor at Kodok himself presided at the election, and more or less dictated the choice of Fadiet as *reth* in place of Kur. Kur had appeared somewhat too oriental in his methods, and it was thought that Fadiet would be more amenable as a government nominee. This proved to be the case, but the fact that he was nominated by government made him of little political importance in the tribe.

In 1917 a disagreement between the king-makers threatened civil war, and the governor had to instal Fafiti and protect him by a detachment of troops. This again detracted from his importance as tribal head.

In 1943 the kingmakers reached agreement, and government

had nothing to do except to warn the Shilluk that a *reth* chosen by violence would not be accepted by government.

During the interval between the death of a *reth* and the final installation of a successor the Shilluk lack, in a certain degree, their chief mediator with Nyikang and God, and the *reth*-elect lacks certain attributes of divinity, which are bestowed upon him later by Nyikang. Both parties express this inadequacy by certain prohibitions on their behaviour, many of which, in the case of the *reth* at any rate, are not signs of mourning but signs of respect to Nyikang, as they endure till his installation, and do not in all cases cease with the wake of the deceased. It is forbidden for Shilluk to light grass fires (except perhaps along the drying marshes, by the river banks) between the death of one *reth* and the installation of his successor. Any offender is liable to a fine. There are two types of building among the Shilluk; walls are built from mud alone laid in circular layers, or else a framework of millet stalks is first erected and then packed with mud outside and in. The latter technique is regarded as inferior; the former is the royal or divine style of building. Fashoda is built like that, and all the shrines to Nyikang, *reths* and *nyireths* throughout the country. Men of substance also build their houses after this fashion, and it seems as if this may have been the original traditional form of Shilluk building, and the other form is looked upon as something foreign. This royal style of building is forbidden in the same way as the burning of grass. It is said that the prohibition upon this royal style of building is a sign of respect to Nyikang; "you must not build in Nyikang's style, while Nyikang's houses are down". Nyikang's houses are not actually thrown down, except the great shrine of Fanyikang, but each shrine of Nyikang is rebuilt by each new *reth*, or should be; and there is a general feeling that there is a rebirth of the whole Nyikang tradition at the installation of a *reth*. During the period of the interregnum there is a general feeling that something has passed away from the Shilluk, and requires renewing by Nyikang's reappearance, and until Nyikang himself has come to renew his contact with the Shilluk the people mark the interval by abstaining from building in the way they associate with Nyikang. Building of the inferior style

does not count. It has been suggested that the prohibition of grass fires may spring from this prohibition upon building; it is necessary, if the building season is to start late, to preserve the grass for roofing. Out of respect for Nyikang it is also forbidden for the Shilluk to indulge in inter-sectional fighting, or possibly from fear of his wrath.

Several other prohibitions govern the *reth's* own behaviour: he may not sit upon the ambatch mattress, favoured by the Shilluk, until his installation, and his movements are considerably restricted. There is great importance attached to watercourses by the Shilluk, and until his installation the *reth* found himself unable to cross west of the big *khor* beside Fanyikang, which joins the Nile just downstream of the shrine of Nyikang.

To the north of Fashoda, he was "afraid of going too close to Nyikang". In fact he found any suggestion that he should travel north of Mal near Detwok uncomfortable. The importance attaching to *khors* is not confined to the two at Fanyikang and Mal. Whenever the new *reth* comes to a *khor*, before crossing it, he must step over a sheep, held prostrate in the bed, before he can cross. This sheep must be brought from the nearest village, but if a death has recently occurred in the village, or no one can be found to lend a sheep a sheaf of grass will do instead.

PART III—THE INSTALLATION OF ANEI KUR.

There are various preliminaries to the installation of the *reth* by Nyikang. Many materials necessary for the ceremonies have to be collected, and apparatus has to be made.

The most important is the expedition to *pothe manyo* (or raiding country), and northwards to the country traditionally conquered, though more probably merely raided, by Dak, the son of Nyikang. Two small sections are responsible for this embassy. The subsection of Akwobai in Kwom (Gol Nyikang), and the small section of Abwor in Mwomo (Gol Dhiang), are responsible for obtaining silver and cloth from the north, and as they go north they solicit gifts from Shilluk

villages by the way. One of the most noticeable features of the activities surrounding Nyikang is the principle that he and his lieutenants are given, or take, what they want from Shilluk as they pass. This embassy to the north may well have its origin in a raiding party, and the two sections, whose duty it is to perform this journey, may have been obliged to render this form of military service to Nyikang. Nowadays the silver and the cloth which were originally plunder, are bought from Kosti with money supplied by the *reth*, and contributed by Shilluk north of Kaka. Other requirements are ostrich feathers procured from the country round Kaka for the head pieces of the images of Nyikang and Dak, by the people of Mwomo, and ivory for bracelets to be worn by various functionaries at the installation itself. This was provided from the tusks of elephants slain by the Shilluk in 1938.[12] They are very rare in Shilluk country. Bamboo is brought from Fungor in the eastern Nuba Mountains for the bodies of Nyikang's image, and those of his sons Dak and Cal. This is brought by the people of Akwobai. Certain sacred ropes made from the fibre of dom palms, which grow round Fanyikang, are brought by "Dak", who with his followers makes a special pilgrimage some two months before the ceremonies.

An obligation lies on the chiefs of Fanyikang to produce skins of the female Mrs. Gray antelope from Fanyikang Island. These are required as the high robes of honour of the *reth*. They are worn by the *reth* himself and all the important people in the ceremony. To be presented with a Mrs. Gray skin is a mark of the greatest esteem. They are royal game, and are only killed in the first year of a new *reth's* reign. On this occasion doubtless to save any complications with the government, which strictly preserves these antelopes, the operation was all over before the administration had word of it.

The houses of Fashoda had to be tidied up and new fences built, but no new building in mud was done.

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12. In 1938 a few elephants invaded Shilluk country near Malakal, for the first time for many years.

There were various dignitaries created *jagos* or chiefs responsible for separate small ceremonies. These had all to be appointed. They were old female *nyireths*, specially appointed, who looked after certain shrines of Nyikang.

An interesting ceremony was the lighting of the fire for the special blacksmiths, Kwanyikang from Golbainy, to make the sacred spears. It took place in the middle of January. A rough grass shelter was built on the clear ground east of Fashoda, and a white bull with brown markings was brought up for slaughter, and a black cow calf from the sacred herd of Nyikang. This was not for slaughtering, but was given to the Kwanyikang to take home. It and its offspring will remain the kine of Nyikang. A brown sheep is also brought.

Some little way off from the shelter the blacksmiths' implements, bellows, anvils, hammers etc., were brought out and laid upon a bull skin. When all was ready the implements were moved with great care to beside the shelter where they were laid out on the bull skin once more. Then the cow calf was completely draped in cloth, great care being taken to see that it was blind-folded. The bull calf and sheep were all tethered close to the shelter, and the spectators, including the *reth*, who took no part, stood round in a semicircle.

Two spears, sacred to Nyikang were brought down from the mound Aturwic, and a part of the sheep's right ear was cut off with one of the spears. This ear was said to assist the making of the fire. It was placed with some tinder upon a hearth beside the shelter, and the butt of a fish spear twirled and fire made. The sparks were nursed and taken into the shelter, where they were fanned into a fire. Then a piece was cut from the right ear of the bull, and put into a small gourd. A little bull's blood was also drained into the gourd. A blacksmith seized a hammer and hit the bull a blow on the base of the skull. The bull fell at once. Two more blows were delivered, and as it was about to die an incision was made in its throat with a spear, and the blood drawn off in gourds. The small gourd was said to be a libation to Nyikang, the large gourds full of blood were said

to be for the Kwanyikang to drink. The preliminaries were then complete for the forging of the spears to be used in the installation. They numbered about fifty.

The Shilluk say that Nyikang disappeared in a whirlwind, and since then Akurwa has been a place of especial sanctity. Nyikang is liable to re-appear at any time, in a variety of different forms and at any place in Shilluk country, but since Akurwa was the scene of his departure, it is also the most likely place for his return. There are many shrines of Nyikang in Shilluk country, but Akurwa is by far the most important and it is there that the effigies of Nyikang and Dak are kept. These effigies are not merely symbols. They may "become active" at any time, and when active they are Nyikang and Dak. The effigy of Nyikang is rarely taken on a journey in normal times, though it is often brought out to dance during religous festivals at Akurwa itself. The effigy of Dak makes periodical excursions through the country. Both effigies have an important part to play in the ceremonies of installation. The soul of Nyikang is manifest in the effigy for the occasion, and he must march from Akurwa to Fashoda to test the qualities of his new successor and to install him at the capital. This march, the opposition shown by the *reth* and the final ritual performed at Fashoda are the essence of the installation ceremonies. The symbolic substitution on the sacred stool[13] of the *reth*-elect for the effigy is the principal method by which the soul of Nyikang is transferred.

The Progress of Nyikang from Akurwa to Nyigir.

As the time of the installation drew near, it was plain that there had been some delay. Nyikang was expected to arrive at Fashoda by the new moon of February 24th 1944. But as the old moon waned there were nothing but rumours that he had started and others that he had not. This was worrying to those around the *reth*, for tradition has it that if Nyikang disapproves of the *reth* he may become too heavy

13. Described in Part III, pp. 61 ff.

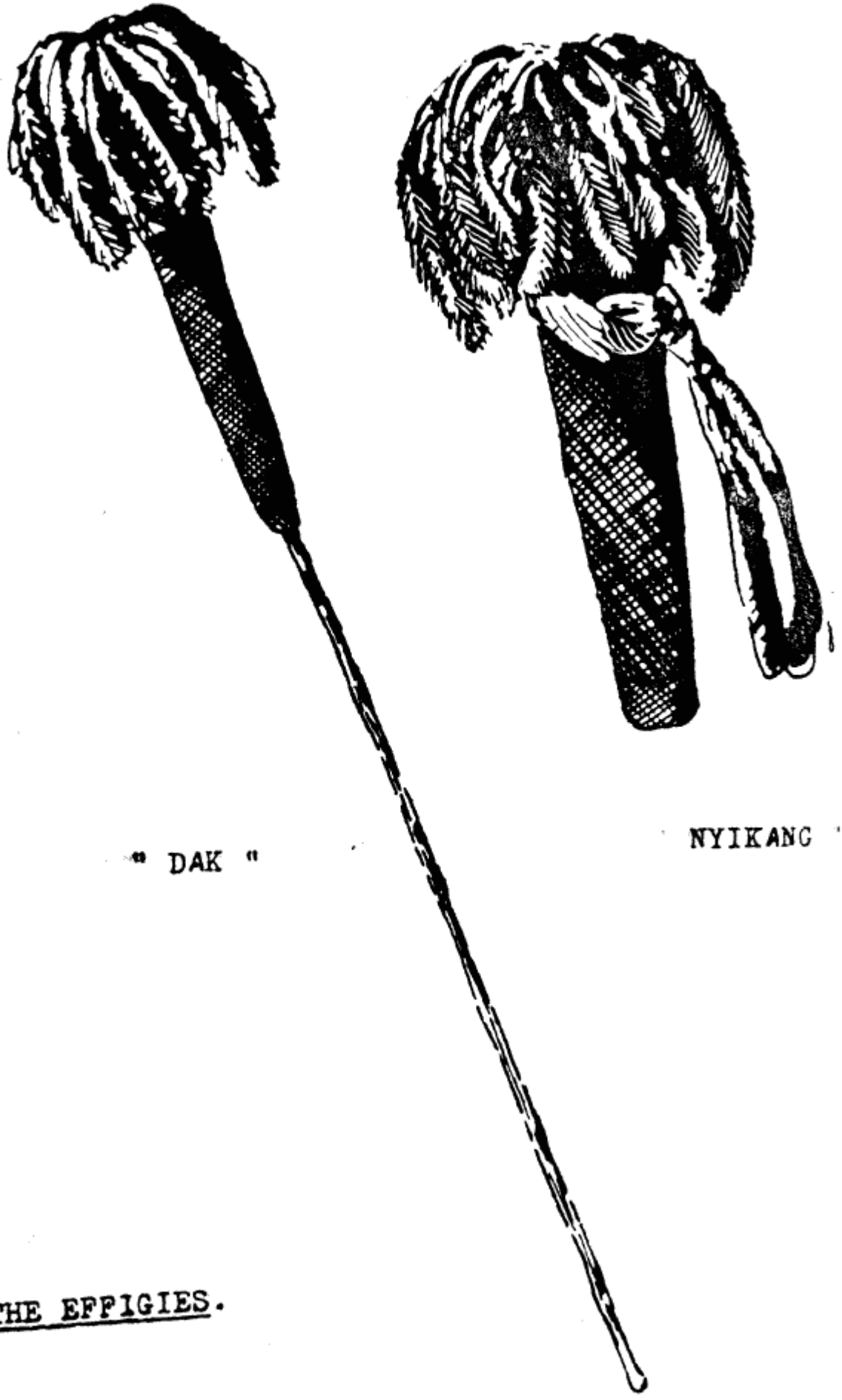
THE MARCH OF NYIKANG AND DAK TO NYIGIR.



1.—Dak leads, borne by his bearers. Nyikang follows. Behind is the forked branch known as " Nyikang's bed " and the basket which holds his food.



2.—Nyikang and Dak leave the village of *Reth* Fafiti.



" DAK "

NYIKANG

THE EFFIGIES.

to lift. However the delay was quite simply explained. Nyikang was not ready. A hitch had occurred in finding the cloth for his body. (A new effigy of Nyikang is made for each *reth*, and on the death of a *reth* the old effigy is destroyed). Another delay was caused by the Ororo messengers sent from Fashoda to Akurwa to say that all was ready. They dawdled on the way.

On the 26th February "Nyikang" and "Dak" started on their way. First they must beat the bounds of Shilluk country proper, and they went to Moro, some five miles north of Kaka market. The procession was first observed in the section of "Thorr" just south of Kaka.

Nyikang and Dak are carried by men of the Kwanyikwom clan, who live at Akurwa. They are surrounded by the youths of the Kwanyikwom carrying whips to drive away the inquisitive or profane. As Nyikang passes through a section of the Shilluk country, the men of the section escort him to their borders. Anyone who is beaten by the whips of the Kwanyikwom is said to be held to ransom until he pays a fine of a goat. There are various offences for which Nyikang penalizes people on the way. Nyikang's image is made from ostrich feathers and bamboo. It is therefore sacrilege for a Shilluk to be seen with an ostrich feather in his hair or carrying bamboo. The ritual of burial must be completed for all who have recently died. Nyikang must not pass anything unclean. In Nyikang's presence Shilluk must not present a warlike appearance. A man carrying a spear may not have a shield as well, and a man with a shield is only allowed a millet stalk. Nyikang advances with his son Dak at a loping trot of about 6 m.p.h. escorted by the Kwanyikwom and the men of the section through which he is passing. As he approaches a village the people dash out as if to ward him off, but quickly over-powered they soon join the procession. It is usual for gifts of a sheep or a goat to be presented to or exacted by Nyikang, and it was noticeable how all small stock and fowls were either shut up or driven away from the vicinity of Nyikang, for Nyikang has a right to anything he fancies. As Nyikang proceeds with Dak his son beside him, the escort chants

the songs of Nyikang and Dak recounting their exploits of conquest. From time to time Nyikang turns round and dances back as if to threaten those following. When he does this, Dak rushes ahead, carried in a charging position, his body held horizontally pointed like a spear, and Nyikang himself is carried 'at the slope'. The place where Nyikang spends the night is unpredictable. He does not move much after sunset, and normally spends the night in a shrine.

Nyikang was observed at rest at Moro, the northern limit of his progress, obviously propped up upon his "bed", a long forked stick with a leather flap hanging from the fork. He was inside the fence of the large shrine, and outside under three large *hɔgl'g* trees, sacred to Nyikang, the people of Moro and the Kwanyikwom were dancing in his honour.

The dancing at Moro was of a usual type. The dancers dancing in an anti-clockwise direction around the drums of Nyikang. The burden of most of the songs was the conquest of the "Funy" and their ejection from Shilluk country. It was thought that Nyikang would stay two nights at Moro, but he was late and in a hurry. He left that same afternoon and returned to Akurwa on the 28th. On the 29th he started for Fashoda.

Nyikang was next observed at Golbainy south of Kodok on the 6th March. (He is said to have stayed in the following places—1.3.44 Nun, 2.3.44 Adod Thuro, 3.3.44 Athodwoi, 4.3.44 Detwok (Pabiu), 5.3.44 Kodok (Ninmal).) When Nyikang spends the night at a village, the houses must be vacated by the villagers for the Kwanyikwom, who have also a right to be fed.

On the 6th March Nyikang arrived before midday at the village of *reth* Fafiti in Golbainy, where he spent the heat of the day. We arrived shortly after Nyikang and observed that he had been put into one of *reth* Fafiti's houses (not the tomb). There were dances around the big *heglig* tree in the village similar to the dances at Moro. A large contingent of female *bangreth* were the most obvious element led by the senior *bareth*. The little drums of Nyikang were beaten under

the tree, and the boys and young men danced round with millet stalks, while the women clustered in the middle round the drums. The usual songs of Nyikang and of the various *reths* were sung, and we observed the *pas seuls* by *bangreth* with or without swords, often in little groups of five or six old women. There was no dancing inside the fence surrounding the tomb, and the crowd was noticeably small, consisting only of Kwanyikwom and a few surrounding villagers. At 3.30 p.m. there was no activity in the village, and we thought Nyikang must have gone. However, when an old woman who was sitting in the shade of a house was asked, she said "of course he is still here; are you fool enough to suppose our king would travel in this heat?" Shortly before 4.00 p.m. the Kwanyikwom began to collect, and a contingent of Ororo from Yoiny were drawn up near by. At 4.00 p.m. a bugler stood up from where he had been sitting in the shade of a byre and blew a call. Some moments later two drummers, each carrying one of the drums of Nyikang, appeared from the house where Nyikang was and beat a tattoo. Then another call on the bugle and the Kwanyikwom, kneeling down, started singing the songs of Nyikang. Later they got up and, joined by the Ororo and the children of the village, danced a solemn measure before the house where Nyikang was staying. Grown men of the Kwanyikwom danced out in front before the door with swords or millet stalks, and we noticed one man with an Ingessana throwing-knife. Soon men brought out from inside the fence some bundles of tightly packed grass, and some ropes made of *dom* fibre. They hung the ropes upon the fence and laid the grass bundles against it on the side of the opening opposite to where the drummers were standing. Shortly afterwards two men carrying baskets of food upon their heads appeared, and two others wound the ropes over their shoulders and round their waists. By this time there was considerable movement inside the fence. The two spears of Nyikang were raised up, and the forked stick upon which Nyikang sleeps. Then Dak appeared and behind him Nyikang himself. The two images posed for a moment or two while the company danced before them. Dak led off the procession at the usual jog trot, and they proceeded round the village to the beat of the drums, stopping at each

of *reth* Fafiti's houses, searching for him in the way the dancers had done at the funeral dance. They stopped before each house while the dancers danced up to them. They spent rather longer in front of the tomb of Fafiti, and then suddenly moved off on their way with all their following.

They passed the village of the new *reth*, paying no attention to it, and went direct to the village of the chief of Golbainy (and all Gol Dhiang). Some 150 yards north of the village the images stopped, and the company prayed to them and sang. They approached the village from the side away from the road, but, instead of dancing straight in, they stopped on the threshold, and the people of the village, led by the chief, danced up to them as if to ward them off, and then quickly retired. The chief was called up, and then went off to his house. He brought a small grass mat (one foot square used for covering pots as a protection from flies), a small piece of rope,[14] and put them on the ground. Dak and Nyikang stepped over the mat and rope and entered the village. A short dance round the village followed of the usual pattern, with Nyikang and Dak taking part. After a little Nyikang and Dak took up a position before the house which had been prepared for them in case they should wish to spend the night. The congregation sat down before them and sang songs. The women sat with heads averted from Nyikang. The refrain of the most popular song was :—

"Let the Dervish wreak his will,

Nyikang's land will prosper still."

The chief was called once more and had a secret talk with Dak. It is the tradition that Nyikang presents the chief of Golbainy on every installation with a spear, because originally Nyikang invested his forebear with a spear of office. The alleged original spear is still used to cure disease. A piece of goat's ear is cut off with the spear and tied on the patient's ankle. The chief first provided a cattle

14. This may have been a pledge for the gift of sheep or a bull, or instead of a sheep for Nyikang to step over on entering the village.

rope, a pledge of a bull for Nyikang and his people, and then produced an old blackened spear from his house, of unusual type among the Shilluk. After a show of reluctance he accepted a new spear. He later explained that the show of reluctance was due to the fact that the new spear was not an exact replica of the original. We were shown several spears which had been presented at previous installations, and then one was brought out which was the "original." But an old woman sitting by said "Nonsense, that is the one Nyikang presented when *reth* Yor was installed."

After the spear had been presented, the procession moved off to Nyigir. As before, on leaving Golbainy the people of Golbainy left the procession and their places were taken by the people of Nyigir, who grew in number as Nyikang reached the village of Adodo in Nyigir, where he was to stay till the installation.

Nyikang, led by Dak, approached Adodo from the back and drew up outside the village while their following sang songs. Then a sheep was brought and tied in the middle of the village by the legs. Nyikang and Dak stepped over it, and Nyikang danced over to the house prepared for him and went in. Dak stayed outside for some time, dancing around, faster and faster, charging people who got in his way, until finally he too disappeared into the house.

The Reth's flight to Debalo

(P.P.H.)

The march of Nyikang from Akurwa to Nyigir was ended. He and Dak surrounded by the Kwanyikwom and other followers were safely installed in the village of Adodo. They would take their rest there for three days.

Meanwhile the *reth* had anxiously awaited their arrival but had not moved from the confines of Fashoda. In the early hours of the morning after Nyikang had reached Adodo, the *reth* secretly moved to Debalo which is a few miles south of the capital. He was accompanied

by a number of his wives carrying his personal luggage and his food, and with him also were some of his personal bodyguard. During his three days seclusion at Debalo, the *reth* is said to be in especial danger of attack by his rivals, and extra precautions are taken for his safety.

We were told—but did not see at close quarters—that fires are ceremonially lit and that fire-sticks were used for this purpose. There are three possible explanations of this; that the fire is lit as a ritual act and as part of the initiation of the *reth*; the Shilluk expression *pic mac* suggests some form of symbolic purification or initiation, for it is an expression used in that context by other Nilotics; that fires were lit round the confines of the village as an added precaution against marauders; or merely numerous fires lit to cook the meat of sacrifice. Both the latter explanations are suggested by Munro in his account of the installation of *reth* Fafiti in 1917.

Whether the lighting of fires was a precautionary measure of security, a ritual act, or merely for purposes of feasting, the measures taken to safeguard the *reth* were manifest in other ways. A special homestead had been built for his reception in fine style with the eight cross-ties which are a symbol of royalty. It was situated in a particularly ostentatious position in the village of Debalo. But the *reth* did not occupy it. Instead, in order to deceive his enemies, he took up residence in a very ramshackle hut, which had no embellishments whatever.

The *reth's* stay at Debalo is not truly a period of seclusion. He has removed himself from all possible contact with Nyikang or his followers from the northern division of Gol Dhiang, but holds court among his own supporters, who flock in to pay homage from the division of Gol Nyikang. As yet we have formed no definite conclusions as to why the *reth* moves so hurriedly to Debalo as soon as Nyikang reaches Nyigir. Shilluk say that the *reth* has "fled" from Nyikang, and that he sends messengers to Nyikang beseeching him to stay away. It may be that this is considered a suitable sign of humility in accepting the office of *reth* of the Shilluk. Nyikang's attitude of arrogant

resentment at the new *reth's* presumption in occupying Fashoda at all becomes apparent later in the ceremonies. It is possible that Nyikang is believed to resent the unwarranted seizure of his powers by a person who may be unworthy of the trust. This complex attitude is one of the main problems of the installation, for it is undoubtedly an attitude which conditions the behaviour of the *reth* later in the ceremonies, and is the object of the two battles fought out by the opposing armies.

Meanwhile further preparations for the final ceremonies were being made. The small grass huts called *adul*, which form the temporary camp outside the shrine of Nyikang at Fashoda, were built by the chief of Gol Dhiang and Gol Nyikang. This camp is used at a later period in the installation ceremonies, but it had to be built previously by these chiefs who are traditionally responsible for its erection. It is not built by orders of the chiefs to their own followers, though the latter bring in the materials, but with their own hands.

On the evening of the last day at Fashoda a procession arrived from Lul and passed through Debalo. This was the party responsible for bringing the spear of Nyikang and with it the sacred beads, which are said to have been part of the bride-wealth of Adwai, daughter of Nyikang, who married a man from the Nuba Mountains. The beads came from the shrine of Nyikang at Ocoro in Lul, and were guarded by the oldest and largest of Nyikang's spears, which was, like all really sacred objects among the Shilluk, wrapped in white cloth. They were carried on the head of a *nyireth* (a daughter of a *reth*) specially appointed for the purpose. They are said to be red and green, cylindrical and about half an inch long, but we were not allowed to see them. According to tradition, the *nyireth* and one of the *bang reth* hold a vigil by night over the beads in one of the huts called Araic on the sacred mound Aturwic. If one of the beads presents itself with a hole through it, the phenomenon is considered a good omen, and next morning it is threaded and tied to the *reth's* ankle. If no hole is found the omen is bad, but the bead is tied to the *reth's* ankle all the same. This ritual takes place the night after the installation of the new *reth* on the sacred stool of the Shilluk, but it takes place in strict secrecy.

We did not witness the selection of the bead. During the *reth's* stay at Debalo the period of amnesty for adulterers and seducers, which is mentioned by Munro, comes into effect. Adulterers and seducers of unmarried girls are able to avoid the full legal consequences of their sins by paying a small fine in goats and sheep to the *reth*. A few Shilluk took advantage of this, and some thirty sheep and goats were brought in.

During the period of semi-seclusion, apart from the preparation, both parties remained comparatively inactive. After three days all was ready for the final and public phases of the installation ceremonies.

The Installation Ceremonies.

The conventional opposition between the northern and southern divisions, of the country Gol Dhiang and Gol Nyikang, now becomes clearer. The boundary between them is the watercourse called Arepejur, which means "the gathering of the peoples", and which lies about half a mile to the south of Fashoda. Headed by the chief of Gol Nyikang, chiefs, warriors and headmen had been flocking in to Debalo to join forces with the *reth*-elect, and it is their traditional duty to guard him and to support him in his struggles with Nyikang. Nyikang has taken up residence at Adodo a few miles north of Fashoda, and the people who live north of the boundary muster to his aid. The three days semi-seclusion of the *reth* at Debalo and Nyikang at Adodo is thus primarily a period of preparation for the mock battle to come. The march of the *reth* from Debalo and Nyikang from Adodo and their meeting on the high ground above Arepejur symbolizes the ceremonial division of the country into two moieties. The balance between them is strongly emphasized at all points. Nyikang must have his shield borne by a special bearer; so must the *reth*. Certain ritual objects, spears, beads, and the like must accompany the *reth*; others must be carried with Nyikang. Moreover, the joining in battle of the two parties, the capture of the *reth*, and the subsequent rites and ceremonies is an occasion in which all classes and sections of the Shilluk participate, and the formal election and installation of the new

reth is ceremonially impressed upon the minds of all his people. It is the occasion when the *reth* is formally recognized by the Shilluk as a whole. The public nature of the ceremony must be emphasized because prior to it, only limited sections of society—Kwareth, Ororo and the Colo chiefs—have been concerned.

The ceremonies which are enacted on this day are divided into four distinct phases with a variety of ritual observance in each :-

1. The simultaneous march of the opposing armies to the high ground immediately south-west of Fashoda, and the mock battle which follows.
2. The capture of the *reth* by Nyikang, and the procession to the shrine of Nyikang in Fashoda.
3. The enthronement of the effigy of Nyikang on the sacred stool, the substitution of the *reth* for Nyikang on the stool, and the possession of the *reth* by the spirit of Nyikang.
4. The retirement of the *reth* into the temporary camp, which is specially built for the occasion on the open ground immediately facing the shrine.
5. The ritual lighting of new fire by the Ororo and Kwareth just before sundown.

The first two phases are public and concern the tribe as a whole. The third phase, which retains a degree of mystery, is witnessed by limited sections of the population from outside and is screened even from them by a canopy. The *reth's* retirement into the temporary camp concerns him and certain traditional functionaries alone, and the rites which follow are carried out in strict secrecy. The fire-making ceremony concerns chiefly the inhabitants of Fashoda and the *reth's* immediate followers.

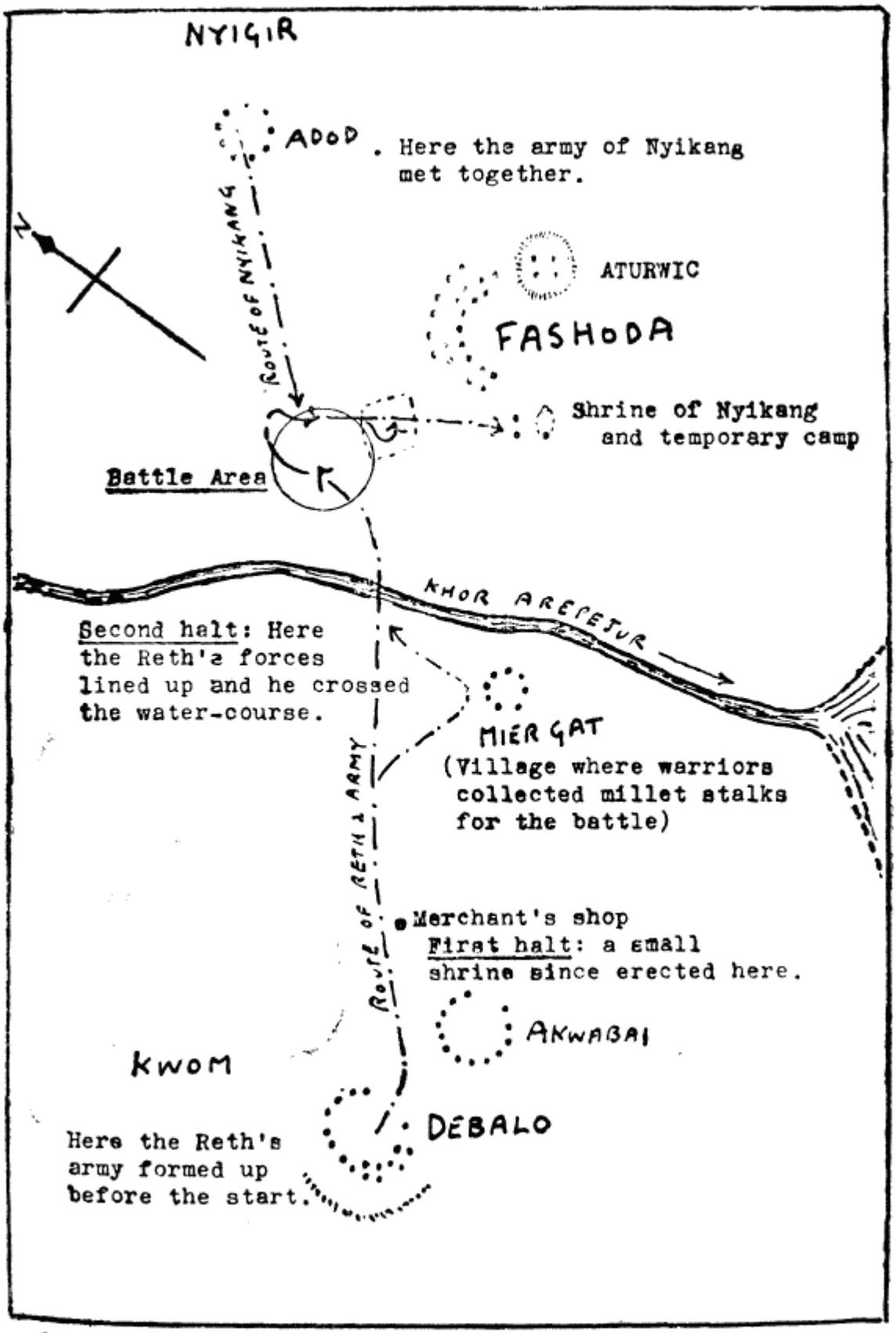
The main events of each phase are described from the records of all the observers who attended. We have deliberately avoided an over-detailed description of the events and behaviour of the participants,

for the really significant rites would thus be lost. More detailed descriptions and explanations are recorded in the Notes with numbered references in the text.

The Reth's March From Debalo to Arepejur.

On the morning of March 11th, the *reth* was still at Debalo, and his warriors, together with some of the chiefs of the south who had come in to pay homage to him the day before, began to assemble in the village. By 8 a.m. there were large clusters of them seated in the shade around the houses ready to move off when the *reth* was ready. At this point of the proceedings we were told that the Kwa Okelo, who should have been at Debalo by then, were not ready, and that they were known to be mustering at their village which is only a mile from Debalo. There were obvious signs of preparation within the *reth's* hut, but we saw nothing of significance except the sheep and goats which had been taken that morning from the self-confessed adulterers and seducers of girls. The sheep and goats were brought to the *reth's* house in charge of four men but they were driven back to the cattle byre from which they had been brought after a few minutes. Meanwhile a message had been sent out to the Kwa Okelo to tell them to hurry and to bring with them the small girl (*nya kwer*), (Note 7) who plays so important a part in the ceremonies.

About an hour and half later the Kwa Okelo could be seen in the distance to the south of Debalo. Behind them and mustering in another village were the Kwa Ojul. Both parties began to move off in the direction of Debalo. On their arrival they drew up in close formation outside the village and near to the *reth's* hut. They were carrying spears but no shields and were singing songs. The gist of these songs was that Nyikang had returned with the wind. In the midst of the Kwa Okelo a small cluster of women could be seen and among them *nya kwer*, and in front of them was a single man who, carried aloft a small basket covered with a grass mat, doubtless *nya kwer's* "luggage." The Kwa Okelo marched into Debalo, but the Kwa Ojul remained outside and did not join the procession until the



SKETCH-MAP SHOWING AREA OF INSTALLATION CEREMONIES.

THE FIRST DAY OF THE INSTALLATION.



1.—DEBALO. Just before the march to Fashoda.
The *reth* dressed in white with a dark sash is standing outside his quarters awaiting the gathering of his warriors.



2.—AREPEJUR. Casting the black bull over which the *reth* must step before the crossin

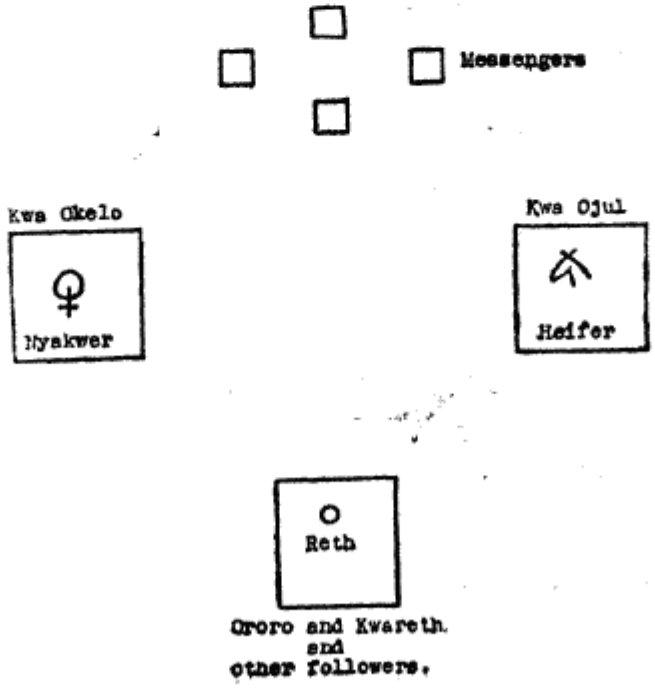
reth had left his house, when they drew up on the north side of the village to take over the heifer which traditionally they must lead backwards from Debalo to Fashoda. This heifer, a brown one, had been brought into the village previously, and was already tethered in the centre. The Kwa Ojul, however, had brought with them the sheep over which the *reth* must step at Khor Arepejur.

Meanwhile the *reth's* body-guard and the Ororo were clustering round the entrance to the *reth's* hut. It was difficult to see any definite formation of clans at this point, and there was some confusion about positions, but the Kwa Okelo, and with them *nya kwer*, who was completely surrounded by women, were in the centre of the village. Jago Yoleiker Ajang, the chief of Gol Nyikang, was much in evidence and dressed in a Mrs. Gray antelope skin (Note 8), and it was presumably his traditional duty to get the assembly into some order.

From out of the *reth's* compound there first came his women attendants who had accompanied him from Fashoda and carried with them cooking materials and food in baskets (Note 9). Immediately after this the assembly drew up in roughly semi-circular formation facing the *reth's* hut and began to clap and sing in honour of the *reth*. The *reth* then appeared at the door of the homestead, and, stepping over a white sheep which had been pegged down in front of him, he stood with his back to the fence facing the multitude. The spear, wrapped in white cloth, and which together with the beads of Ocoro is collectively known as Nyikang was brought out and held beside him. After much singing and acclamation the *reth* moved forward and, heavily guarded by the Ororo, took up his position in the centre of the village. The procession was then ready to start. Kwa Ojul, who never came into the centre of the village, began to drag the heifer backwards at the front of the procession, but abandoned the attempt lower down the slope. Thenceforth it was led in the normal way, but scarcely visible for the crowds who surrounded it. The party then moved off in the direction of Fashoda, and a white bull, which had been tethered in the centre of the village alongside the heifer already mentioned,

was cast and slaughtered. The procession did not move far. A violent quarrel broke out between the clansmen of Kwa Okelo and Kwa Mal. The argument arose over the privilege of sowing cowry shells in the *reth's* path on his journey to Fashoda. Kwa Mal maintained that it was their traditional right to do so, but Jago Yoleiker had given the shells to the Kwa Okelo. The Kwa Mal considered themselves slighted, and *nyireth* Nyawelo, the eldest son of the late *reth*, who attempted to intervene, seemed to aggravate the dispute rather than settle it. Finally the custom of sowing cowry shells was abandoned altogether, as there was a complete deadlock between the parties concerned.

The procession then moved on its way down the slope to the plain below, singing and beating spear-shafts together as they went. Again they halted, and here another argument arose, this time over the shield of Nyikang, which should be carried before the *reth* (Note 10), and which had been forgotten. Informants stated that this was a small shield slightly larger than those carried by girls at play, but smaller than a fighting shield. Eventually an ordinary battle shield was produced as a substitute, and the shield-bearer took up his position in front of the *reth*. The party moved on, Kwa Ojul on the right and Kwa Okelo parallel on the left, in front of them the *reth's* messengers and behind the main body of followers surrounding the *reth* himself :—



The assembly had by then formed up in better order, which they retained until the *reth* stopped for refreshment. Thereafter the high grass at the side of the narrow track precluded the original formation, and Kwa Ojul went ahead, followed by Kwa Okelo, and the *reth* and the main body of the people behind.

On reaching the outskirts of Akwabai about half a mile from Debalo, the first messenger of the *reth* ran ahead to bear news to Nyikang of the *reth's* approach. The *reth's* messengers are said to be Kwa Otwot, and it would follow that they are members of one clan. In fact they are chosen from many clans (Note 11).

Shortly after the despatch of the first messenger, the *reth* retired to the Arab merchant's shop for rest and refreshment, and the crowds squatted down on the grass ahead. After an interval of ten minutes, the *reth* came out again, and, walking fast, took up his position with the Ororo and Kwareth once more, and the procession moved off again in the direction of Fashoda. By this time the party had reached Khor Arepejur and spread out in a long line several ranks deep and parallel to the watercourse. The crowd was obviously larger than at Debalo, for people had been joining in en route, and late-comers had caught up. Others broke away and ran off to nearby villages, where they left their spears and collected millet stalks for the struggle with Nyikang which was to follow.

The Crossing of the Watercourse.

On the opposite side of the watercourse Jago Thabo, the titular chief of Gol Dhiang, with a small party of warriors had arrived to hand over the black bull, over which the *reth* must step before crossing Arepejur, and bearing with them a fish spear wrapped round with a grass mat, another of the many sacred spears of Nyikang. On the other side also were two members of the Kwa Mal carrying a chicken with which they swept the path of the *reth* after he had crossed over.

Just before the *reth* and his followers reached the watercourse a "dust-devil" was seen whirling down towards Fashoda and this was

a significant omen to the Shilluk, for they say that Nyikang disappeared in a dust-storm and returns with the wind.

Meanwhile those warriors who had run off to fetch millet stalks had rejoined the ranks of the *reth's* army and already the dust raised by the host of Nyikang marching down towards Fashoda could be seen in the distance. Finally the army of Nyikang appeared on the horizon just west of Fashoda, the feathered head of Nyikang in their midst and Dak towering above them. At this point a messenger ran forward to Nyikang bearing a message from the *reth*. This man made two journeys between the opposing forces and returned for the second time just before the *reth* crossed the watercourse (Note 12). The *reth*, who had been standing at the head of his forces and immediately behind his shield-bearer, then walked forward and, holding the small girl *nya kwer* by the hand, stepped over the sheep which had been cast on the ground in front of him, advanced a few paces, and stepped right over the black bull which lay bound on the very edge of the watercourse, and then walked swiftly across to the other side.

The March of Nyikang from Adodo Nyigir to Fashoda.

The simultaneous advance on Fashoda by Nyikang, Dak and their followers is described by the Rev. D. McClure as follows :-

"On the morning of the induction of the Shilluk king at Fashoda we went early to the village of Adodo, in the district of Nyigir, to watch the procession of Nyikang and Dak from Adodo to Fashoda, a distance of about two miles. We arrived at the village about 7 a.m., and found the place filled with men (the women keeping to their houses), and most of them gathered about a small black bull, which was being peacefully brushed with grass and the horns brightened with oil. Then a group of twelve young men called the Golbany led the bull outside the village, and made ready to start for Fashoda. They waited until three old men appeared from the huts, in which Nyikang and Dak were residing, each carrying a sacred spear, which they carried with the spearhead upwards; and the spear handle was never allowed to

touch the ground, but always rested on the foot of the bearer when he stopped[15]. These three men took their place at the head of the "bull procession", and started for Fashoda.

We were told that as soon as they reached Khor Arepejur in front of Fashoda they would send messengers back to our village of Adodo and others ahead to the village of Debalo, where the king-to-be-inducted was residing. Then when the messengers arrived at the respective villages the two processions would start simultaneously from the villages about equal distance from Fashoda to meet at Khor Arepejur for the final ceremony.

After the Golbany and the old men left, preparations were made for a sacrifice inside the enclosure in front of the houses where reside Nyikang and Dak. I noticed that no one passed these houses without bowing low and saying *Kwa dibong*, which in modern parlance would be "Your Honour". A small ram was brought, and then was killed by having its throat cut. This ceremony was attended by only a few of the people gathered in the village, and the others did not seem to pay much attention to it. A few minutes later, however, a female goat was brought and tied to the enclosure, on the outside, and all the men in the village gathered and sat on the ground in an attitude of utmost respect, every man with his feet under him and the backs of his hands touching the ground in front of him. Most of the people in the village were the custodians of Nyikang and Dak and had been accompanying them on the eight-day march from the village of Akurwa, which is the traditional home of these gods. None of these men carried spears, but all were armed with whips of Nyikang, which is rather a testimony that these gods do not need clubs and spears to protect them, but men armed as women are sufficient to overcome all opposition. There were about sixty men in the group from the village of Akurwa led by their chief. As the young female goat baa-ed, one of the old men in the group addressed it thus, "why do you cry, are you not

15. This was the practice with all sacred spears, and the images of Dak and Cal as well. Nyikang of course was never put on the ground.

happy to be given to *Kwaa*[16] ? Perhaps you too are praying just as we are ? Do you know *Kwaa* ? He is there being guarded ; soon he will come out and start his journey." Then the old man addressed Nyikang, " *Kwaa*, you are great ; we are all your children, even this goat, and we are here to serve you." Then the goat was led away. I asked about the goat and they said it would not be killed, but would return to the flock as a sign that all the flocks belonged to Nyikang.

About this time I heard one of the young men say he was thirsty' and when I jokingly asked him if there was no beer in the village for them, he said that no beer would be drunk that day in all the land, until after the king had been inducted at Fashoda.

I asked about the gods and they said they were being prepared for the journey and soon would come out of the houses. The houses were not shrines but belonged to the chief of the village, and nothing had been done to them except a new fence of cornstalks built around the door. I asked if I might go inside the enclosure, and when no one objected, I entered the *kal*, and found six men seated on the ground and two sacred drums one on each side of the door of the house, each on a cow skin. I took some pictures of the *kal* with the men and drums, but when I suggested that I enter the house where Nyikang resided, they demurred, and one man took up a position against the mat door, to bar my entrance.

At 8.50 the two drums were beaten five or six strokes each, and I thought things were going to start, but all the people bowed themselves to the ground and said, " *Kwaa* speaks. *Kwaa*, you are great *Kwaa*, speak to us."

Five minutes later, two young men came out of the *kal* carrying the sacred drums (small black drums not unlike kettle drums), and each sat on a cow-skin and alternately beat his drum with the handle of a hippo-hide whip. (These drums they call *thom*). The beat was not that of a dance, but a regular tum, ta, ta, ta, tum ; repeated over

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16. *Kwaa*—our ancestor.

and over. The men beat alternately, and were accompanied by the people seated on the ground in front of them chanting together, "*Kwaa*, you are great, *Kwaa*, you are great."

A few minutes later young men brought out bundles of sticks and ropes called *ongero*, which had been brought from the Fanyikang district near Tonga.

At 9.15 a messenger appeared from Fashoda and the tempo of the drums was increased. Soon everyone in the village (including the women who had been keeping close to their houses) was seated in front of the houses. As the beat increased the people began to chant together "*Kwaa dibong, Kwaa dibong*", and to lean forwards and backwards. One man asked me why I did not place my hands on the ground and say "*Kwaa dibong*", and when I asked him if one should worship with the lips or with the heart, he quickly got the point, and said it was bad to worship only with the lips, for Nyikang would know. Then four men appeared with baskets on their heads over which were spread small mats. On inquiry I was told that no one knew just what was in the baskets, but on later inquiry I discovered they were the "things of Nyikang" such as his shoes, cloth, beads, food, and the like. At this point an old woman appeared from the house, and I was told she had been preparing Nyikang for the journey, and she was called *nyakwer* (Note 13) or *nyibang Nyikang* (slave of Nyikang). It seems she is something of a priestess in that she takes care of Nyikang at the village of Akurwa and resides in the temple of Nyikang. She now led the people in song, a few words of which I was able to get, and which were as follows:—"Open your mouth, Great One, and speak to us. Tell us what you are going to bring to us. Promise us the things we beg of you." This was repeated over and over with the old woman leading and the others following antiphonally.

The point behind the song is that these people of Akurwa are guardians of Nyikang, and they will not stir out of their village unless the new king promises them great riches. The new king had promised

so many cows, sheep, spears, etc., and now the people were thrusting themselves upon Nyikang to make sure these things would be delivered to them. They were begging Nyikang to speak to them and assure them that the things would be forthcoming. In all the ceremonies I witnessed the element of begging was paramount, the people begging Nyikang to speak to them and promise them "things of the earth" to enrich them. The element of worship and adoration was singularly lacking. (Note 14).

After this song everyone turned their backs to the opening of the *kal* (enclosure), and the drums started to beat again. This time the people were silent, and soon Dak appeared and came out of the enclosure. Dak was about twelve feet high, carried on a long bamboo pole. The body of the figure was about eighteen inches long and approximately five inches thick, of a cylindrical shape wrapped about with blue and white checked cloth. It was crowned with a splendid plume of ten to dozen ostrich feathers, all black. Dak was carried by a middle aged man, and I was told that he would receive 'great riches' for his work, probably three or four cows. Dak circled the house three times and then came to rest again at the entrance. At this time two sheep were sacrificed, one at the door of the *kal* and the other beside the road in the direction of Fashoda. These sheep were allowed to lie where their throats had been cut, but I noticed later that, as soon as the procession had passed, the women of the village went out and dragged them in to be eaten.

As Dak stood at the entrance, the drums changed their beat and everyone began to chant "*Kwaa*, you are great". Then Nyikang appeared out of the house and took his place beside Dak. He was carried by a man of middle age. Nyikang was much larger in body than Dak, though not nearly so tall. I estimated the body of the figure as being about five feet long and a foot thick. It was wrapped in the same cloth as Dak and crowned with a much more profuse plume of ostrich feathers. Two long streamers fell away from the head and

were as long as the body. Dak could rest on the ground[17] on the end of the bamboo pole, but Nyikang was never taken off the shoulder of the man carrying him.

As the procession started another sheep was sacrificed and the blood sprinkled on the ground in front of the marching men. Dak and Nyikang led side by side, with the two drummers taking their positions on each side and constantly beating the drums. The men with the six baskets came next, and then the men with bundles of sticks and ropes. Finally all the followers fell in behind.

The village was circled three times at a half trot, all keeping time with the drums, and then they started for Fashoda at 9.30 a.m. Relatively few people were in the procession as they started, but hundreds began to gather in from all sides until there were approximately six hundred followers when they reached the *kal wi jang* (place of calling together). Two hours were required for the procession to go two miles, for there was much dancing and singing, moving forward and again backwards, along the whole way. As the people danced along in rhythm to the drumbeat they also sang "open your mouth, Great One, and bring us your promises" or "open your mouth and answer our beggings." From time to time Dak would run out ahead as if to survey the road, and then come back to his place beside Nyikang. If the people crowded too close, Dak would run after them, and everyone would scatter as if the devil were after them.

On reaching a spot within half a mile of Fashoda the procession stopped and waited until messengers had gone to meet the king's party coming from Debalo. They brought back with them some cattle tethering ropes as tokens of the cows and bulls to be paid. One or two of these were refused by the elders who were gathered under a tree, and the messengers had to go back again. Finally all was arranged, and with much shouting and drum beating, the procession started for Fashoda to meet and fight with the followers of the approaching king.

17. We think that Dak never rested directly on the ground but on the bearer.

Just as the king's party was sighted, four men came out of Fashoda carrying the sacred shield and spear of Nyikang. As Nyikang and Dak approached this group there was something of a scuffle, as if the shield and spear were loath to join the procession. But after a short sham battle and much waving of spear and shield, they were persuaded to march with Nyikang, and the procession again moved on to meet the king and his followers at Khor Arepejur in front of Fashoda. This is the traditional battle ground, on which the forces of the king and those of Nyikang join in a great sham battle, both sides using corn stalks instead of spears, and fighting until the followers of Nyikang overcome the guardians of the king and capture the king to carry him away into Fashoda.

The two armies were now drawn up facing one another, the host of Nyikang awaiting to join battle with the *reth* and holding the high ground to the west of the capital.

The Battle

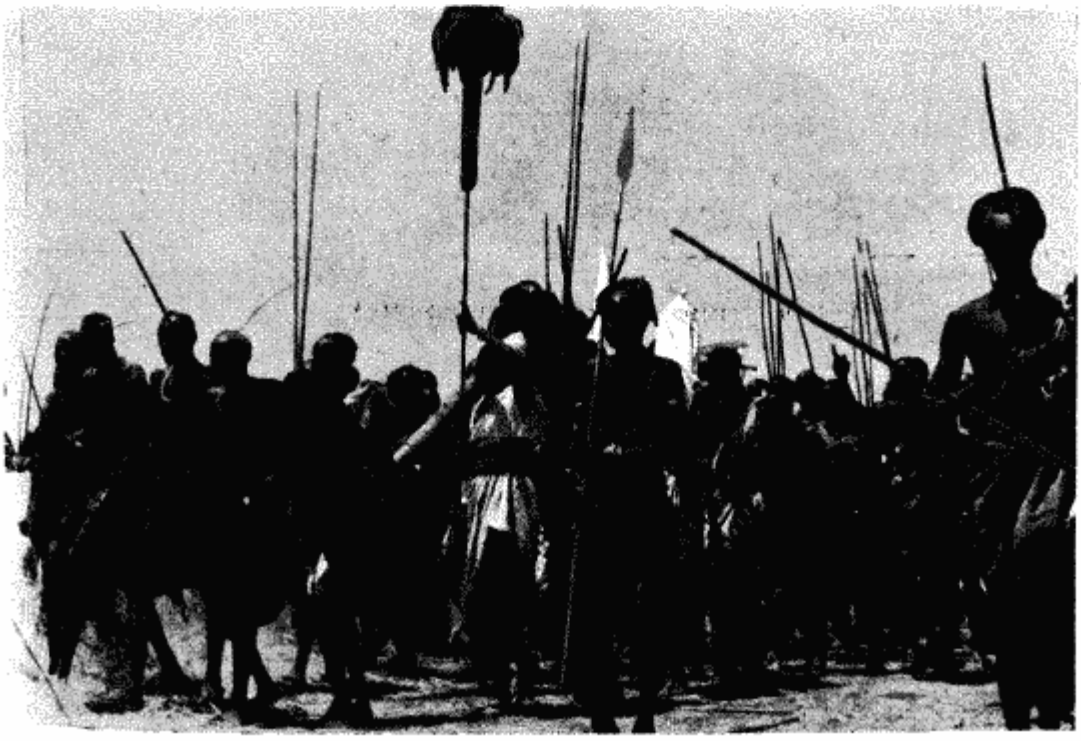
(P. P. H.)

As soon as the *reth* had crossed the watercourse, he and his army advanced at a fast pace in the direction of the host of Nyikang, who had remained on the high ground opposite Fashoda. When the distance between the two parties was no more than two hundred yards the shield-bearer of the king moved forward, and began to dance in a threatening manner, dodging and retreating and advancing in the direction of Nyikang. Small parties of warriors broke away brandishing their millet stalks in the air. The warlike attitude of the opposing armies became apparent. The Kwa Nyikwom who were leading the army of Nyikang began to move, and a few of them broke away in front, brandishing their whips and ropes. Women in the background cried out in exultation and encouragement, and with wild shouts and holloas the armies fell upon each other. The air was filled with flying millet stalks, and such was the confusion that it is difficult to record accurately what happened, but the *reth's* army was considered to be repelled,

THE FIRST DAY OF THE INSTALLATION.

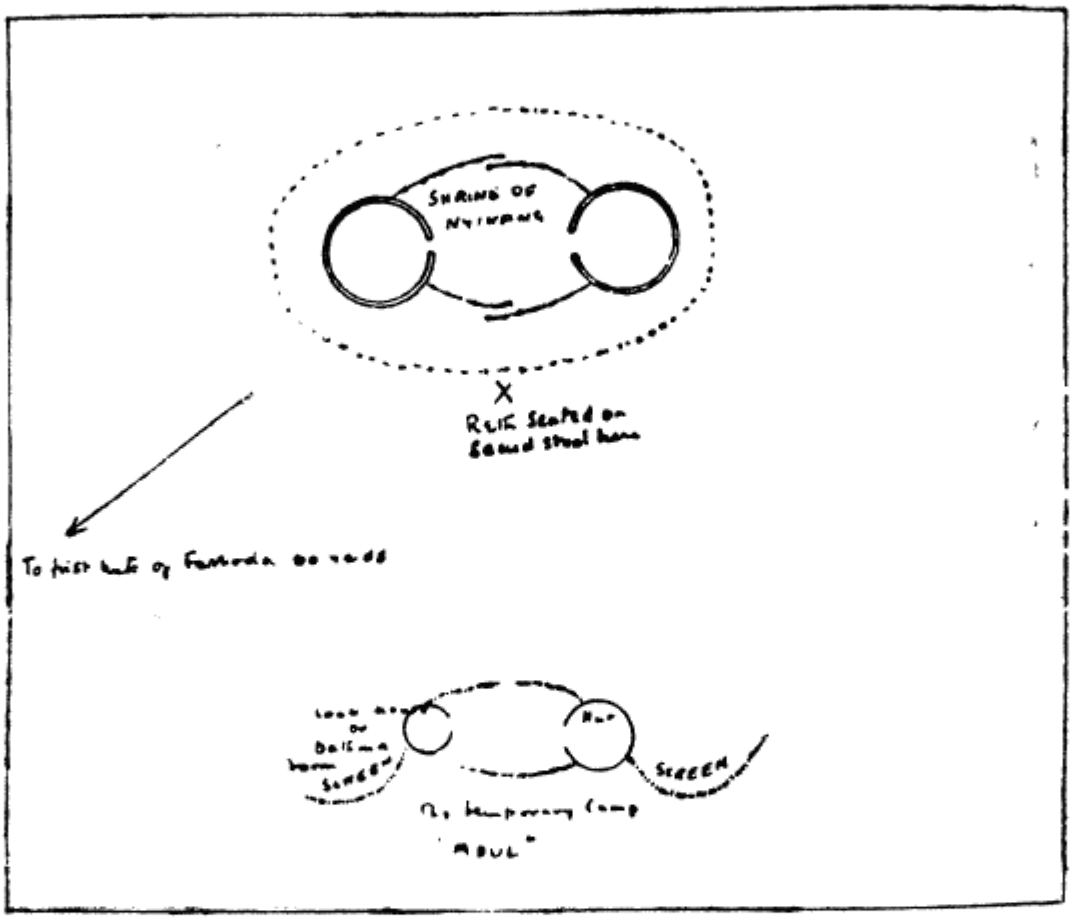


3.—The battle between the two armies outside Fashoda.



.—After the battle the *reth* is seized by Nyikang and led off to Fashoda. The *reth* is concealed by Nyikang.

FIG. 5.



THE SCENE OF THE ENTHRONEMENT

and the *reth* himself captured by Nyikang. Shortly after the first onslaught he was seen in the midst of a crowd of Kwa Nyikwom, cut off from his own followers, and as the procession moved on towards Fashoda he took up, or was forced to take up, his position under the shadow of Nyikang, clasping the effigy with both arms and the black ostrich feathers screening his face.

The eldest son of Fafiti then remarked with relief *"rony arum,"* "the installation is assured", meaning that the great crisis was passed.

The Reth carried off to the Shrine by Nyikang.

The party with Nyikang and the *reth* in their midst then turned towards Fashoda, and walked slowly in the direction of the cleared space which marks the pool of Cerfuc (Note 15). The drums of Nyikang, of which there are two sets, and which accompanied Nyikang from Akurwa, were carried in front and beaten with the rhythm characteristic of the march of Nyikang. The procession drew up to the cleared space called Cerfuc and halted. In the middle were a group of people clustered together. They were the Kwa Okelo, who were engaged in wrapping the brown heifer from head to tail in white cloth (Note 16). When this had been done, they remained in the centre of the square while Nyikang, with the *reth* immediately behind him and apparently entangled in the cloth wrappings which hang down from the head of the effigy, processed three times round them. With much singing and drumming the party then faced the shrine of Nyikang, while the Kwa Okelo speared the heifer, and tore off the white wrappings, which immediately were seized and carried away by the crowds as sacred relics.

The Enthronement and Substitution.

After the spearing of the heifer, the *reth*, still closely led by Nyikang, advanced towards the shrine. Meanwhile the canopy of white cloth, which is held up to screen the sacred stool (Note 17) of the Shilluk from

the public gaze, and the ox-hides upon which it is placed, had already been brought out and set up at the entrance of the shrine, and the stool itself, heavily swathed in white cloth, was hurriedly carried out. Behind stood a Shilluk holding the fish-spear of Dak, which was also wrapped in white cloth. The party escorted by the Kwa Nyikwom with Dak well to the fore then moved up to the canopy, and the effigy of Nyikang was set upon the stool, while the *reth* knelt down and clasped the legs on the north side. The chief of Kwa Nyikwom knelt down and clasped the legs on the other side, and *nyakwer* seated herself to one side of the *reth*. After a long period of much chanting but no visible movement, the effigy of Nyikang was lifted from the stool and hurried into the shrine immediately followed by Dak, and the new *reth* took his place upon the sacred stool of the Shilluk, facing the crowd, but still well screened by the canopy. The place of the *reth* holding the stool for Nyikang was now taken by the *jal tyel kwom reth* (chamberlain). It was not possible to follow all the ceremonial which followed. The party was screened on three sides by the canopy, and the *reth* himself was surrounded by functionaries. The *reth* himself, seated on the stool but screened by the canopy, was facing the crowd, and the chamberlain and another Shilluk knelt on either side to hold the legs of the stool, while *nyakwer* was sitting on the ground to his left. In front was held the sacred spear of Nyikang, which had accompanied the *reth* from Debalo. The majority of the crowd had already dispersed and either took no further interest in the procedure or were not allowed to do so, and those who were watching close at hand were for the most part Kwareth, Ororo, or the attendants of Nyikang. Nevertheless this was the crisis of the ceremonies. The act of substitution upon the stool symbolizes to the Shilluk the possession of the *reth* by the spirit of Nyikang, and we saw that the *reth* was seized with a trembling fit at the critical moment, and certainly he appeared to be in a dazed condition immediately afterwards, when he walked across to the temporary camp opposite the shrine.

After sitting on the stool for about twenty minutes, facing the people, still screened by the canopy, the *reth* arose and escorted by the chief of the Kwa Nyikwom, who held his right hand, and by *nyakwer*,

who held his left, walked across the open space in front of the shrine. Here another ox, this time a black and white one, also swathed in white cloth and covered over the back with a leopard-skin decorated at the edges with cowrie shells, was tethered. Beside it stood two men of Kwa Ojul, one holding a crude straight-bladed sword, the other holding a spear. These were said to be yet further weapons of Nyikang, and each in turn was handed to the *reth*, who stood at the tail end of the ox, and with each he made three passes in the air over the back of the ox, which was then led off to be sacrificed.

The Temporary Camp.

After this ceremony, the *reth*, still accompanied by the chief of Kwa Nyikwom and by the small girl *nyakwer*, entered the screen, which surrounded the temporary huts, and he himself entered the larger of them. These huts were built under the personal supervision of Jago Yor Leiker and Jago Tabo, the chiefs of the south and north. The huts were built of grass, and similar to those built in Shilluk cattle camps. The larger was considered the *reth's* temporary residence, the smaller the kitchen, where his food should be prepared and where the water was heated for the ritual bathing. The bull mentioned above was stripped of its coverings, which were again torn to pieces by the crowd, and the leopard skin was taken into the shrine of Nyikang. The bull was speared and fell to the ground immediately in front of the *reth's* temporary camp. After this the public part of the first day's ceremonies was over. The *reth* had retired into seclusion, and those Shilluk who had remained to watch the ceremony of the stool soon dispersed and went off to rest in the shade around Fashoda. Only the Ororo, Kwareth and Kwa Nyikwom, the immediate attendants of the *reth*, remained to guard him and minister to his wants.

The effigies of Nyikang and Dak had already been carried into the shrine. The drums were also put away, and the sacred stool, which had been carelessly left with the canopy draped over it, was carried off, the canopy held around it so that no one could see it go,

to the mound of Fashoda, which is called Aturwic, and with it the shield and spears of Nyikang.

The *reth* was now in seclusion. No one but his most personal attendants might visit him. We were told that he would be stripped, bathed, and clothed in new robes during that afternoon. It was neither seemly nor possible to enquire too deeply into this part of the investiture, for it is conducted in strict secrecy. There is evidence that this ritual bathing takes place within the temporary camp Adul, because the smaller of the two huts is known as the "bathing room." Shilluk say that the *reth* is bathed alternately with hot and cold water, so that he shall not be subjected to extremes of temperature. It is a symbolic rite emphasizing his people's desire that he shall rule them with even temper throughout his reign. The fact is mentioned by Munro in his account of Fafiti's installation (Note 18), and informants confirmed the tradition at the installation of *reth* Anei.

During the heat of the day the main crowds dispersed to their homes, but there were still large numbers of Shilluk sitting in and around Fashoda that evening. Most of these were relatives and friends of the inhabitants of the capital, who provided them with refreshment, since the ban on drinking beer was lifted after the *reth's* retirement. The Ororo and attendants of the *reth* were putting up wind-screens round the *reth's* camp, under which they would sleep that night to guard him from possible attack. The danger to the *reth's* life was not yet over, a fact which repeatedly appeared from the care and attention of his guardians. The Shilluk describe this period of the ceremonies as "the *reth's* camp *outside* Fashoda", and it was evident that he had not, in the eyes of the Shilluk, entered his capital. His final acceptance by Nyikang and by the Shilluk people still remained in doubt, though one of the most dangerous periods of his initiation from election to final installation had been successfully passed.

The same evening outside the shrine of Nyikang some of the

Kwa Nyikwom were gathered and busily engaged in the spiritual decontamination of persons who had obstructed the passage of Nyikang on his march to Fashoda. These persons had incurred the displeasure of Nyikang, and were in grave danger of their lives, unless steps were taken by the Kwa Nyikwom to remove the curse by rites of purification. The two parties concerned were seated about two yards apart. Each had a potsherd filled with smouldering grass in front of him. The attendant member of the Kwa Nyikwom cut off about half an inch of the hippo whip he carried and burnt it in the embers. His victim them blew upon the embers, which burst into flame, but were extinguished with water. The ashes were removed and the victim anointed with them on the back, chest, palms and soles. For this privilege each handed over a chicken and a spear as a fine for a breach of traditional observance in hindering the path of Nyikang.

The Making of New Fire at Fashoda.

Just before dusk a group of Ororo and Kwareth began to gather near one of the wind-screens at the side of the temporary camp. All fires in Fashoda had been extinguished. A wooden club of no special origin or sanctity was brought and the shaft of a spear detached from the blade. A small hole was pierced in the handle of the club, and the spearshaft sharpened to fit this hole. The ritual kindling of fire which followed was no different from the normal method of fire-making with sticks, except that several persons co-operated in twirling the shaft. One man held the club firmly to the ground, while each man twirled the shaft in turn, the hands of the second starting at the top of the shaft, as soon as the first man's hands had reached the middle. A continuous twirling motion was thus maintained. The tinder in the hole soon began to smoulder and grass was added and in a short time burst into flames. The fact that no difficulty had been encountered and that the fire had been kindled quickly was regarded as a good omen. Men and women who had been sitting nearby came up to light their pipes from the fire, and embers were carried off in all directions to relight the fires of Fashoda. The making

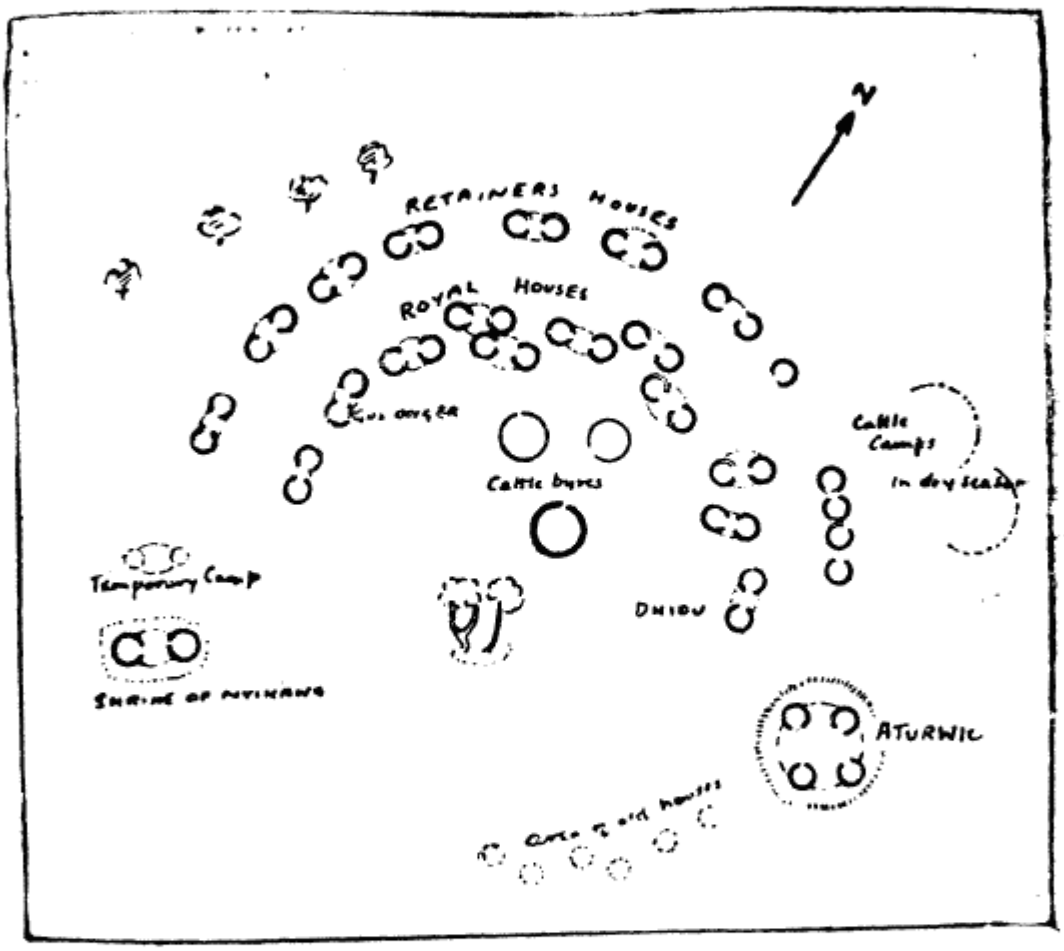
of fire ceremonially at Debalo has already been mentioned. This ceremony completed the first day. Nothing further occurred, though members of the Kwar Nyikwom danced and sang during the night, and sporadic drumming could be heard until the early hours of the morning.

Interval.

During the two days after the *reth's* formal installation on the sacred stool no public ceremonies occurred. The *reth*, still in strict seclusion, moved only at night, and the rites enacted were conducted in secrecy. To the bulk of the people his whereabouts remained unknown. It appears that he spent one night in Adul (11th—12th March) and that the ceremony of tying on the sacred bead of Acoro took place on the morning of the 12th March. It was not possible to witness any of these rites, and inquiries were met with evasion. An air of reticence and mystery veiled the scene. On the evening of the 12th and after dark, the *reth* went up into the mound Aturwic, and it is said he was enticed away by a woman of the Ororo (*nyaroro*), leaving behind him *nyakwer*, the girl of Kwa Okel who had accompanied him from Debalo. During the night of 13th-14th the *reth* visited Dhidu, a house which is below the mound of Aturwic and nearest of all houses to it. This visit must also remain a mystery. Answers were evasive and probably deliberately misleading, though some informants said it was the house occupied by the Ororo girl.

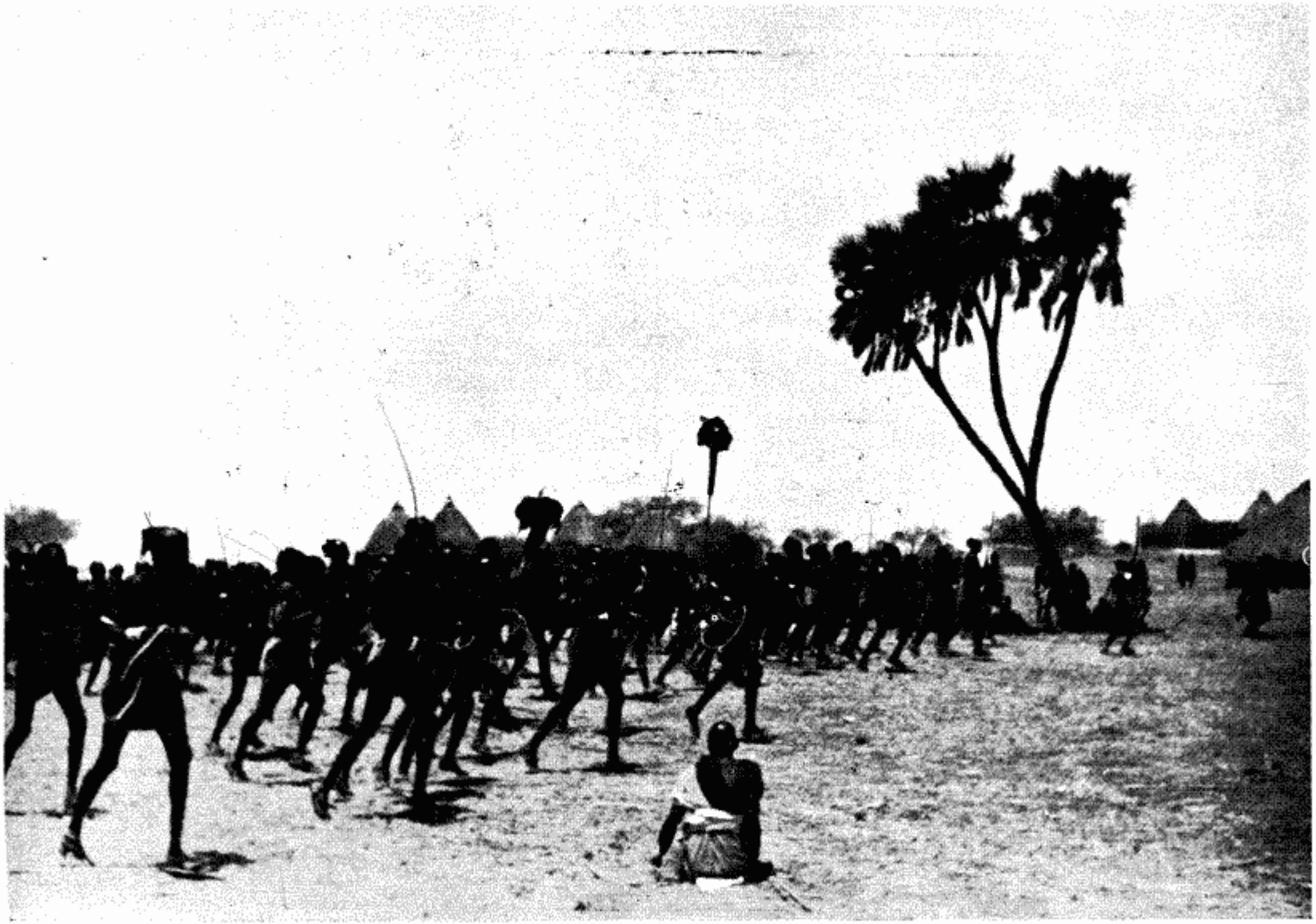
The Fourth Day.

The ceremonies of the fourth day centre round the person of *nyakwer* and emphasise the continued opposition between Nyikang and the *reth*-elect. *Nyakwer*, "the girl of the ceremonies", who is provided for the occasion by the Kwa Okel, and who accompanied the *reth* from Debalo, had entered the temporary camp Adul with the *reth*. Thus far her status and the part she plays in the ceremonies had remained obscure. It was not clear whether she could be regarded



SKETCH PLAN OF FASHODA

The Fourth Day of the Installation.



The army of Nyikang led by the Kwa Nyikwom and brandishing whips and ropes charges through Fashoda towards the *reth*.

as the wife of the *reth* or not. The answer depended on the cattle which had been handed over to the Kwa Okel by the *reth*, and whether they are considered bride-wealth or merely a reward for her services, in the same way as the sheep and cattle given to other expert functionaries who assist. The Shilluk say that the girl does not remain the wife of the *reth* and is handed to some favoured subject after the ceremonies are over. Up to this period in the ceremonies it was therefore problematical to us whether she is regarded as wife at all. The world *kwer* means literally "ceremony or ritual", and the girl is sometimes called *nyaroiny*, *roiny* being the term used for the induction ceremonies. This gives no clue to her status, but points to the ritual nature of her functions. The ceremonial acting of the fourth day, however, makes it quite clear that the cattle are indeed bride-wealth, and that she is regarded as the *reth's* wife, at any rate for the duration of the ceremonies.

According to tradition, *nyakwer*, remains with the *reth* in seclusion in the temporary camp outside Fashoda until the second night, when he is enticed away by a girl of the Ororo, who induces him to follow her up into the mound called Aturwic. *Nyakwer*, neglected and forgotten, is left in the temporary camp, until Nyikang steals out from his shrine and carries her off with him. Only on the morning of the fourth day does the *reth* notice her absence and call for an explanation. The chief of the Kwa Okel, "the father of the girl", is summoned by the chief of Gol Dhiang, and is questioned by the *reth*. He denies all knowledge of her whereabouts. "Why do you not know?" demands the *reth*, "Have I not married her with cattle which are now in your possession? Go, bring her back to me." The chief of Kwa Okel goes off in search of her, but returns shortly afterwards to say that he has heard that Nyikang has seized her. He is ordered by the *reth* to fetch her, and goes off to request her return from Nyikang, using the *jago* of the Kwa Nyikwom as an intermediary." "Whose cattle are these?" says Nyikang, "Are they the *reth's* or are they mine?" (Note 19). The *jago* of Kwa Okel returns to the *reth*

with news of Nyikang's refusal, but is again sent to fetch her, this time accompanied by the chief of the Gol Nyikang. On their repeating the *reth's* demand Nyikang falls into a fury of rage and cries out that he will punish this presumptuous young upstart, who lays such outrageous demands on his property. Immediately he calls for his drummers, who beat out a tattoo summoning his warriors to war. The two envoys of the *reth* return to warn him of Nyikang's anger, and once more the two armies prepare for battle.

This is the traditional explanation of the cause of the second battle, and the tradition was faithfully enacted. Early that morning Jago Ajang of the Kwa Okel was summoned to Aturwic and was seen later searching for *nyakwer*. After talking with the Kwa Nyikwom outside the shrine he went back to Aturwic and returned accompanied by Jago Yor Leiker, the chief of Gol Nyikang. Together they entered the shrine, but hurried out almost immediately, and the drums of Nyikang began to beat. The Kwa Nyikwom and other followers of Nyikang, both male and female, clustered round the shrine, and the drummers continued to beat the drums either seated inside the withy fence, which surrounds the shrine, or walking round the whole building. An ox-hide was laid in the open space between the shrines and the temporary huts, and the drums placed thereon. Nyikang's followers began to dance and sing, the words of the song indicating that Nyikang was angered, and that the *reth* should appease him. The dance continued for some time, the dancers working themselves into a frenzy of excitement, leaping high into the air with arms stretched above them. Suddenly Nyikang and Dak appeared at the entrance of the shrine, and the army began to collect round them. Led by Dak they encircled the shrine three times, and then marched off to the hut known as *gol onger*, where the ropes of Dak and the whips are kept. The Kwa Nyikwom armed themselves with these and moved forward towards the mound, with Dak and Nyikang at their head. At this point another effigy appeared, a smaller one with grey (female) ostrich-feathers for the head and a slim body of twined rope. This was Cal another son of Nyikang. (Note 20).



THE FOURTH DAY OF THE INSTALLATION.
Nyikang and Dak go up into the mound Aturwic to make peace with the *reth*.



THE FIFTH DAY : SPEECH DAY.
The *reth* comes down from Aturwic.
He is second from the left and dressed in a Mrs. Gray antelope skin, and behind him is the fan made from the wings of a Saddle-bill Stork.

Meanwhile the army of the *reth* was gathering below Aturwic, and the *reth*, dressed in white with a Mrs. Gray skin draped round him and five ivory bracelets on each arm, descended among them. Armed with millet stalks, they began to move slowly forwards in a threatening manner towards the army of Nyikang. When only a hundred yards separated them, a violent argument broke out about the bull, which should have been provided for the occasion to be tied down and walked over by the combatants (Note 21). Both parties retired and the *reth* went up on to the mound again, where he could be seen standing at the central entrance, a long millet stalk in his hand. Nyikang, Dak, and Cal retreated to a point just outside the shrine. After a long delay the bull was brought and placed between the two armies, who advanced, and the *reth* in front of his army walked forward to throw the first spear (millet stalk), which fell at the feet of Dak. Millet stalks began to fly, and in the general mêlée, the *reth* rushed forward with a small escort and wrested *nyakwer* from Nyikang, and hustled her away through the ranks of his warriors up to the mound behind them. Three furious counter-attacks followed by the Kwa Nyikwom, who dashed forward waving and whirling their ropes and whips. Finally, with Nyikang and Dak and Cal, at their head, they reached the bottom of the mound and went up to the huts on top. Shortly afterwards Nyikang and Dak descended from the mound. It was said that all hostility between Nyikang and the *reth* was now at an end, and that Nyikang had accepted him as his successor. Then they started on a tour of all the huts in Fashoda. This was considered an inspection of the houses, and those sections of Shilluk who are traditionally called upon to repair them were fined by Nyikang if they had not done so. The fines were one head of cattle each, and one chief was fined for initiating a song, the privilege of the Kwa Nyikwom. This part of the ceremonies was taken lightheartedly, and the victims subjected to much witticism.

Nyikang, Dak and Cal then retired to the shrine. They took no further part in the ceremonies and did not appear in public until

their return journey to Akurwa some weeks later. The *reth* himself remained up on the mound, while the crowds dispersed to their homes or sat about drinking and chatting round the houses of Fashoda.

(W.P.G.T.)

The final ceremonies on 15th. March consisted of a general assembly of all important chiefs and elders from all over the Shilluk country. Speeches were made, mostly of exhortation. The *reth* was confirmed as supreme judge of the Shilluk people; and finally he was ceremonially shown round Fashoda by the chief of the Kwa Nyikang stopping at each house in turn.

The scene was laid in the open space south of Aturwic, and all the chiefs had been summoned by drum in the early morning. At the bottom of the mound we noticed the *kwom* (sacred stool), draped in white cloth as before; two spears, one wrapped in cloth, were held by bearers, one on each side of the *kwom*, and a small kettle-drum shaped like a basin, the property of the Kwa Wung who live mostly round Detwok, was set on the ground close by with its drummer. The lancebearers and the drummer were all from Kwa Wung.

Facing this stage were the assembled chiefs and elders of the Shilluk, with no conspicuous absentees, each one sitting down holding a spear. There was a clear space of some ten yards between the *kwom* and the chiefs.

In front of the entrance to the huts on Aturwic there was a sheep held tethered. Shortly the *reth* emerged from the huts followed by a group of women, wives and sisters: he and his important entourage were dressed in white with Mrs. Gray skins over the garments.

After stepping over the tethered sheep, the *reth* was led down the slope by the chief of the Kwa Nyikang. His retainers followed him, and most of them stepped over the sheep too; when he reached the bottom of the slope he was lifted on to the sacred stool, and sat facing the chiefs with his retainers grouped behind him: immediately

SPEECH DAY.



1.—Each chief, after making his speech, sticks a spear into the ground before the *reth* as a sign of homage.



2.—The *reth's* party below Aturwic, with the spears and shield of Nyikang. The drummer in front is beating a tattoo as a sign of appreciation of the speech just delivered.

behind him was a bearer carrying a fan made from both wings of the Saddle-billed stork joined in the middle like the letter W. He was wearing a silver bracelet on each wrist, and came down from the mound carrying two spears, each head downwards. After being seated on the stool, these spears were taken back by the chief of the Kwa Nyikang to Aturwic. A big white bull was then brought by the Ororo and tied to a stake north of the assembly.

Then the chiefs came forward one by one carrying a spear, head downwards: sometimes two got up together and a short argument arose, but the question was quickly settled by precedence. Some forty or fifty chiefs and elders each had their say in turn and after each speech the spokesman thrust his spear into the ground: if his speech met with approval (not we think the approval of the *reth* but of the drummer) he was given a tattoo on the drum, and escorted part of the way back to his place by the drummer drumming. The distance he was escorted depended on the merit of his speech. One chief, of Bur Nyiliec, came with no spear, and instead he laid a small object, probably a bead, reverently on the ground.

Most of the speeches, each of which lasted between two and five minutes, were rather trite; the following is a resumé of the more common or interesting points:-

"Anei has been elected *reth* without dissentient voice; all the Shilluk from Mwomo up to Tonga want him as their *reth*."

"All classes of Shilluk society, *kwa reth*, *bang reth*, and *colo* recognize you, Anei, as *reth*, for there was no fight on your appointment."

"The *reth* is alone and has no favourites."

"Assist your chiefs and help them to keep order."

A somewhat discordant note was struck by the chief of Tonga: "our job is not to keep order; that is your job. Our duty is to supply you with choice morsels of hippo meat."

An untraditional but common topic was: "The Government needs no introduction, you and it must co-operate; it is not like the Dervishes or Turkia; you must help to collect its taxes."

The speeches opened with Jago Yor Leiker, the chief of Gol Nyikang, and Jago Tabo, the chief of Gol Dhiang, and finished with the chiefs of the marches Jago Ongwany of Mwomo and Jago Ding of Tonga. Each chief stuck the spear into the ground before the *reth* when his speech was ended, so that there remained a veritable forest of spears in front of the *reth* after the speech-making was over.

After Jago Ding's speech there was a short silence, after which the company started a chant to Nyikang and the *reth*. Then the *reth* got up and addressed his people, for now for the first time he was truly installed on the stool of Nyikang, and was fully become *reth*. "I have become your *reth*", he said, "and I will rule you and justify those who are aggrieved."

The assembly then arose, and the *reth* moved over to where the white bull was tied. He made passes over its back with a spear, and retired. The Ororo came up, and after an abortive attempt which bent the spear, they stabbed the bull. The spears stuck in the ground were taken, some by Jago Yor Leiker, some by the men of Akwobai, who had gone to Kosti, and some by Kwa Wung.

After this came the final ceremony. The *reth*, accompanied by a few chosen followers, was introduced to each house in Fashoda by the chief of Kwa Nyikang. There are many sites in the south east side of Fashoda where there used, in the days of *reth* Fadiet, to be houses, but Fashoda is smaller now. Tradition is strong however, and the *reth* was solemnly introduced to those sites, and told their names, and whose responsibility it was to rebuild them. When he came to the favourite house of his father *reth* Kur, a sheep was brought and prostrated before the door. The *reth* stepped over it and passed into the house, and the installation ceremonies were ended.

PART IV.—SEQUEL.

Fertility Rites and Rain-Making.

(i) After his installation the *reth* took a day or two to recover, and we are told that about a week later, a hornless cow, the colour of a hippopotamus was sacrificed by the *reth* on the river bank. This was done to make the hippopotamus increase, and prosper the Shilluk hunters.

(ii) There was a slight hitch over the rain-making ceremony, which we are informed by Mr. L. W. A. Raven, takes place in the early rains each year. The *reth* is said to slaughter a bull the colour of the rain clouds. We asked the *reth* about this, and he said " Oh, it has been done at Fanyikang already by the chief of Kwa Nyikang." Resulting from this departure from custom, after only light showers, one on the last day of the installation, the rains were late, and by the end of June the *reth* was worried. The sequel is interesting. An old woman of Lemmo section dreamed of the departed *reth*. This showed that his spirit had not been laid to rest properly, and had not the Funeral Dance been cut short by two days ? So another and smaller funeral dance of two days duration was held on the 2nd. and 3rd. July, at the same village of Pareth Fafiti. A few days later it started to pour with rain, and continued, so that it was for the Shilluk a year of plenty.

POSTSCRIPT

(W.P.G.T.)

On 6th, April I visited Fashoda on business. Three days previously the *reth* had told me in a matter of fact way that he was going to finish off the party from Akurwa, and give them their dues, and then " they could do as they pleased, but he, the *reth*, was finished with them." Their dues were 10 head of cattle. By the 6th. I fancied this would all be over, however as I approached I met about six men carrying hides and about ten women carrying household utensils

on their heads. I recognised them as Kwa Nyikwom going back to Akurwa. Their return had been hastened by the early rain.

Fashoda had the party spirit, particularly the *reth*. He at once led me to the centre of Fashoda and I sat down in the shade of a cattle byre to be inconspicuous, for something was about to happen. Nyikang, Dak and Cal were all packed up and ready to go to Akurwa. They were in fact all three standing outside Aturwic. Everyone was dancing and singing.

The *reth* went up the mound and spoke to the people carrying Nyikang. Suddenly Dak and Cal followed by Nyikang came down from the mound and made a bee-line for me.

They rushed to where I was sitting and started dancing at me two paces away. The *reth* was dancing with them. They continued dancing till I gave them the token small piece of grass, which represented a bull, which I would give them at Kodok. They then went on, and did the same to any of the chiefs they found at Fashoda. The chief of Lul knew the honour would cost him a bull, and so he stayed discreetly in his house.

When Nyikang had thus gathered what he wanted for the journey home, they all danced round and round for an hour or more with the *reth* beside them. Then they became more solemn and as a final gesture they stood the *reth* under the folds of Nyikang's wrappings and sang the songs of Nyikang. The casting of the mantle of Nyikang over the new *reth* was to bring him back luck. Nyikang, Dak, the *reth* and the *reth's jal tyel kwom*, his chamberlain, were in the middle of the small throng. The Ororo woman, who had enticed him away from *nyakwer* at the time of the installation, and some of the *reth's* sisters, were sitting around in front. I was about 10 paces away. A small girl by my side swooned, and was possessed by Nyikang—when she grew up, she would have charge of one of his shrines.

Then at last the party formed up and dashed off at a trot, on their way. The *reth* escorted them about 200 yards, and then came back. "Come and have a bowl of beer," he said "because it is hot."

Such was the atmosphere as Nyikang left for home after his thirtieth installation.

NOTES

1. The Great Divisions of the Shilluk Kingdom. The Shilluk kingdom is divided into two parts in two different ways. An archaic religious division into two "sees" called Gol Nyikang (south) and Gol Dhiang (north) seems only to be important on ceremonial occasions such as the installation of the *reth* or the rebuilding of Fashoda. Each "see" has one ceremonial chief.

Investigation has shown that these two "sees" are not coterminous with the two great temporal provinces of Gerr and Luak. The traditional boundary between Gerr (northern province) and Luak (southern province) is some 15 miles south of Fashoda between the sections of Both and Fathau. The sections from Both northwards to Yoiny are small sections composed of a succession of small villages, which the Shilluk liken to the beads of an ostrich eggshell necklace and call collectively Wirek (an ostrich eggshell necklace).

In the 19th. century there was opposition between Gerr and Luak over rival candidates for the *reth*ship, when the Turkish Government tried to get Ajang accepted as *reth*, and between Akol and Kur, Gerr supporting Ajang and Kur, and Luak supporting Kwikwon and Akol.

When the two great provinces mobilized against each other for civil war, for their organization is primarily military, the small sections of Wirek were overawed or defeated by the forces of Luak, though they should have mobilized with Gerr, and they turned traitor.

After *reth* Kur returned from Omdurman and defeated the forces of Akol (Luak and Wirek) and exiled Akol, the old boundary was restored, and Wirek returned once more to Gerr.

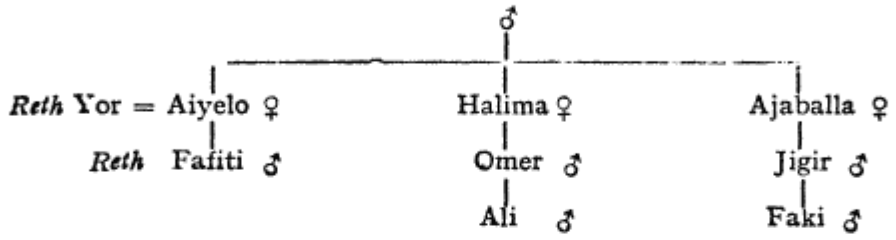
This is one of the few occasions when we diverge from Pumphrey's account of the Shilluk *S.N.R.* Vol. 24 p. 27 ("The Shilluk Tribe"). The distinction between the two sets of divisions becomes clearer when dealing with an occasion such as the installation of the *reth*.

Note to Introduction.

2. Sir Samuel Baker. *Ismailia* p. 102.

Notes to Part I

3. The relationship of the two most important men among the late *reth's* maternal relatives is recorded below :—



Ali and Faki, descendants of Fafiti's mother's sisters, were present.

The Nuba of the Fungor area have considerable traditional connection with the Shilluk. The bamboos for Nyikang's body are brought from here, and gifts are exchanged between the *reth* and the local Nuba chief, whom we met at Fashoda some time after the installation when he was being invested with the insignia of a Shilluk chief.

4. *Reth* Fafiti was brought up in a village in Kodok section, but after 1917 the supporters of Coti Ajang were too numerous for comfort in Kodok section, and Fafiti, in fear of assassination, moved his village to Golbainy and called it Abogathow "fear of death."

5. The royal Shilluk drums had special houses built for them in Fashoda, and special custodians appointed for them. These drums no longer exist. Shilluk say that *reth* Fafiti, angered because *reth* Fadiet had held no fuueral dance for *reth* Kus hurled the royal drums into the Nile, and held the dance for *reth* Fadiet with Fadiet's own drums. For the funeral dance of a *reth* (*wowo*) the drums are stood up on end in shallow holes prepared in the ground, and beaten with newly cut sticks of the *heglig* tree. For other funeral dances, the drums are mounted horizoutally upon forked sticks.

6. *Costumes.* All the warriors wore "war paint", their faces smeared with red, a mixture of brick dust and oil. Hair wigs and feather crests were worn by most men, including chiefs, who had no elaborate head-dresses of their own hair. Skins were worn as well as cloth. Leopard skins were worn, largely by wives of the late *reth*, and by *kwa reth* and chiefs, and the skins of the Mrs. Gray antelope and cob by those to whom they had been presented by Fafiti. An interesting feature was the senior wife, who was clad in the deceased's clothes, his special cloak (*lau*), cummerbund, and sash, and the Scottish International Rugby cap which had been presented to Fafiti by Mr. P. Munro. The cap had aged a lot in the last few years, but has established itself as part of the regalia, and the new *reth* requested that a substitute be found for him for the ceremonies.

Notes to Part 3

7. The *reth* could not start without *nyakwer*. Her status and significance are discussed in the text of the fourth day's ceremonies. It is possible that the lateness of the Kwa Okel was due to a conventional reluctance to produce the girl.

8. Important personages in the ceremony, and female relatives of the *reth* or attendants of Nyikang wore the skins of female Mrs. Gray antelope. The *reth* himself wore one on the last two days of the ceremony. The chief of Gol Nyikang was observed on the morning of the first day's ceremonies wearing a black skin of the male Mrs. Gray. He soon changed to a female skin.

9. The *reth* was on a journey, and these were his attendants and his luggage. Nyikang had a similar retinue.

10. The *reth's* sacred shield is a counterpart to that of Nyikang; like Nyikang's shield it should have been brought from Fashoda, but at the last moment it was forgotten.

11. The Kwa Otwot may originally have been a clan which has now died out. The prefix indicates an agnatic kinship group. They

are not a clan now, and are messengers chosen *ad hoc*, as far as we could judge. *Twot* is the word used for the *reth's* messengers.

12. These messages amounted to a bargaining about how many cows the *reth* should give Nyikang. Whether the intention was to bribe Nyikang to come and instal the *reth*, or to persuade him to stay away because of his "holiness" is not clear. We incline to the latter explanation, but Mr. McClure favours the former.

13. *Nyakwer*, meaning the girl, or woman, connected with the ceremonies, could be used of any individual female participant.

14. Our impression of those ceremonies witnessed by us was that Nyikang was held in manifest awe.

15. Cerfuc, and Kal wi Jang. Cerfuc is what the Shilluk say used to be a pool and is now filled up, but was carefully weeded for the occasion. Kal wi Jang, or Ujang, is 200 yards N.E. of Cerfuc.

16. All objects of great sanctity were covered in white cloth. The wrapping of cattle in cloth may merely signify their ritual value, and the necessity for screening them from the public gaze, but with all cattle it was evident how careful the Shilluk were to see that the animal was blindfold. After wrapping the animal the cloth itself was greatly prized as a sacred relic, being imbued with the sanctity of the animal.

17. Tradition says that the original stool was captured by the "Funy" and never returned. The present stool is a substitute. The cloth wrappings made it impossible to see the exact shape, but it had four legs, and appeared to be about twenty inches long and ten inches wide.

18. P. Munro. "The installation of the *reth* of the Chol". *S.N.R.* Vol. I, pp. 145 ff., reprinted as Appendix I in *Pagan Tribes of the Nilotic Sudan* by C. G. and B. Z. Seligman, p. 546.

19. This remark shows that the property of the *reth* is also property of Nyikang—at least after the installation is completed. Actually the cattle paid to the Kwa Okelo belonged to Fafiti, but

such is the spiritual oneness of Nyikang and all *reths* that their property is ultimately under the authority of Nyikang, and belongs to Nyikang.

20. There are two traditions about Cal. We think there must have been two sons of Nyikang called Cal. One is said to have been the second *reth* of the Shilluk, and the other is said never to have come to Shilluk country, but to have stayed behind in Uganda to become the ancestor of the Acholi. It was the latter tradition which was more in evidence in connexion with the effigy of Cal, but the former explanation might have been more reasonable.

21. It is the tradition that a man should be tied down between the opposing armies to be stepped over by the combatants. In 1903 however, at the time of the installation of *reth* Fadiet, a young man, went to the Governor at Kodok, and petitioned him to forbid the *reth* to tie down his father to be stepped over. The Governor forbade this practice, for the danger of the man being trampled to death was considerable, and ordered that a bull be substituted. A bull was used at the installation of *reth* Fafiti as well, but now the petitioner of 1903 a man of the Kwa Nyidiang, whose duty it was to provide the man for tying down, asked if he might be tied down in place of the bull, for, he said, his defiance of the custom in 1903 had caused his family to sicken and die. Nyikang was consulted about this, but he said 'If you wish to carry out the old custom, you must do it completely, and provide me with a girl to take back to Akurwa." The negotiations broke down, as no one would provide the girl, and a bull was substituted. But it was rather halfheartedly drawn across the battleground, and not tied down between the two armies. Seligman (*op. cit.* p. 95) suggested that the man should have been tied down at Khor Arepejur on the first day of the ceremonies. We think that he must have been wrongly informed by the Shilluk, in view of all the circumstances surrounding the hitch in this second mock battle.

APPENDIX I.

DETAILS OF CHIEFS COMPOSING THE ELECTORAL COLLEGE.

The following chiefs composed the electoral college in 1943 :-

1. Chief of Debalo Kwom (chief of Gol Nyikang).
2. ,, ,, Golbainy ,, ,, ,, Dhiang).
3. ,, ,, Mwomo.
4. ,, ,, Tonga.
5. ,, ,, Delal Ajak.
6. ,, ,, Bur Nyiliec (Athodwoi division).
7. ,, ,, Othecogo (Detwok division).
8. ,, ,, Fadit (Wau division).
9. ,, ,, Owaliny Obwa (Malakal division).
10. ,, ,, Adodo Dettim.
11. ,, ,, Fanyikang.
12. ,, ,, Acago (Detwok division).
13. ,, ,, Fadiang (Golbainy division).
14. ,, ,, Yoiny (Fashoda division).

Nos. 1, 2, 3, 4 are explained adequately in the text.

Nos. 5, 8, and 11 are the traditional big chiefs, whose ancestors held the *lan dwong* or "high robe of office" from Nyikang. They are still in possession of the *lan dwong*.

Nos. 7 and 10 have only recently been displaced by Government from the *lan dwong* owing to inefficiency. The *lan dwong* will naturally tend to revert to their lineages when a vacancy occurs.

Nos. 6 and 9 are chiefs with an ancient claim to the *lan dwong* which their ancestors possessed in the days of Nyikang. They have sunk into unimportance, because of the shrinkage of their lineage.

Nos. 12, 13 and 14 are the three Kwareth members.

Nos. 13, the chief of Fadiang, is looked upon as the chief of all the Kwareth.

The Electoral College of 1903 consisted of 12, 13 and 14, 1, 2, 7, 8. (only seven names are given).

The Electoral College of 1917 consisted of 1, 2, 3, 4, 5, 7, 8, 10,12, 13. There also appeared the chief of Athodwoi, in place of the chief Bur Nyiliec (6), and the chiefs of Nyigir, Abienyai (in Detwok division), and Kodok. The chiefs of Bur Nyiliec, Owaliny Obwa, Fanyikang and Yoiny were not present. The chief of Abienyai may have represented the chief of Yoiny.

It is noteworthy that in 1917 the chiefs of Kwom and Golbainy and the Kwareth chiefs of Fadiang and Acago were all bribed by Coti Ajang, the pretender. This is an indication of who were the most influential chiefs in the college. N.B. The chief of Yoiny was not there to be bribed.

APPENDIX II.

NYIKANG AND DAK, AND THE EQUIPMENT CARRIED WITH THEM.

Nyikang and Dak.

The effigy of Nyikang was made up of a tubular framework of bamboo rods covered with blue check imported cloth. The body at the top appeared to be about 14 inches in diameter tapering to about 9 inches. Wound round the top and tied in a knot like a cravat was a separate piece of cloth hanging down below the base of the body. On the first two days of Nyikang's journey this ' cravat ' was of black cloth. When the party reached Golbainy, it was of the same blue check cloth as the body. The head of the effigy consisted of a mop-like plume of black ostrich feathers which hung down over the knot in the cravat. Overall the effigy was about 5 feet long.

The effigy of Dak was differently constructed. It consisted of a long bamboo pole, about 8 feet in length, with a cylindrical body of the same blue cloth some 2 foot 6 inches long, at the top of the pole. The head was made of a smaller bunch of black ostrich feathers than that of Nyikang.

Personal Equipment.

The equipment carried by the Kwa Nyikwom for Nyikang and Dak consisted of the following.

1. *Drums.* There were two pairs of kettledrums; one was embellished with black ostrich feathers and rings around the edges, the other pair was made of plain wood. They were basin-shaped, and beaten with a distinctive rhythm as Nyikang proceeded. The original pair "Obuny" and "Cal" are said to have been captured, the former from the Arabs and the latter from the "Funy."

2. *Spears.* A collection of spears, sometimes three, and sometimes more, was carried. None of the spears carried was wrapped in cloth, as is usual with sacred spears

3. *Cooking Pots and Baskets.* The pots were of the normal Shilluk types, and the baskets basin-shaped and covered with reed mats. There was generally a pair of each. These contained Nyikang's food for the journey.

4. *Nyikang's Bed.* A forked pole about 8 feet long with a circular leather flap hanging from the joint of the fork.

5. *Nyikang's Shield.* This was only produced from Aturwic wrapped in cloth. It did not come from Akurwa. It was apparently similar in shape to a normal Shilluk shield, but very much smaller.

6. *Ropes and Grass.* These were not strictly part of Nyikang's equipment, but were carried by the Kwa Nyikwom. The ropes were said to be made at the installation of *reth* Fafiti in 1917, and the grass and fibre which had been brought by Dak from Fanyikang were for the Kwa Nyikwom to make into new ropes for the new installation. These ropes, like the whips carried by the Kwa Nyikwom, were used for warding off the inquisitive.

APPENDIX III.

(W.P.G.T.)

List of Clans Participating in the Initiation Ceremonies.

References are made to the list of Shilluk clans in Westermann. *The Shilluk People* pp. 128-134.

Kwa Mal. The clan which claims the privilege of sowing cowrie shells in the path of the *reth* on his journey from Debalo to Arepejur. Westermann lists them as 2 and 2a, but assigns to them the functions which we believe are performed by Kwa Nyikwom.

Kwa Nyikang. The clan which provides the ceremonial blacksmiths for the royal spears. Westermann lists them as No. 8, but assigns to them a different function. The duties of Westermann's No. 60, Kwa Anut, seem similar (the making of fire by friction).

Kwa Okelo. The clan charged with producing the small girl, *nyakwer*, for the ceremonial marriage. Westermann lists them as No. 24, not No. 15.

Kwa Nyikir. The clan responsible for the management of the funeral dance ; called by Westermann Kwa Nyikai and listed as No. 65.

Kwa Nyikwom. The high priests of Nyikang at Akurwa, who carry Nyikang to Fashoda, and tend his shrine. They drive off intruders with whips on the way to Fashoda. Not listed by Westermann, though his No. 2, " Kwa Lek " has similar functions.

Kwa Ojul. The clan which produces the heifer for the journey rom Debalo to Fashoda. Not listed by Westermann.

Kwa Wurg. The clan responsible for beating the drum which applauds approved speeches on the last day of the installation ceremonies. Westermann lists Kwa Wan as No. 44.

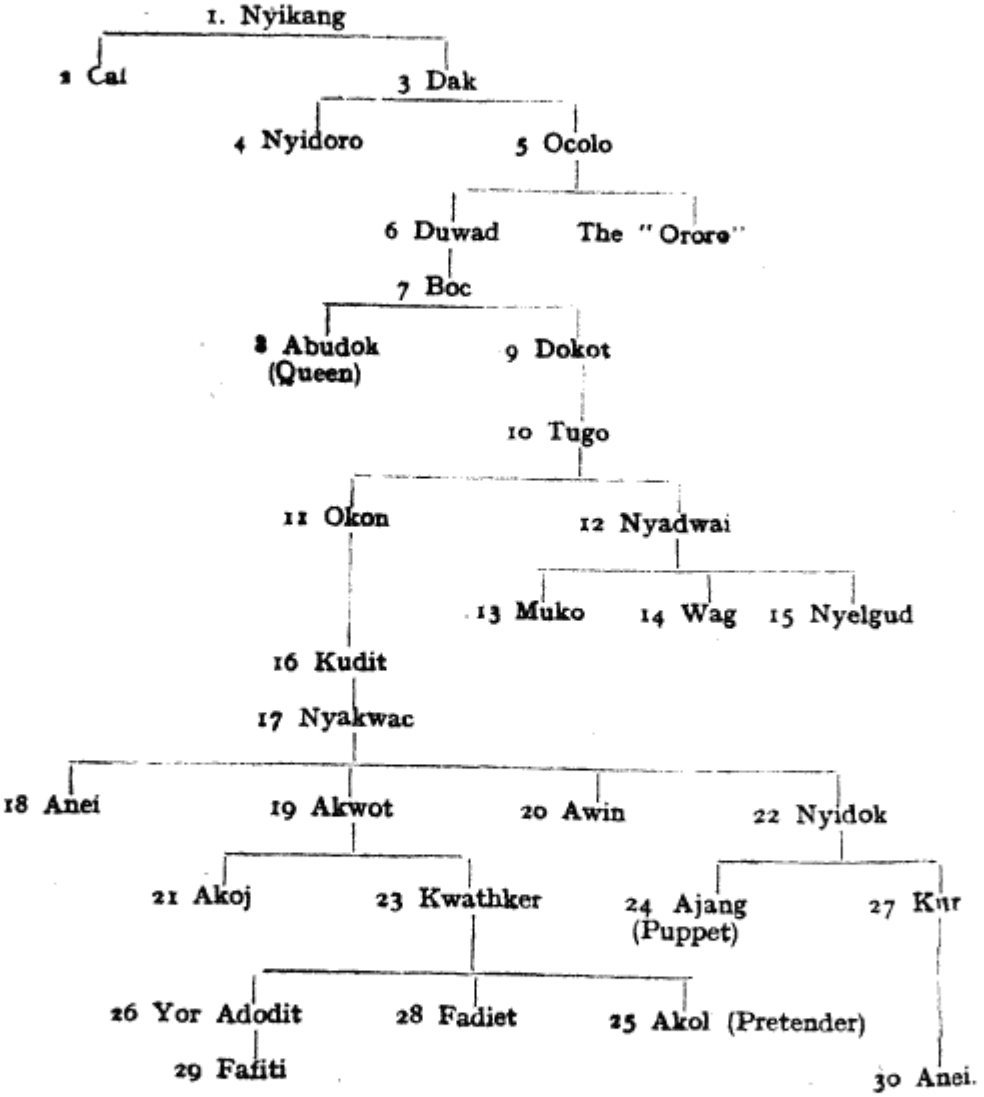
Note. We find that this list of clans given by Westermann betrays marks of haste. He assigns one home for most clans. While the clans are generally to be found in the places he mentions, several other lineages of the same clan are frequently found elsewhere.

APPENDIX IV.

List of Shilluk Reths.

As given by Pumphrey (*op. cit.*) and Seligman, *Pagan Tribes of the Nilotic Sudan* p. 44.

This supersedes the earlier list given by Seligman in "The Cult of Nyikang and the Divine Kings of the Shilluk" p. 218.



NOTE.

The spelling has been altered in a few important cases to bring it more in line with the decisions of the Rejaf Conference.

The tradition is only sound as far back as *reth* Tugo (10).

There is a doubt about Cal (2) as to whether he was *reth*, or whether he stayed behind at the time of Nyikang's migration to become the leader of the Acholi.

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MORE ABOUT FUNG ORIGINS

By A. J. Arkell

My paper on Fung Origins[1] was written in 1932 on the occasion of my transfer from Sennar to Darfur, and during the six years that I was in Darfur, I collected all the information I could about its early history, in the hope that the result would throw some light on the origins of the Fung, particularly because the 'Fung Chronicle' starts with Amara Dunkas at Jebel Moya *west* of Sennar, preparing to make war on the Anag, the Nubian kings of Soba and Gerri, before the foundation of Sennar.

I collected a considerable amount of information about medieval Darfur, which I wrote up into a thesis offered to Oxford University for the degree of B. Litt. in 1938, and which it is hoped will one day be published in some form or other. One fact that came out clearly without a shadow of doubt in the course of this study was the considerable influence which the medieval Kingdom of Bornu had on Darfur in the centuries before the first historical Fur sultan Suliman Solong.

Denham, Clapperton and Oudney, who visited Bornu between 1822 and 1824 reported a tradition there that Darfur as well as Wadai had been "at no very distant period tributary to the sultans of Bornu."[2] There are many traces in Darfur of the influence of Bornu; for example :- the use of the Kanuri word *meiram* for daughter of the reigning sultan; the word 'Fasher' for 'capital,' originally meaning the open space in front of the sultan's palace in Bornu—compare the history of the reign of Mai Idris Ali of Bornu (1571-1603 A.D.) written by the Imam Ahmed, where on p. 47 of the MS. it is said that 'the Sultan commanded the public crier to proclaim to all who had made captives that they should bring them to the sultan's Fasher'[3]; the early organization of Darfur on a fourfold division

1. *Sudan Notes and Records.* Vol. xv. pp. 201 ff.
2. *Discoveries in Africa.* Vol. ii. p. 178 (third edition).
3. H. R. Palmer. *Sudanese Memoirs.* Vol. i. p. 36.

into provinces corresponding to the four points of the compass; the two Bornu titles Galadima, ruler of the west, and Kaigama, ruler of the south, probably surviving in the Darfur titles Dima and Uma, there being some evidence that the titles were originally so abbreviated in Bornu; etc., etc.

There is evidence that Islam reached Darfur from the west. Darfur has always followed the Maliki code; and the nearest source from which Darfur is likely to have received it is Bornu. As early as 1240 A.D. King Dunama Dabalemi of Kanem (later Bornu) 'built the Maliki school at Fostat that their travellers might rest therein'.[4] The Bornu chronicle of the Imam Ahmed already quoted states that long before his day (1576 A.D.) the empire of Kanem had extended in the east as far as the land of Duwy and to the Nile '*min bilad el rīf*.' Duwy is the modern Adu in Sai Island and the Du of the history of the Christian Kingdom of Dongola, which became the temporary capital in 1366.[5] There has been an ancient fortress there from 2000 B.C. to little more than a century ago; and it was certainly one of the strongholds of the Kingdom of Dongola. Thus Bornu, or Kanem as it was then called, controlled trade routes as far as the Nile before the fall of the Kingdom of Dongola; and we may assume that Islam reached Darfur from the same source. There are indeed early red brick mosques and palaces at Ein Farah in Northern Darfur[6] that are probably due to the influence of Bornu and may have been built by the Bornu king Idris Alooma (1571-1603).

In Kanem 'their coinage is cloth, which is woven in the country and called *dandy*.'[7] So too in Darfur, where the standard length is the *tukiya*. This word must be the same as *shukiya*, which El Bekri says was the name for strips of cotton cloth used as currency on the Niger in the eleventh century.[8] Even the name *dandy* survives in several Darfur languages, for example 'cotton cloth' is *tandani*

4. Qalqashandi. *Kitab Sobh el Asha*. p. 281.
5. H.A. MacMichael. *History of the Arabs in the Sudan*. Vol. i. pp. 180, 184, 187-8
6. *Sudan Notes and Records*. Vol. xix. pp. 301 ff.
7. *Kitab Sobh el Asha*. p. 280.
8. Quoted by H. Barth. *Travels*. Vol. v. p. 30.

in Darfur Daju and *tandi* in Binga, while *tendi* means 'cotton' in Banda.

Walled towns were common west of Lake Chad in the middle ages; there are ruins of walled towns in Darfur that are presumably due to the influence of the west, since walled towns do not seem to have been common on the Nile at that period. *Berni* means 'mud wall' in Fur, while *birni* is the Kanuri word for 'a large town surrounded by a wall', the inference being that the Fur were first introduced to mud walls as town-walls by Kanuri-speakers. The Women's Door in the walled compound, a second tiny entrance reserved only for women, a feature of the royal Darfur palace, is an institution typical of Bornu—compare Barth's description of a well-to-do Bornu house: 'In the wall of the courtyard (between the two huts used by the women-folk of the household) there was a small back door, raised above the ground, and of diminutive size, apparently intended for admitting female visitors, without obliging them to pass through the parlour, and at the same time showing much confidence in the discretion of the female department.'[9] The iron-shod digging-stick of the Northern Darfur hills known as *kebi* has its counterpart in the Bornu *lateram*, described by Barth.[10] The Darfur hoe seems to have evolved from a type of hoe still used in Bornu.[11] In Darfur as in Bornu the women till recently showed their respect by moving off the road, and kneeling down until the object of their respect had passed.[12] Two female ornaments are common to Darfur and Bornu, a lump of red coral worn on the outside of the nostril,[13] and broad belts of beads worn with the broadest part at the back and tied in front.[14] In Darfur as in Bornu, fly-whisks made from a complete giraffe's tail fitted on to a leathern handle are considered a proper present for a superior.[15]

9. *Travels.* Vol. ii. p. 441.
10. *Travels.* Vol. iv. p. 162.
11. *Sudan Notes and Records.* Vol. xx. pp. 146-150.
12. Nachtigal. *Sahara und Sudan.* Vol. i. pp. 486-582.
13. H. Barth. *Travels.* Vol. ii. p. 317. Nachtigal, *loc. cit.* Vol. i. p. 697.
14. *Sudan Notes and Records.* Vol. xxvi. p. 302 and Denham, Clapperton and Oudney. *loc. cit.* Vol. i. p. 450.
15. Denham, Clapperton and Oudney. *loc. cit.* Vol. ii. p. 85.

Chiefs in both Darfur and Bornu are accompanied by musicians.[16]

Enough has been said to show that in the middle ages in Darfur the influence of Bornu was considerable. It had indeed in the thirteenth century reached the Nile in what is now Wadi Halfa District, and had probably introduced Islam to Darfur before the Kingdom of Dongola had ceased to be Christian.

The death of Dunama Dabalemi in 1259 A.D. coincided approximately with the rise of the Mamelukes in Egypt and the sack of Baghdad by the Mongols, which latter event caused a number of itinerant Arab divines to leave Iraq for Egypt or Africa. From the middle of the fourteenth century to the end of the fifteenth century, Bornu was riven by civil war. It is just about this time that the Fung Kingdom must have come into existence, a time of considerable upheaval in the Middle East. The Turks had extinguished the Byzantine Empire by taking Constantinople in 1453, and it is the Turkish sultan Selim I (1512-1521 A.D.) who is first mentioned in the history of the Fung, when his invading forces were held at the Third Cataract in the bloody battle of Hannek, and he seems to have been surprised to find that he had been fighting against brother Moslems. (See the legendary letter of Amara Dunkas composed by El Samarqandi and frequently mentioned by modern Sudan MSS.).

The civil war seems to have been between the legitimate Kanem dynasty and their cousins on the mother's side, the tribe of Kayi or Bulala, who had established themselves in the region of Lake Fittri east of Lake Chad. About 1507 Idris Katagarmabe the grandfather of Idris Alooma, had been able to re-establish the authority of the royal house over Kanem and the Bulala who had ruled Kanem from Fittri since about 1400 A.D. More will be known about the history of this period if a copy of the *Tarikh Masbarma* written by the chief *imam* of Idris Katagarmabe can be found in Bornu.

H.R. Palmer[17] says that at least one tradition survives in Bornu

16. H. Barth. *Travels*. Vol. ii. p. 47.
17. *Mai Idris of Bornu*. p. 5.

of a time when the kings of Sennar 'were in some sense either theoretically subject to or at least connected with the early Bornu Mais of Wadai'; and[18] 'the Bornu Keyi..... claim a connection with Sennar;' and in the historical manuscripts which he collected and translated, he gives, as we shall see, more than one which makes it seem a reasonable hypothesis that the Fung dynasty was founded by the king Osman Kade, who was expelled from Bornu in 1486, or by one of his descendants.

The Diwan of the sultans of Bornu[19] is an abridgment of the *Tarikh Masbarma*, and two copies of it were obtained by Barth in 1853. That published by Otto Blau at Leipzig states of Sultan Osman ibn Kadai that "there was war between him and sultan Ali Ghaji ibn Dunama. He reigned five years and died at Makada"; (on which Palmer comments that Makada is 'northern Kordofan, to which most of the princes of the Daud branch seem ultimately to have fled.').

A native Chronicle of Wadai[20] says of the first Tunjur sultan of Wadai that he became king in the island of Sennar, and their kingdom afterwards extended to Darfur and to Wadai. Another MS., 'Middle Ifrikia', classes the Tunjur with the Bulala.[21] Yet another MS. 'Ngizam and Bulala' says: 'Sultan Daud ibn Ibrahim ibn sultan Biri ibn sultan Dunama reigned two hundred years in the land of Malkda. Their rule gave place to that of the Turks';[22] on which Palmer comments that the meaning is that the princes of the stock of Mai Daud Nigalemi fled to Malkāda . . . *i.e.* northern Kordofan (*sic*). Another MS. 'Mai Daud' (Nigalemi)[23] records how Mai Daud attacked the land of Fittri, the inhabitants of which are Kayi Bulala. Mai Dunama waged war on them fiercely and divided them so that they split up and fled. Then Mai Dunama returned to Bornu

18. *loc. cit.* p. 114.
19. *loc. cit.* pp. 56 and 84 ff.
20. *Sudanese Memoirs.* Vol. ii. p. 25.
21. *Sudanese Memoirs.* Vol. ii. p. 54.
22. *loc. cit.* p. 32.
23. *loc. cit.* p. 47.

and Mai Daud remained with the Bulala in Fittri and lived there a long time and took away their power.....Then came Mai Ali Ghaji and conquered Fittri, and Mai Daud Nigalemi died, and his son Kadai went to N'galaka in Borku (just west of Northern Darfur, at the southern end of the Tibesti massif) and died there, and 'Mai Othman ibn Kade went to the land of Malakāda '(Makāda),' which, Palmer comments, means the kingdom of Sennar on the Blue Nile, ' and ruled the east and west for one hundred years. Then there came to him the Turks and people of Stambul and waged war on him and deprived him of power. They were the people of Yusuf Pasha. But there are many of the people of Daud Nigalemi in the land of Egypt (Masr).'

It would be more satisfactory if the Bornu MSS. just quoted were more explicit, but enough has been said to indicate that there is in Bornu a tradition that the kingdom of Sennar, to which the Turks put an end in 1821, was founded by some descendant of Daud Nigalemi, who had been expelled from Bornu in the civil war, whether it was Osman Kade himself (who was the last of the family to rule Bornu) as one MS. states, or more probably one of his descendants. Fung history says the name of the first Fung king of Sennar was 'Amāra; there was both an Amarma (ruler of the Beni Amer) and several Omars in the Bornu king list, so that the name 'Amāra is at least more probable in a king of Bornu origin than in one of Shilluk origin. Makāda of course literally means ' Abyssinia,' but just as in the central Anglo-Egyptian Sudan today people from Wadai and some other ' westerners ' are often wrongly called Fellāta (=Nigerians), so in Bornu it is a natural mistake for the Gezira of the Anglo-Egyptian Sudan to have been confused with Abyssinia. The Bornu MSS. just quoted must mean Sennar when they say Makāda ; for whereas the Kings of Sennar ruled the east and west and were overthrown by the Turks, the Turks overthrew no Abyssinian dynasty.

It is therefore a hypothesis to which some degree of probability may be attached that the Kingdom of Sennar was founded by a member of the dynasty expelled from Bornu in the fifteenth century.

A non-Arab dynasty (*sultana zerga*), Moslems of long standing, with a tradition of ruling, and very possibly bringing with them the first firearms seen in the Sudan, they would have arrived on the White Nile, no doubt then populated by Shilluk, as it still was in the days of Bayard Taylor.[24] In so doing they had less of a journey than sultan Mohamed Bello Mai Wurno, the eldest surviving son of the sultan of Sokoto, who led an exodus of his people to settle at Sennar after the occupation of Nigeria in 1903, and Mubeshr Omar, who followed him, travelled even further from the land of Omar el Fūti in Senegal to found the village of Dar el Salaam near Old Sennar. So that the distance is not impossible.

Settling possibly first at El Ais (modern Kawa) they would have acquired dominion over the Shilluk, and then over the old Nubian kingdom of Soba, Meroitic in origin and subsequently Christian, and no doubt at that time crumbling into decay as a result of the severance of communication with Alexandria after the fall of Dongola, and the consequent over-running of the country by the Arabs, the 'Abdallab champions of whom must have been beaten in battle at Arbāgi, as tradition says, before they would have agreed to serve as the viceroys of the new black sultans.

Various details of the story have yet to be filled in if this hypothesis is correct. The origin of the name Fung is not yet certain. It may be a name imported from Bornu. H.R. Palmer suggests[25] a connection with Fune the name of the legendary second *mai* of Kanem, and a word which means in both Kanuri and Tibu the mouth covering of the Tuareg (Arabic *litham*). See also below for another possible origin of the name Fung.

The probable influence of the Tuareg in the Sudan must form the subject of a separate paper. It is recognized that there is a Tuareg strain in many of the early royal families of the west including those of Kanem and Tibesti. 'Tunjur' is probably an arabicized form of the Tibesti royal clan Tumagira (='the great ones of Tu' (Tibesti)

24. *Life and Landscapes from Egypt to the Negro Kingdoms of the White Nile.* 1855. pp. 328 ff.
25. *Mai Idris of Bornu.* p. 114.

in Berber). It is reasonable to suppose that the Tuareg, who were camel-owning nomads, provided the camel transport for the Meroitic kingdom and its successors the Christian kingdoms of Dongola and Soba ; and that when the Arabs came, some of the Tuareg were absorbed into Arab tribes, for example the Timāsih section of the Kababish, and many were driven west. The Tuareg claim descent from Canaan —hence the name Abu Gonaan in Kordofan for pre-Arab people ; and hence too the name ' Anag,' which is probably the Tuareg word for ' east ', their expression *kel innek* or *kel anag* (a dialectical variation) meaning ' the people of the east ' whether Tuareg or not. Hence in the Sudan ' Anag ' frequently means the Christian Kingdom of Dongola, which lay to the east of the Tuareg, who were presumably based on the camel country of northern Kordofan and further west. *Ilāla, kilāla,* the Tuareg word for ' nobles ' survives today in the western Sudan in the expression *tōr kil'āly* ' a fine bull ' ; and the term of abuse *umm tifineiga* for a steatopygous person presumably enshrines the word *tifinagh* the Tuareg name for their script misapplied to themselves, for among the Tuareg steatopygy in a woman is a sign of beauty. This Tuareg word for ' noble ' is included in the name Bulāla, who are said to have been Kayi (*i.e.* nomad Tuareg) intermarried with the N'gizim population of Fittri.[23].

If this is accepted, we have an explanation of the term ' Hamaj ' for the negroid subjects of the Fung to the south of Sennar. It must be the Tuareg word *amg'hi* (pl. *imghad*) for the servile clans not classed as *imoshagh* (noble Tuareg) [27], brought in the form ' Hamaj ' from the west. The name ' Hamaj ' is used in the Lake Chad area as well as in the southern Gezira. ' Les arabes donnent aux Kanembou le nom de *Hamedj.* Nous n'avons pas pu obtenir une explication certaine de ce mot. Il nous a été dit que les Arabes designaient le sel indigène, qui a une couleur gris sale, sous le nom de *hamadj*..... Les Kanembou auraient été appelés *Hamadj* (ou Hamedj) à cause de leur teint azrag (noir gris).'[28] The explanation of the name must

26. *Mai Idris of Bornu.* p. 68.
27. See *Mai Idris of Bornu.* p. 76.
28. Henri Carbou. *La Region du Tchad et du Ouadai.* Vol. i. p. 36.

be that it is the Tuareg word for 'serf' already mentioned, that has been adopted by the Arabs.

The characteristic Fung institution the stool called *kukur* has a western name. Of the chair in the *Tribes of the Ashanti Hinterland* p. 52 R.S. Rattray says: 'In Bulea and Kasene the word used shows that originally the chair or stool was a headrest. These are still used in the Northern Territories and seem identical with those seen in East Africa. The Ashanti stool was, I believe, evolved from the head-rest': and on p. 72 he gives the following vocabulary:—

	Mampelle.	Dagbane.	Kusal.	Nankane.	Dagare.
chair	*kuka.*	*kuga.*	*kok.*	*kukka.*	*koge,* (pl. *kogri*).

There can be little doubt that this is the same word as the Fung 'throne' *kukur*, which has been shown[29] to have been a stool of just this type. (Incidentally the Tuareg version of this word with a soft medial consonant, *kajūr*, seems to be the origin of the word *kujūr* used, particularly in the Nuba Mountains, for a 'witch doctor' or spiritual expert, and which has almost, if not quite, been adopted into Sudan Arabic with a similar meaning. A sacred wooden stool is still used as part of the paraphernalia of the permanent incarnation of a clan spirit in the Kaderu hills, and it is so important that he is known as the 'stool *kujūr*' to distinguish him from the temporary incarnation of a clan spirit, who is known as *kujūr*[30], the derivation of the word being now forgotten).

I will now suggest a few lines along which archaeology will one day throw additional light on the Fung problem. The pottery from the red brick ruins at Zankor in Western Kordofan[31] is almost indistinguishable from modern Shilluk pottery. Zankor has yet to be scientifically excavated and studied, and we have at present no means of dating it. But when that has been done, it will throw some light on our present problem, if only to explain the origin of a cultural

29. *Sudan Notes and Records.* Vol. xv. p. 227.
30. S. F. Nadel. 'Hill Tribes of Kadero.' *Sudan Notes and Records.* Vol. xxv. p. 43.
31. *Sudan Notes and Records.* Vol. xiv. pp. 183 ff.

influence that seems to have impinged on the Shilluk from the north west.

Then there are some sherds of pottery, registered under No. 4686 in the Khartoum Antiquities catalogue, and sent in by Mr. L. W. A. Raven, when he was A.D.C. Shilluk, from an ancient occupation mound at Wi Ngaje near Akwoij, on the left bank of the White Nile 20 miles north of Kaka. This mound is attributed, with a number of other similar mounds in the vicinity, by the present day Shilluk to a foreign people from the north called Funy. The most striking sherds from this collection are burnished sherds of both red and black wares, decorated with complicated semi-schematic designs of impressions (and perhaps incisions) filled with pigment, among which black ware with the impressions filled with red pigment seems to predominate. The designs seem to include birds, animals and plants. These wares are not identical with the black burnished ware with red or yellow-filled incised designs that have been found at Meroe and in Meroitic graves at Faras and Khartoum,[32] but they are obviously related to it. What date the Fung settlements in Shilluk country are has yet to be ascertained, but if they are not Meroitic, they seem to be culturally connected with Meroe. It is not impossible that they ante-date the rise of the historic Fung Kingdom. If so, the name Fung may have been originally given to non-Shilluk northerners affected by the civilization of Meroe, and transferred by them to the Moslem dynasty who took over a dying civilization of Meroitic origin from the kings of Soba, when they founded Sennar. There are sherds from Abu Geili near Sennar and from Meinat el Mek near Singa of at present unknown date that also appear to be related to the pottery of Meroe and to that of Wi Ngaje.

There are also a number of old occupation sites, one at least of which reaches a height of 60ft. above the surrounding plain, along the left bank of the White Nile between Jebelein and Renk. These sites

32. Khartoum Antiquities catalogue Nos. 726, 727, 2103, 2941 and 5057. Nos. 726 and 727 have been published in the *Liverpool Annals of Archaeology and Anthropology* Vol. xi. Pls. xv. and xli, figs. 20 and 22, and Vol. xii. pp. 115 and 145; and dated to the first-second century A.D.; and No. 5057 from Khartoum is of similar date.

have not yet been examined, but there are many sherds on them; and they no doubt can also contribute something to the elucidation of the history of the relations between the Shilluk country and the north.

Black burnished pottery in the Meroitic tradition is said to be made today by Berta in the Fazoghli-Kurmuk area, and it may be that the Funy mounds in the Shilluk country are not earlier than the historic Fung Kingdom. An open mind must be kept on the matter pending archaeological investigation.

And, when the time comes, excavation of sites in Darfur and Kordofan, such as those in Turra, at Simiat in central Darfur, Zankor, and perhaps in the Wadi el Gaab west of Dongola, will probably show that the cultural influence of Bornu came very much nearer the Nile Valley than is at present realized. It is thought however that, with some of the historical connections with the west now limned in, a Bornu origin for the Fung dynasty is not as unreasonable as it seems to some people today.

THE FIRST CENTENARY OF THE ROMAN CATHOLIC MISSION TO CENTRAL AFRICA, 1846-1946.

By Fr. Elia Toniolo, F.S.C., (Verona Fathers)

The Apostolic Vicariate

A decree of Pope Gregory XVI on April 3rd, 1846 established the Apostolic Vicariate of Central Africa. The objects of the 'Mission to Central Africa', thus formally approved, were: the conversion of the negroes to Christianity, the bringing of assistance to the Christians who were in the Sudan as traders, and the suppression of the slave trade. The boundaries allotted to the Vicariate were; Egypt, Tripolitania and Algeria to the north, the Red Sea and Abyssinia to the east; the Mountains of the Moon to the south; the Two Guineas and the Sahara to the west.

Fr. Maximilian Ryllo, S.J., a Pole, already a missionary in Syria, was appointed head of the first missionary expedition. His companions were Mgr. Annetto Casolani, a Maltese who was elected Vicar Apostolic because he was the first to conceive the founding of the mission, Fr. Emanuele Pedemonte, S.J., an ex-officer of Napoleon, Dr. Ignaz Knoblehar,[1] a Slovene and Fr. Angelo Vinco, an Italian from Verona.

Mohammed 'Ali, the Viceroy of Egypt, favoured the coming of European missionaries to his dominions. In the spring of 1847 the missionary party assembled in Alexandria. J.P. d'Arnaud, the French engineer and Selim Capitan, members of the expeditions 1840-1, organized by Mohammed 'Ali, to discover the sources of the Nile, gave valuable information on the various regions of Central Africa. Fr. Ryllo was granted an audience by the Viceroy and his son, Ibrahim Pasha, who some years before had put a price on the Jesuit's head for having encouraged the Christians of Mount Lebanon to resist the Egyptian oppressor. Fr. Ryllo had a competent com-

1. Also written Knoblecher, the germanized form.

mand of Arabic, and he soon won the favour of Mohammed 'Ali, who gave him letters of recommendation to the governors and chiefs of the Sudan within Egyptian territory.

About Christmas the expedition reached Dongola by *dahabiya*, then proceeded to Ambigol and crossed the Bayuda desert. On February 11th, 1848 Fr. Ryllo and his companions entered Khartoum, which was then the last safe place for Europeans, politically as well as geographically.

The Khartoum Mission Founded

Khartoum had 15,000 inhabitants, most of whom were slaves The missionaries settled under humble tents along the bank of the Blue Nile. Life was not ideal. Their health and financial condition soon became serious, almost tragic. 'Our expedition resembles a hospital', wrote Knoblehar in 1850, 'and our means are exhausted.'

Yet Khartoum was chosen as the base of the future mission. No other place seemed so suitable to the missionaries to secure communications with the centre of Africa, to draw up projects concerning the method of their apostolic work, to learn and transcribe the languages of the more important tribes and to study their customs. A Turkish gentleman, Sharif Hasan, gave valuable help to the missionaries He bought for them a site extending to the centre of the town along the bank of the Blue Nile.[2]

On June 17th, 1848, Fr. Ryllo, Pro-Vicar, died of fever and dysentery. He ceded his faculties as Pro-Vicar to Dr. Knoblehar. Mgr. Casolani also was in bad health; he was repatriated with Fr. Vinco, who went on leave to seek financial help. A Veronese priest, Nicola Mazza, promised him help with missionary personnel. On the Feast of Pentecost the first church of the mission was opened in Khartoum.

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2. A section of the east wall of what were possibly the school rooms still stands near the junction of Malik avenue and Kitchener Avenue. Part of the mission building, constructed in 1853-6, has been embodied in the existing office of the District Commissioner

A school for black children bought in the slave market was also instituted.[3]

The Europe-wide revolution of 1848 had an almost fatal repercussion on the incipient mission. Propaganda Fide, which had experienced the heaviest impact of the crisis, declared that it was no longer in a position to help the missionaries, and gave them permission to abandon the mission. The financial help of the propagation of the Faith at Lyons was curtailed. For want of means the missionaries transformed the ground adjoining the house into an orchard, supplying food for themselves and the schoolboys. 'We received a large basket of figs, bananas, pomegranates and cream-fruit—the last most delicious to the taste, as might be expected from its name', wrote George Melly, a visitor from Liverpool, in 1850.

Reading, writing, arithmetic, music and handwork were taught in the school. In 1850 the British trader, John Petherick, wrote of the Khartoum Mission: 'The only stone edifice is that occupied by the Roman Catholic mission for the intended conversion of the negroes . . . It is handsomely constructed and contains a neat church and schoolroom. The former is attended during divine service by members of the institution and the Europeans. The school is for the education of the negro children, who have been principally supplied from negro families on the White Nile. Some few of the Europeans, and also Copts, who have families, availed themselves of this establishment for their education. Situated at about 500 yards from the river, the space between it and the stream is laid out into a fine garden containing delicious fruit trees and luxuriant shrubberies.' Melly added: 'We examined their pretty little chapel and their school with equal interest. The latter consisted of about 20 boys in various costumes and of almost as many hues, from Frank white to inky

3. In 1842, having travelled from Abyssinia with E. Blondeel van Cuelebroeck, Belgian Consul-General at Alexandria, the Rev. L. Montuori, a Vincentian missionary, built a small church and school in Khartoum and established a Christian cemetery. On March 13th, 1843 Montuori wrote: 'I have opened a school for white, black and mulatto children who also learn the catechism. They are maintained at my expense and I share with them the help that comes from Europe.' But his was a temporary effort, and by 1845 he and his companions had returned to Abyssinia.

natives. Many of them are children of the European residents. Some can speak a little French and Italian, and nearly all can read and write.'

Mgr. Daniele Comboni in a report written twenty years later stated: 'In 1848 the missionaries purchased in the slave market many youths who looked very intelligent . . . They started to teach them the simplest things that could be useful to them in their country, among their tribesmen, whom they had to guide to a safe path. On the other hand Dr. Knoblehar and his companions were disciples of their own pupils, as they endeavoured to learn the languages of the different tribes; they also collected all the facts that could make known their character, habits and customs.'

But financial help failed almost entirely. 'Without Knoblehar the mission to Central Africa would not have existed after 1848', wrote Fr. Johann Dichtl some years later. In Rome Mgr. Casolani obtained from the General of the Jesuits another priest for the mission, Fr. Gaetano Zara, and some lay brothers. Towards the middle of 1849, 'when the need was extreme', help arrived from Ljublyana, the provincial town of so many Slovene missionaries in the Sudan.

Missions on the Upper Nile

Soon after the return from Europe of Fr. Vinco, Mgr. Knoblehar, not without difficulty, obtained permission from Khalid Pasha, then Governor-General, to accompany the annual trading expedition on the White Nile. He wanted to study the possibility of founding mission stations. He left Khartoum on November 13th, 1849 accompanied by Frs. Vinco and Pedemonte. They visited the Shilluk, Dinka, Nuer, Kic, Aliab, Bor, Shir and Bari. The report of that tour, dated 1850 states 'We sailed along deserted banks, because the poor savages living near the river are in constant fear of the Turks, from whom they often receive cruel treatment, especially from the annual expedition.'

They were warmly welcomed by the chief of the Kic, who was

singularly attracted by the spectacles and the long, almost white, beard of Fr. Pedemonte. He believed the good Father was 'a very solemn and special fairy.' The Shir and Bari tribes joyfully welcomed the party, 'because the Turks had not left amongst them the usual traces of their cruelties and robbery.' The missionaries formed a friendship with the chief of the Bari, Nyigilo, who was afterwards of valuable help to them.

The annual expedition used to halt at 4°.50′ Lat. N., slightly upstream of Gondokoro; however in that year they decided to push on. Fr. Pedemonte disembarked in order to study a possible site for a missionary station. Mgr. Knoblehar and Fr. Vinco went ahead and crossed the dreaded cataract nearby, which had not been passed by any previous expedition and at which d'Arnaud reluctantly had to stop in 1840. After 64 days of travelling southwards, on January 16th, 1850 the expedition stopped at the foot of Mt. Logwek (Rejaf) at 4°.9′ Lat. N. The report adds that the *rais* who had first navigated that fearsome cataract was Suleiman Abu Zeid, a Kanzi.

Mgr. Knoblehar charmed the negroes by playing the accordion. There was a chief who in his excessive enthusiasm and rapture said to the Pro-Vicar that he was ready to cede him his village provided he stayed with them. Mgr. Knoblehar, accompanied by some natives, climbed Mt. Logwek to get a good view of the surrounding country. From the summit he saw the undulating plain inhabited by isolated homes and small villages, specially on the river banks; trees grew everywhere, but not so thickly as to form a forest. A large area of elevated ground was seen to the south, but indistinctly because of the distance. The savages could not say to whom it belonged. 'Mgr. Knoblehar was charmed', says an account in the annual report of the *Marien-Verein*[4] for 1853, 'by so much natural beauty and by the good-natured negroes, and wanted to found a mission station at once. The two missionaries were ready to remain and begin. Knoblehar made known his plan to the two brothers, chiefs of the country, Sulek

4. *Jahresbericht des Marien-Vereines zur Beförderung der katholischen Mission in Central Afrika.* Wien, 1852-7.

(Shola) and Nyigilo. But when the Turks who were accompanying the missionaries became aware of this they became obstructive, raised difficulties and plotted evil against the missionaries. Mgr. Knoblehar soon realized that as long as the missionaries were with the Turks, it would be impossible to think of founding any mission.'

'So he decided to leave. On the return journey, after some days of travelling, they heard a voice calling after them. It was Nyigilo who followed the boat. They stopped. As soon as Nyigilo entered the boat he embraced Knoblehar. They were both deeply moved, and neither could speak. Finally Nyigilo accepted Knoblehar's promise that he would soon return to dwell among them.'

On March 16th, 1850 the missionaries were back in Khartoum. Everything necessary for founding a station was lacking: personnel, equipment and money. Knoblehar decided to return to Europe and beg help for his mission. He founded in Vienna, with the assistance of Mgr. Mechutar, a society called Der Marien-Verein zur Beförderung der katholischen Mission in Central-Afrika, for the purpose of collecting subscriptions for the mission. The young Emperor Francis Joseph received the Pro-Vicar with the greatest interest and helped him financially. The Emperor also took the mission under his protection and obtained from the Porte a *firman* which granted the mission to Central Africa the rights and privileges which Catholic missions enjoyed throughout the provinces of the Ottoman Empire. An Austrian consulate was opened in Khartoum for the purpose of protecting the interests of the mission. The consulate, however, embarrassed the mission with its traffic in ivory and, perhaps, also in slaves.

Financial means having been secured, Mgr. Knoblehar went to Rome to report to Pope Pius IX. The death of Ryllo, the decrease in the revenue of Propaganda Fide owing to the political turmoil of 1848-9, as well as other causes, including a pessimistic report on the mission by Fr. (afterwards Cardinal) Massaja, who had passed through Khartoum in 1851 on his way to Abyssinia, had contributed to persuade the Pope to sign a decree abolishing the Vicariate of Central Africa.

On August 10, 1851 the Pope listened for over an hour to the missionary who pleaded for his mission. The decree was revoked and the mission was entrusted to Knoblehar as Pro-Vicar Apostolic.

At the end of August Mgr. Knoblehar left for Africa. He brought with him funds and a group of Slovene missionaries, Fr. B. Mosgan, M. Dovjak, O. Trabant, J. Kocijancic, M. Milharcic and some laymen who were skilled craftsmen. In Cairo Knoblehar met with difficulties from the new Viceroy, Abbas Pasha, who would not at first recognize the *firman* from Constantinople, though finally he recognized it. The Pro-Vicar on past experience purchased an iron *dahabiya* 'for a moderate price' from Kheir ed Din Pasha, and christened it *Stella Matutina*. The party reached Khartoum in two groups: one via the Nubian desert, the other, led by Fr. Kocijancic, sailing up the Nile.

Meanwhile, on January 12th, 1851 Fr. A. Vinco had returned to the Bari country in a boat belonging to the Savoyard trader, Antoine Brun-Rollet. Mgr. Comboni afterwards wrote: 'A true apostolate was started among the savages in the hope that other missionaries would settle there in future.' Vinco's courage, patience, self-denial and charity made him soon the most important and respected man in the Bari country.

On December 13th, 1852 Mgr. Knoblehar with Frs. Dovjak, Trabant and Mosgan sailed up the Nile as far as Illibari where they arrived on January 3rd of the new year. Four days later Knoblehar went to Gondokoro and bought a piece of land from Lutweri for a gourdful of beads, *kulya ti Bari*, according to the Bari custom. Several chiefs spoke on that occasion. The theme of their speeches was: 'The stranger must buy a field for himself and his comrades; he can grow trees in it and instruct our children; and because the strangers have nothing in common with the robbers and murderers from foreign lands, the chiefs bind themselves to see to it that no one damages their possessions.'

Fr. Vinco died of fever on January 22nd, 1853 in the arms of Mgr. Knoblehar. Vinco had lived hard for almost four years at Libo among the Bari. He visited the Lokoro with his friend Nygilo whom he got

to know in his first journey. Passing near Liria he arrived at Lafon, and noted the habits and customs of the people as well as the topography of the place, of which he wrote a detailed account.[5] He was the first European to enter the neighbourhood of Torit. Vinco then visited the Seresere and Shindirru peoples, and arrived near the boundaries of the Madi tribe. On his return from that tour he bought a piece of land at Libo on the Nile and thereon built a house for himself. Afterwards he visited Liria, Langairo and Lande. He organized an expedition with his faithful negroes, but death intervened.

Vinco was the first missionary to die in the front line. The French consul and traveller, G. Lejean, wrote of him in 1860: 'A. Vinco was the perfect type of the Christian missionary in the Sudan . . . he was adventurous, brave, an excellent shot, and gay; he was greatly esteemed by the Bari, whose language he spoke.'

Mgr. Knoblehar planned soon to build a home for the missionaries, a school and a church; but skilled workers were wanting. 'All the technical knowledge acquired during leisure hours in college days was of great use to the missionaries. At one time they handled the trowel, at another the saw or the square; one would equip himself with an axe, another with a hammer, a third with a hoe, others with pick or spade . . . and the negroes watched and laughed.' Thus the work being started Mgr. Knoblehar returned to Khartoum accompanied by Nyigilo. Knoblehar found the Khartoum mission flourishing. 'The Khartoum mission presents a picture of active life. Fr. Milharcic who has a gift for managing children, is in charge of the boys' school. Its 40 pupils keep their master very busy. In our workshop we work from morning to night, and make all the furniture necessary for the house.'

In September, 1853 Mgr. Knoblehar was in Alexandria to make purchases and await the arrival of new missionaries. These were

5. *Jahresbericht des Marien-Vereines*, 1853, contains an account in German; for the Italian version see *Relazione del viaggio . . . fra le varie tribu del Fiume Bianco*, 1851-2. Monza. *Annali della Societa di Maria per le Missioni Cattoliche dell'Africa Centrale* 2, 1853.

six, including M. L. Hansal, teacher, printer and musician, from Vienna.

On his way back, at Korosko, Mgr. Knoblehar was overtaken by two Italian missionaries, Frs. A. Castagnaro and G. Beltrame, who were coming to arrange for a possible mission to be entrusted to the Instituto Mazza of Verona. The combined party sailed back to Khartoum from Berber in the *Stella Matutina*. Fr. Milharcic, who had come from Khartoum in the same boat, died half an hour before it reached Berber. When they disembarked at Khartoum on December 29th, 1853 they found Fr. Kocijancic dying. On February 6th, 1854 Fr. Castagnaro died of dysentery in Khartoum. Mgr. Knoblehar with a priest, Fr. I. Kohl, left for Gondokoro which they reached on April 4th. Here they learnt of the death of Frs. Dovjak on January 22nd and Trabant on March 15th. In the meantime Fr. Mosgan had gone to establish a mission amongst the Kic Dinka at Abu Kula between Shambe and Bor, which he called Holy Cross, known as Kenisa to this day.

At the same time an incident occurred in Gondokoro which threatened to undermine the work of the missionaries who, one after the other, were dying on the field. The missionaries frequently reported to Khartoum cases of oppression, which called for justice from the Turkish government. European merchants were often accessories to these injustices. Among the 40 boats that reached Gondokoro in 1854 were three belonging to the Sardinian consul in Khartoum, A. Vaudey. He intended to attack the Bari, but Mgr. Knoblehar dissuaded him from his mad design.

On the evening of April 5th, one of Vaudey's boats anchored between the *Stella Matutina* and the mission garden. Its presence seemed to compromise the mission, causing the natives to think that the mission was privy to the threatened attack. 'Vaudey had attributed all his misfortunes to the missionaries', wrote Mgr. Comboni.

Two shots were fired from Vaudey's boat at the natives on the river bank, while firing also started up from Vaudey's other boats

anchored near Libo.[6] War drums were furiously beaten, while the negroes, howling terribly, hurled spears and shot arrows. Mgr. Knoblehar ordered the crew of the *Stella Matutina* not to fire. It was a bloody fight. The negroes carried their wounded to the missionaries. Vaudey himself fell dead pierced by a spear. His two nephews, Jules and Ambroise Poncet, barely escaped death. Several chiefs, impressed by the peaceful attitude of the missionaries, came to Knoblehar after the fight to ask the missionaries to settle among them.

So Knoblehar went to the cataracts south of Garbo, Cumlo and Tokiman. But on June 12th Fr. Kohl, after assisting a sick person, died a victim to his apostolic zeal. Knoblehar was compelled to return to Khartoum. He entrusted Gondokoro mission to old chief Lutweri; there were no more missionaries to staff it.

In Khartoum the rumour circulated that Mgr. Knoblehar had been eaten by the natives. While journeying on the Nile he visited all the boats he met en route to set free any slaves he found, availing himself of the powers given him by the Government. European as well as Arab merchants implicated in the trade bore him no good will.

The construction of the big mission building in Khartoum was started in 1853. An Italian mason, Pietro Agati, who worked with the missionaries, was the first since ancient times to introduce into the Sudan the art of burning bricks. The clay, first found at Omdurman, was afterwards dug at Soba. Over 1000 boat loads of stone and bricks were carried for the new construction. By the autumn of 1856 the fine brick and stone edifice was 104 metres long, being only a third of the structure planned. By 1859 the cost of building exceeded 500,000 francs. The local school flourished; mathematics, singing and drawing were included in the school curriculum. The trade school attracted the attention of Khartoum and its visitors. Many of its pupils afterwards found employment in the Government workshops.

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6. Vaudey's people attributed the cause of the fracas to the firing of a salvo from Vaudey's boats in honour of Knoblehar, which caused accidental injury on the river bank.

On October 28th, 1854 a fresh supply of missionaries arrived; three priests and five lay brothers, among whom was a skilled foreman, Leonhard Koch. Mgr. Knoblehar left for Gondokoro with Fr. A. Ueberbacher and a lay brother. On April 15th they moored among a cheering crowd. With the Pro-Vicar returned also the famous Nyigilo, object of wonder, who brought back a graphic account of the magnificence of the Turks. But there was famine among the Bari. Mgr. Knoblehar had with him two boats loaded with dura; the whole was distributed. Over 40 poor were given shelter at the mission.

During his leisure Mgr. Knoblehar, a scholar by temperament with a natural bent for acquiring languages, translated prayers and hymns into Bari. There was a boy named Logwit among the Bari, who later helped Prof. J. C. Mitterütztner of Brixen in the transcription of the Bari language. Mitterrütztner gave the mission to Central Africa financial and linguistic help as well as precious personnel. He prepared grammars and dictionaries in Dinka and Bari,[7] and translated catechisms into those tongues. Fr. Ueberbacher remained alone at Gondokoro, where he applied himself to the study of the Bari language, translated long extracts from the Gospels and the Epistles of St. Paul, wrote a brief Bible history, and composed various hymns in Bari.

Beltrame on the Blue Nile

Meanwhile Fr. G. Beltrame in Khartoum collected information about the places and languages of the peoples on the Blue Nile as far as Fazughli. With the consent of the Pro-Vicar he undertook a journey among the tribes south-west of the Blue Nile in the southern Gezira. At Sennar he was the guest of Dr. A. Peney, medical officer of health. Thence he went to Karkoj and Roseires. There he took three camels and three donkeys, and travelled as far as Beni Shangul.

7. *Die Dinka-Sprache in Central Afrika.* Brixen, 1866; *Die Sprache der Bari.* Brixen, 1867, of which Lt.-Col. R. C. R. Owen published an unacknowledged rendering into English in 1908 entitled *Bari Grammar and Vocabulary.*

Beltrame was the third European to get so far; the first was J. Russegger, the second P. Trémaux. On April 5th, 1855 Beltrame was back in Khartoum. In 1869 he wrote: 'The journey to Beni Shangul, despite much hardship and discomfort, did not attain my object.' Communications were almost impossible between those tribes and Khartoum. Interesting geographical, linguistic and ethnographical notes[8] were, however, a fruitful result of that journey. Fr. Beltrame asked Dr. Knoblehar, and was granted, a mission among the Dinka of the White Nile. At the end of 1855 Beltrame returned to Europe to seek helpers.

Adversity

In 1856 more missionaries arrived for Mgr. Knoblehar, but some fell ill on the journey out. Fr. M. Wurnistch died at Korosko. Frs. F. Morlang and L. Bircher reached Holy Cross, but the latter died a short time after. Morlang went to Gondokoro. A month later Fr. A. Kaufmann arrived at Gondokoro and Fr. J. Lanz at Holy Cross. Lanz interested himself in the Dinka language.[9]

The news of so many deaths among the missionaries resulted in the Marien-Verein reducing its help. So Knoblehar, wasted by fever, decided to return to Europe to confer with Propaganda Fide, and at the same time to regain his health. At Aswan he met a Veronese party, headed by the returning Fr. Beltrame. With Beltrame were Frs. F. Oliboni, A. Melotto, D. Comboni, A. Dal Bosco and a layman, I. Zilli. Mgr. Knoblehar said to Fr. Beltrame: 'I commend to you the Verona mission, of which you are in charge. Orders have already been given that you and your companions will be welcome at Holy Cross. You will stay there for some time to explore the country, record the customs of the inhabitants, and study their language. You will then choose a suitable site to found your mission . . . I do not know whether we shall ever meet again. I am worn out. I feel that I shall die soon.' His presentiment was true. Exhausted and ill

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8. *Il Sennaar e lo Scioa.* Roma. *Boll. Soc. Italiana* 16, 1879; *Il Sennaar e lo Sciangallah.* Verona, 1879-82.

9. Morlang also contributed an appendix entitled *Kleines Vocabular der Sprache der Nyang-Bara,* compiled in 1859, to Mitterrutzner's *Die Sprache der Bari.*



DANIELE COMBONI.



A CLOISTER OF THE MISSION AT KHARTOUM
(*From a sketch made in* 1880).

Knoblehar died at Naples on April 13th, 1858. He was only thirty-eight.

Knoblehar's valuable manuscripts on botany, geography and geology were given to the College of Propaganda, while his studies of the Bari and Dinka were deposited in the Imperial Library of Vienna. Sir J. Hamilton in *Sinai, the Hejaz and Sudan* (1857) wrote of the high respect in which 'Abuna Suleiman' (as Knoblehar was called) was held by Turks, Arabs, Copts and others. The American diplomat and traveller, Bayard Taylor, in his *Life and Landscapes* (1854), confirmed the judgment of Hamilton. And even the free-thinker, Count Luigi Pennazzi, a traveller to Khartoum on the eve of the Mahdist revolt, admitted the success of the missionaries in raising the condition of the people and in hardening public opinion against the slave trade.

The Verona expedition under the leadership of Fr. M. Kirchner reached Holy Cross on February 14th, 1858, welcomed by Fr. J. Lanz, who was mourning the death of Fr. Mosgan on January 24th. Fr. Kirchner proceeded to Gondokoro and returned with the news that Fr. Ueberbacher had died on February 22nd. At Holy Cross he found Fr. Oliboni dead. On his death-bed Oliboni bade them take courage: 'Even though only one of you should remain, let not his confidence fail, nor let him withdraw.'

The Italian missionaries built new dwellings because, wrote Comboni, 'the five of us had been installed in one small hut, which had until then lodged the cows.' All applied themselves to the study of the Dinka language. A Dinka grammar, dialogues, a dictionary of about 2000 words and an elementary textbook of religion of over 300 pages were compiled. 'The whole was the common fruit of the labour of Lanz, Melotto, Beltrame and myself', wrote Mgr. Comboni, who continued: 'We have explored the country of the Dinka, where we have ascertained the habits, customs and beliefs of the negroes. In a short time these regions will give themselves up to Christianity, if the ministry can be continued. The foot of the trees are our pulpit, which is always surrounded by chiefs and naked blacks

armed with spears. They listen to God's word with great eagerness.'

At the cost of much labour to the untiring Lanz and the other missionaries they built a church 22 metres long and 12 high. It had a straw roof thatched in the native fashion.

On August 3rd, 1859 Fr. P. Vechweider died at Gondokoro, where he had been only a few months. Fr. F. Morlang then explored the country west of the Nile, visited the Nyangwara and journeyed beyond Yei.[10] He was the first European to visit these places. Morlang collected 150 words which he believed to be Nyangwara but were in fact Moru. The following year he and the German explorer, Wilhelm von Harnier, sailed up the Nile as far as the Bedden rapids. Shortly afterwards von Harnier, having returned to Holy Cross, was killed by a buffalo in a hunt and was buried in the cemetery of the mission.

Fr. Kirchner returned to Khartoum, where he found the Vicar-General, Fr. J. Gostner, dead at the age of 36. When the Prefect of Propaganda, Cardinal Barnabò, heard of all these deaths (22 between 1851 and 1858, and several missionaries repatriated for reasons of health, and to crown all, the death of Gostner, whom they contemplated appointing head of the mission) he said: 'After so many sacrifices we shall have to give up this mission.' Prof. Mitterützner pleaded so hard for the unfortunate mission that he saved it. He also drew attention to the fact that there were two Sudanese pupils studying in the college of Propaganda and proving their worth by being at the top of their class in talent, piety and judgment.

Mgr. Matthias Kirchner was appointed to succeed the late Pro-Vicar. He accepted the difficult task with reluctance. He went to Rome to confer with Cardinal Barnabò, and it was agreed to establish stations at which the missionaries could acclimatize themselves and rest. Shellal was chosen as an acclimatization centre. The Viceroy, Mohammed Sa'id Pasha, was prepared to present them with the island of Philae, provided that its ruins were to remain the property of the

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10. *Reisen ostlich und westlich von Gondokoro*, 1859. *Gotha. Petermanns Mitteilungen* (*Erganz.*) 2, 1862-3.

Government. Mgr. Kirchner however preferred 15 feddans of land in Shellal with the possibility of cultivating a large garden there.

In 1859 Kirchner returned to Africa, taking with him five missionaries, among whom was Fr. Johann Reinthaler, a Franciscan from Styria. The Verona missionaries, continually ill with fever, decided to abandon Holy Cross, 'a mission too unhealthy and, moreover, too close to the trading stations.' In the evening of January 15th 1859 Beltrame, Melotto and Comboni left Holy Cross. On their return voyage they sailed a long way up the Sobat river to look for a possible new site, but found none. On February 22nd Beltrame and Melotto again landed to look for a suitable place among the Dinka. Finally they chose a site for a new station on the Tarciam canal near the village of Miegik among the Abialang Dinka. On April 4th they arrived in Khartoum, where Fr. Melotto died on February 28th. Four days previously the chief carpenter lay brother, G. Kleinheinz, had also died. Comboni returned to Italy with the Ferrarese trader, A. Castelbolognese, who related to him his various travels to the Bahr el Ghazal.

Mgr. Kirchner ordered Beltrame to sail up the White Nile again 'to recall the missionaries, to take with them such of the black pupils as prudence would suggest, and to withdraw all furniture that could be of any use in the new house at Shellal.' As soon as Beltrame reached Holy Cross he ordered everything to be got ready for the evacuation. He and Lanz then went on to Gondokoro, where Morlang was alone.

The three missionaries departed with heaviness in their hearts. It was sad to see the Bari crowds rush into the house to carry off everything they could. The Kic Dinka at Holy Cross, on the other hand, wept over the departure of the missionaries. 'If you abandon us, who will defend us from the Danagla armed men, when they come to take away our children ? You have helped our poor and cared for our sick ; who will console and cure us ?

The missionaries arrived in Khartoum on March 29th, 1860. There the pious and zealous Fr. J. Lanz died a few days later. No new

missionaries came. Mgr. Kirchner, in a mood of depression, wrote in June, 1861 : ' The situation of the mission is such that I feel obliged in all conscience to make a last bid for support by calling on a religious order to which to entrust it, otherwise it will have to be abandoned to save strength, resources and personnel.' So he went to Europe to confer with Propaganda Fide and other interested bodies. Morlang and Kaufmann went to Shellal; Beltrame and Dal Bosco remained for a short time in Khartoum to liquidate the house, and then joined the other two at Shellal. There they remained from June, 1860 until February, 1862. Beltrame employed much of his time in linguistic and anthropological study of the local Beja and visited their villages.

The Franciscan Contribution

On September 4th, 1861 Propaganda Fide entrusted the Vicariate to the Franciscan Order headed by Fr. J. Reinthaler from the Province of Styria. Reinthaler left Trieste with five fathers and 28 lay brothers and reached the station at Shellal in January, 1862. He and some of the missionaries proceeded on over the Nubian desert as far as Khartoum, where he left some of the party, while with the rest he sailed up the White Nile. Falling ill in the Shilluk country he had to return to Khartoum, while his missionaries went on to Holy Cross.

It was at this time that the Franciscans opened a mission station at Kaka amongst the Shilluk. In March, 1862 another caravan of Franciscans consisting of eight priests, two seminarists and fifteen lay brothers reached Shellal. Several Franciscans fell victims to their lack of foresight in not taking proper safeguards against a climate so different from their own. On April 30th, 1862 Fr. Reinthaler died of fever at Berber. Twenty-two missionaries had died since January of that year, including a group at Kaka. The few survivors, appalled by so many deaths and persecuted by the slave dealers, decided to go home. Propaganda Fide temporarily entrusted the direction of the Sudan mission to the Vicar-Apostolic of Egypt. The mission stations on the White Nile, as well as that of Shellal, were closed, and only two Franciscans, Fr. F. Pfeifer and a lay brother, remained in

Khartoum. The Annals of the Propagation of the Faith recorded that ' each mission station of the Vicariate is marked by several graves, and more tombs mark the road from Shellal to Gondokoro. The day will come when life will arise from these graves.'

In February, 1863 we find Fr. Morlang with two missionaries on a visit to their old stations, Holy Cross and Gondokoro. J. H. Speke in his *Journal of the Discovery of the Source of the Nile* (1863) informs us of his meeting with Fr. Morlang and his companions at Gondokoro. He pays tribute to the missionaries fallen in these lands. ' The missionaries never had occasion to complain of these blacks, and to this day they would doubtless have been kindly inclined towards Europeans, had the White Nile traders not brought the devil amongst them . . . The shell of the brick church at Gondokoro and the cross on the top of a native-built hut in Kich, are all that will remain to bear testimony to these Christian exertions to improve the condition of these heathens.' Speke also noted the slanderous accusations of the traders against the missionaries, which attributed the ruination of their health to laziness, drunkenness and smoking.

Sir Samuel Baker in his *Albert N' Yanza* (1866) also speaks of Holy Cross and Gondokoro. On January 22nd, 1863 he was at Holy Cross : ' The mission station consists of about 20 grass huts on a patch of dry ground close to the river. The church is a small hut but neatly arranged.' Fr. Morlang was very discouraged. ' He had worked with much zeal for many years, but the natives were utterly impracticable people, lying and deceitful to a superlative degree. The more they receive the more they desire . . . . It is a pitiable sight to witness the self-sacrifice that many noble men have made in these frightful countries without any good result.' Baker, however, benefited from the faithful service of two mission products, Richarn and Saat, ' a boy that would do no evil.'

Of the Gondokoro mission station Baker wrote in his diary : ' There remain to this day the ruins of the brick establishment and church and the wreck of what was once a garden ; groves of citron and lime trees still exist, the only signs that an attempt at civilization

had been made.' Sir Samuel asks himself the reason for the failure of so much work; 'What curse lies so heavily upon Africa and bows her down beneath all other nations? It is the infernal traffic in slaves —a trade so hideous that the heart of every slave and owner becomes deformed and shrinks like a withered limb incapable of action.'

The only mission still active in the Sudan was at Khartoum, which Baker found 'swarming with little black boys from the various White Nile tribes.' Fr. Pfeifer stayed in Khartoum for nine years, when he was succeeded by Frs. D. Stadel-Meyer and H. Schlatter.

At the end of a long historical report on the Vicariate of Central Africa written in French in 1867 and often quoted in the present paper, Mgr. Comboni asked firstly: what were the results achieved by the various missionaries from 1846 to 1867? Secondly: why had the Franciscan Order not obtained the results that had been expected from its activities?

As to the first question, the mission to Central Africa had succeeded in reaching the 15th parallel of latitude N., and had placed on the map a large region previously unknown. It had made a serious contribution to the study of the customs and languages of those parts. It had gained for its missionaries the love of the native people. As to the second question, the missionaries, though full of the best intentions and actuated by the highest ideals, nevertheless lacked experience of tropical conditions.

Daniele Comboni

Comboni was present at Holy Cross when the dying Oliboni uttered his last injunction: 'Even though only one of you should remain, let not his confidence fail, nor let him withdraw.' In obedience to this command the future bishop dedicated all his energy and talent for the next twenty-two years to missionary work in the Sudan.

In 1864 he published his *Piano per la rigenerazione dell' Africa*, a pamphlet reprinted in several languages. This was a plan to

regenerate Africa *through Africa*. In brief the proposal was to establish institutions, possibly round the African coast, where the mild climate would suit Europeans as well as natives. In these institutes native boys and girls would be taught the secular arts and be prepared for missionary work in the interior of the continent. The scheme is interesting as providing an early example of 'indirect administration' in the missionary sphere; it is perhaps not an overstatement that its ideal has inspired subsequent developments in the political administration of tropical Africa. To-day Comboni's plan is being carried out in its broad lines by the institution of native clergy, sisters and helpers.

In 1865 Comboni, accompanied by Fr. L. da Casoria, founder of the Institute for African Negroes in Naples, reached Shellal. Three negroes were with them: two lay brothers, Lodovico and Giovanni, and Fr. Bonaventura from Khartoum, who had been baptized by Knoblehar in 1851 in the Khartoum mission, and afterwards educated in Verona and Naples. A division of the vast Vicariate was mooted, but was not felt to be timely. The new house at Shellal was maintained for eight more months, but was then closed for lack of funds.

In 1867 Comboni opened in Old Cairo two institutes for Africans of both sexes. In the same year he had opened, with the same object, an institute for men in Verona, entrusting its direction to Fr. A. Dal Bosco, his companion in the Sudan in 1857. He also opened an institute for sisters in Verona. Comboni now had his own personnel, trained in the two institutes which he himself had founded, instead of having to rely on missionaries recruited here and there as previously. He founded the Association of the Good Shepherd to provide funds. France, England, Ireland, Spain, Austria, Germany, Poland, Russia, Hungary and Italy beheld Comboni begging from rich and poor. Between January and May, 1871 he wrote 1347 letters. He assured the direction of the two institutes in Cairo by obtaining the help of two Camillian fathers and some sisters of the Apparition of St. Joseph. By that year eighteen native girls out of fifty-four in the

Cairo institute were ready to return to the Sudan. On August 15th, 1871 he was in a position to ask the Camillian fathers, S. Carcereri and G. Franceschini and two lay brothers, P. Bertoli and D. Polinari, to explore Kordofan.

Missions in Kordofan and Berber

Comboni gave this reason for abandoning the White Nile for Kordofan in *Annali del Buon Pastore*[11]: 'During the first period of the existence of the Vicariate the negroes of the White Nile were proved to have been corrupted by the traders . . . I therefore regarded it as the best plan to avail myself of the inland routes to establish a mission between the White Nile and the Niger. It seemed to me that these inland regions were in less danger of corruption.'

Comboni's party left Cairo on October 26th, 1871, and reached Khartoum on December 20th. With the permission of the Holy See and the Vicar-Apostolic of Egypt the missionaries set out for El Obeid *via* Sennar and Tura el Khadra. On their way they produced a useful map giving the positions of villages and wells. Carceri's report emphasized his preference for the choice of El Obeid as a mission centre for the blacks. The fathers therefore took up their residence there. By decrees of the 21-26 May, 1872 Propaganda charged the Institute for African Missions of Verona with the direction of the Mission to Central Africa, and elected Comboni as Pro-Vicar Apostolic.

On September 18th Mgr. Comboni, four priests, three laymen and three native girls left Trieste for Africa. In Cairo his party increased to 21 persons and reached Khartoum on May 4th, 1873. Fr. Carcereri had already returned from El Obeid and taken over the Khartoum mission from the Franciscan D. Stadel-Meyer. Now Mgr. Comboni took formal possession. In his sermon on the following Sunday he formulated his programme. His words revealed the man: '. . . I make my own cause the cause of each of you, and my happiest

11. Organ of the Associazione de Buon Pastore, and continued since 1883 under the title *La Nigrizia*.

day will be that on which I may lay down my life for you.'

On June 19th, 1873 Comboni and various other missionaries were at El Obeid. Among the company was Don Pio Giuseppe Hadrian, O.S.B. Don Pio was born in the region of Sennar ; at four years of age he was carried off into slavery and sold and resold in Nubia. Rescued in Cairo by an Italian priest he was afterwards educated at the Benedictine monastery of Subiaco. Unfortunately affected by tuberculosis he was advised to go back to his home with Mgr. Comboni. But on July 10th, this first priest from Central Africa died.

After conferring with Said Agha the Nuba chief of Delen (Dilling) Comboni wished to visit the Nuba mountains, but administrative business kept him at El Obeid and he sent the two Camillians, Carcereri and Franceschini, accompanied by the layman A. Wischnowski. The last was an experienced and courageous man, who had been in the mission since 1856, and was greatly trusted by Comboni. They left on October 13th, 1873 and reached Delen, passing through the wild Baggara tribes. On their way they made a map of a part of the Nuba mountains hitherto unmapped, and they wrote a valuable report giving geographical and ethnographical details.[12] They were enthusiastic about the sincere and intelligent character of the people.

On November 17th Comboni and Carcereri returned to Khartoum, where the growing number of pupils demanded the enlargement of the school buildings. On June 9th, 1874 the sisters moved to the new brick building, in area 61 by 5½ metres, built on the same style as the older part of the block. It is a tribute to the quality of the structure that, ten years later, during the siege of Khartoum, General Gordon borrowed it for use as a powder magazine, as being the best and safest building in the town.

In October, 1874 Comboni opened a mission at Berber, a centre for caravans from Egypt and the Red Sea coast. Its direction was entrusted to the Camillian fathers.

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12. Carcereri, S. *Carte du Kordofan et du pays des Noubas.* Paris. *Missions Catholiques*, 1874 ; *La nuova carta di Dar o Gebel Nuba.* Verona. *La Nigrizia*, 1883-5 *passim.*

The institute for missionary sisters which he had founded in Verona on January 12th, 1872 was growing steadily and was firmly established by 1874, when Comboni called the sisters le Pie Madri della Nigrizia, the Good Mothers of Negroland.

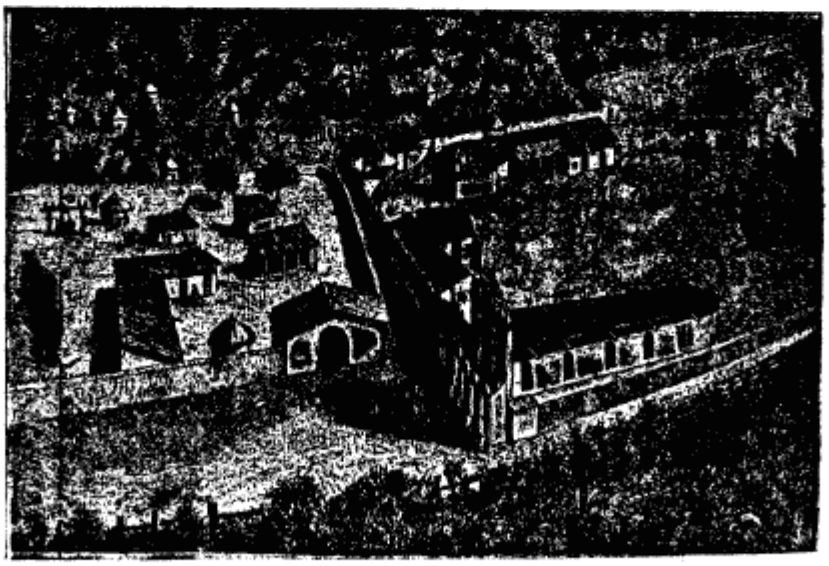
Early in 1875 eighteen missionaries—fathers and sisters—reached Khartoum. Among them was Fr. L. Bonomi, later Comboni's deputy and a prisoner of the Mahdi for three years. Bonomi and another priest went to El Obeid and Delen, where they opened a mission station, and were cordially welcomed by the Kujur Kakum, Comboni's friend. The missionaries started learning the local Nuba language, and compiled a grammar and vocabulary helped by Comboni, who with two sisters had joined them in September.

As the Nuba had refused to pay taxes, the Governor of El Obeid sent an expedition against them, and Comboni and his missionaries were advised to withdraw. They therefore left everything in the custody of Kujur Kakum and retired to El Obeid. The majority of the missionaries, weakened by fever, needed a change. At El Obeid the new guests were of great help: the boys' school was given a vital impulse; the buildings were improved and a well dug. By 1878 the missionaries were surrounded by a nucleus of Christian families.

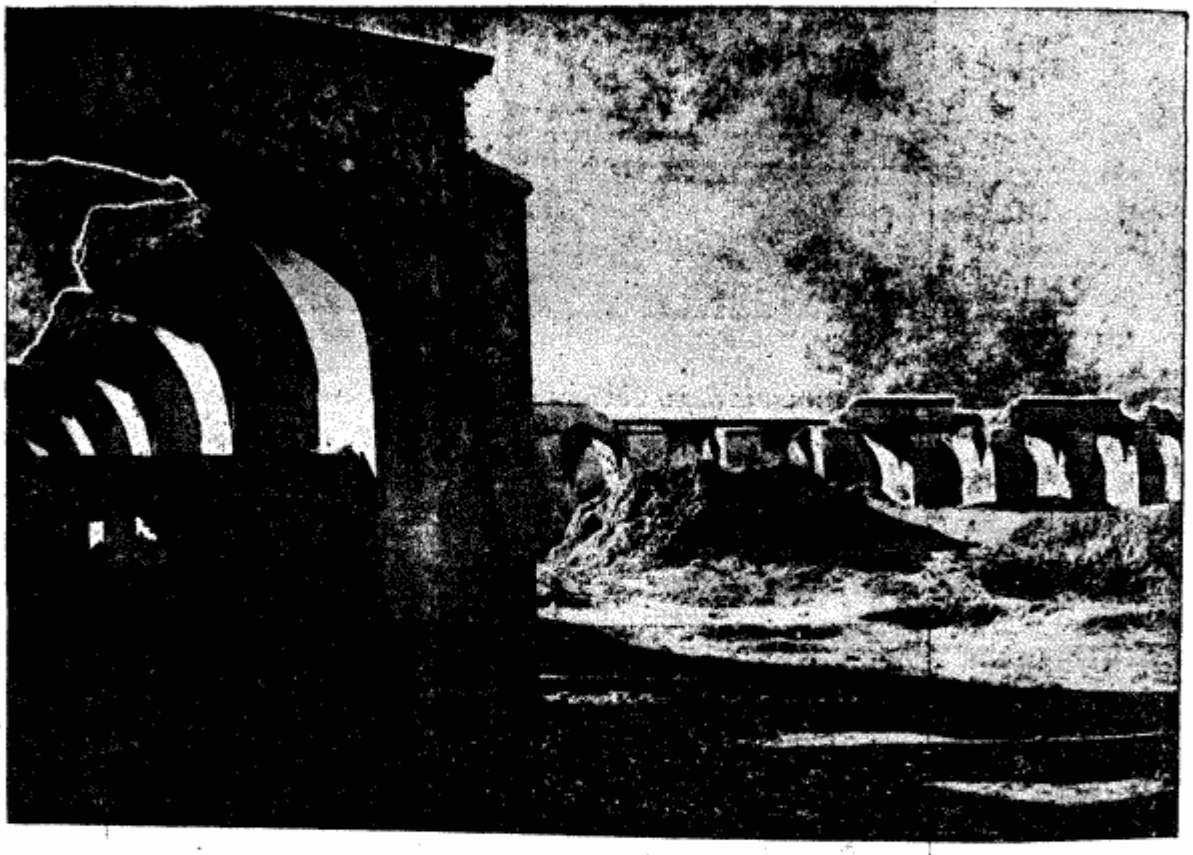
Having at heart not only the evangelization of the people but also their material welfare, the missionaries decided to found an agricultural station, a project that fitted in with the character of the natives, who find stability in agricultural life. They opened this station at Malbes, 18 kilometres south-east of El Obeid. Homesteads were built, one for each family. Five years after its foundation the Malbes colony numbered about 30 families in an area of 30,000 square metres. The need of a similar agricultural establishment was felt also in Khartoum. Comboni started negotiations with the Government to acquire a piece of land close to the town, but the attempt did not succeed. Permission to re-open the Delen mission was likewise delayed by the Khartoum Government, but Colonel Gordon, appointed Governor-General in February, 1877, gave the necessary authorization.



AGRICULTURAL COLONY OF MALBES NEAR EL OBEID.



CHURCH AND HOUSE OF THE MISSION AT EL OBEID.



THE RUINS OF THE MISSION IN KHARTOUM DESTROYED BY THE MAHDISTS IN 1885.

In October the missionaries reopened the mission to the great rejoicing of the Nuba people.

Martini's Journey to the Abyssinian Border

On September 21st, 1876 Fr. G. Martini set out on a journey up the Blue Nile with the object of founding a mission station between the Sudan and Shoa. The projected site was in the neighbourhood of Gedaref, a suitable region as the new station was intended to be of an agricultural character. Martini went through the Gezira, and crossing the Nile at Mesellemia continued to Gedaref. Thence he made south-west to Metemma (Gallabat). Then, led only by a camelman, he travelled to Famaka, where the Blue Nile enters the Sudan. Martini's report is most interesting: he describes the domestic and agricultural customs of the various tribes whom he passed. It is a serious contribution to the ethnography, botany and zoology of those regions.[13]

The Camillians abandoned the Berber house on February 22nd, 1877, and Martini was ordered to occupy it. At the beginning of 1879 even the sisters of the Apparition of St. Joseph left the mission, but by this time Comboni had assured the supply of mission personnel from his own recruiting institutes. In June, 1877 Comboni received an invitation from Suakin to start a school and church there. It was not possible to open them until 1885, when Suakin had become the base for a military campaign against the Mahdists.

In 1877 Mgr. Comboni was back in Europe with a young Dinka of the Bahr el Ghazal, Daniel Surur, who later became a priest. On July 2nd the Pro-Vicar was appointed Vicar-Apostolic and consequently consecrated bishop.

Famine, Flood and Pestilence

Bishop Comboni returned to the Sudan with a party of fourteen missionaries, priests, lay brothers and the first sisters from his

13. *Annali del Buon Pastore*, No. 16, pp. 36-60.

institute in Verona. On April 12th, 1878 they arrived in Khartoum. At Aswan Comboni received the first inkling that a disaster had befallen the Sudan. Colonel Gordon, whom he met there, expressed his anxiety. The year before there had been a frightful famine owing to lack of rain. The mission stations were overcrowded with hungry and thirsty people, especially at El Obeid. 'I myself', Comboni wrote later, 'witnessed the extreme poverty of very many localities, where whole villages, reduced by famine, lived on grass, wild seeds and even on the dung of animals. It is impossible to put into words the great privations sustained by the missionaries and sisters.'

At the end of July, 1878 heavy rain began to fall, and the Nile overflowed, threatening Khartoum. Temporary embankments were built to save the mission garden. In October, after the flood had subsided, pools were left that produced myriads of mosquitoes. Malaria spread and the year 1878 came to be known as 'the mosquito year.' Gordon, then Governor-General, wrote: 'The whole town is sick this year . . . This country is a pest house, the people have been dying like flies.'

The Italian explorer, P. Matteucci wrote from Abyssinia in January, 1879: 'I write and weep. One year has elapsed; out of all the missionaries in Khartoum and of those who came while I was about to leave (Khartoum) for Europe, only Mgr. Comboni survives . . . He withstands the struggle, but in his 20 years of Africa spent in striving against so many arduous difficulties Comboni has lost his robust vigour . . . It was last year that the Sudan was afflicted by a fearful famine . . . the mission exhausted its provisions to relieve so many miseries.'

Yet this did not divert Comboni from planning for the future. Matteucci mentions Comboni's project for an agricultural station at Gedaref and another for the creation of a mission station on the Equatorial lakes, a project which if realized, Matteucci considers, would have been the most important of Comboni's achievements. Gordon had once sent his colleague, Romolo Gessi to the Vicar Apostolic with a message: 'Tell Mgr. Comboni that his expedition to the Equatorial

lakes will be sent at Government expense; he need provide only food.' The expedition was to have started in the autumn of that year. Gordon had requested Comboni to send his sisters to staff the Government hospital at Fashoda. But how could it be done?

Fr. Martini recorded that ten missionaries had recently died in Khartoum alone. Comboni write: 'We have consumed the provisions we had, and spent all our money, to feed the numerous institutions we had at Berber, Khartoum, El Obeid, Jebel Nuba... We helped also the Mohammedans who were in extreme need... but now we are compelled to close the door to so many unfortunate people, who come to beg for bread.' Physically exhausted and in order to obtain fresh financial means he returned to Italy in May, 1879.

The following year, in December, he left for the Sudan with a goodly company of missionaries among whom was Fr. J. Ohrwalder. They reached Khartoum on January 28th, 1881, when Gessi Pasha, worn out by his privations and campaigns lay desperately ill in the mission attended by the sisters. Two years earlier Gessi had invited Comboni to found a mission in the Bahr el Ghazal and had promised official help. Comboni had planned to establish this mission in 1882.

On March 8th, 1881, unaware of the impending tragedy, various missionaries with 30 camels left Khartoum for El Obeid. A few days later they were followed by Mgr. Comboni and Rudolf von Slatin, the new governor of Darfur. On June 24th Bishop Comboni, Frs. J. Bonomi, L. Henriot, V. P. Marzano and the layman G. Regnotto, left Delen to explore Gulfan. An accurate and valuable map was produced. Comboni was particularly requested to report on the slave trade in that region. The Governor-General, Mohammed Ra'uf Pasha, Gordon's successor, had written to him from Khartoum on May 10th, 1881: 'Monseigneur... you may have already reached Jebel Nuba. I beg you to examine the country and its administration carefully, that we may take the necesssary measures for the welfare of those people. The question of slavery in particular must be the object of close study. Being on the spot you will be able to discover the errors committed there and propose the remedy to be applied.

You will receive from me the strongest support in the execution of H.H. the Khedive's orders.'

Death of Bishop Comboni

But Comboni's strength was on the point of breaking owing to fever, sleeplessness and the death of so many of his missionaries. There were six deaths in September alone. Back in Khartoum Daniele Comboni died in the evening of October 10th, 1881. The people of Khartoum of every race mourned for the dead bishop, but grief was above all among the slaves and the poor. Comboni's voice had denounced everywhere the physical and moral miseries of the slaves. He had the courage to write: 'The whole world has been told that the slave trade is suppressed. That is false . . . . The abolition of the slave trade in Central Africa is a dead letter, for the slaves constitute the principal revenue of the Sudan Government and merchants.'

Bishop Comboni was a true friend of Gordon. When in 1878 there were rumours in Cairo that Gordon had encouraged slavery, Comboni replied: 'I maintain that it is really a marvel that Gordon has, single-handed, by sheer force of will-power, succeeded in striking a blow at the slave trade and slavery. It is an undeniable fact that to-day there are no longer to be seen on the Kordofan, Fashoda and Dongola routes those immense crowds of slaves that I saw twenty years ago . . . the story that the Government has, with Gordon's consent, sent people to the Bahr el Ghazal to capture 10,000 slaves there, is absolute nonsense. Such stories are concocted by people who, not being able to drive their trade without being dropped on by the Government, and being prevented from making money as they used to do from the sale of slaves, now seek to discredit Gordon. But the truth must triumph. Gordon Pasha is the greatest foe of slavery.'

I conclude this appreciation by quoting from Count Pennazzi's book, *Dal Po ai Due Nili* (1882): 'The Khartoum mission has counted and still counts among its members fine men who have contributed to the progress of science. To-day Comboni . . . does not fall short

of his predecessors, whose names I recall with pleasure since they have removed, as best they could, the dishonour into which a blackguardly rabble has brought the European name. It will be enough to mention Knoblehar, Kirchner, Dovjak, Morlang, Kaufmann, Beltrame and Dal Bosco, who all contributed to overthrow an interest which was the negation of honour and humanity.'

Mahdism and the Missions

Comboni died on the eve of a storm that burst over the Sudan. As late as March 12th, 1882 Emin Pasha, Governor of Equatoria, wrote to Fr. Henriot: 'If you come soon, I will pay your fare and maintenance for one year. I will help you in every way to build the house.' But on September 15th the Mahdists overran the Delen mission, and Fr. Ohrwalder, two lay brothers and three sisters were taken prisoner. They met with hardship and suffering. Sister E. Pesavento on October 28th, Brother G. Mariani on October 31st and Sister A. Andreis on November 7th were the heroic victims, while the survivors were 'hovering between life and death, lying helplessly side by side.' On the 28th December Fr. G. Losi, temporary Superior of the whole mission, died of dysentery in the siege of El Obeid. The captives from Delen were joined by the surviving missionaries of El Obeid, 'more dead than alive,' and suffering from scurvy.

On December 11th, 1883, after the defeat of Hicks Pasha, the staff of the Khartoum mission withdrew first to Shellal, then to Cairo, by formal order of Mgr. F. Sogaro, the new Pro-Vicar Apostolic. Only one layman, D. Polinari, remained in Khartoum as caretaker.

After Fr. Bonomi's flight in June, 1885, Fr. J. Ohrwalder, 'Abuna Yusuf', was the father of all Christian captives without regard to denomination. On the night of November 29th, 1891 he with Sisters C. Chincarini and E. Venturini escaped to freedom, and in October, 1894 Fr. P. Rossignoli also escaped.

In September, 1898 the Mahdist power was broken on the battlefield of Omdurman. In October, 1899, by special licence of the Sirdar,

Fr. Ohrwalder, accompanied by Fr. L. Banholzer, re-entered Omdurman, 'greeted enthusiastically by all his friends.' Thence onward begins the development which we witness to-day. As not unworthy sons of a century of suffering and achievement the missionaries of our time work to realize the dreams of those stout-hearted pioneers, Knoblehar and Comboni.

SOME VEGETABLE POISONS OF THE SUDAN.

By R. Kirk.

The use of poison is nearly as old as the human race. Those who read the history of the most ancient nations usually find evidence of an extensive systematized knowledge of the subject, often strictly guarded by a priestly caste, while at the present time a remarkable knowledge of the use of poisons is found, in every region of the world, among primitive peoples whose activities have not yet emerged from the twilight of folk-lore into recorded history.

It is generally believed that poisoning as a fine art was introduced from the east into the rising civilizations of the western world, where it flourished to such an extent that to be poisoned was often considered as natural a method of dying as contracting a disease. A special class of professional poisoners arose, and methods of great ingenuity were devised for administering the poison. The scene in Swinbourne's "Queen Mother" in which Catherine de Medici poisons the clown with a pair of gloves is probably not exaggerated. For their protection great nobles retained the services of a food taster, whose duty it was to sample before his master all the dishes which were offered to the latter, and a reliable cook was a possession above the price of rubies. That form of ceremonial politeness which one encounters so frequently in Africa at the present time, and which consists, when entertaining a guest, of tasting in front of him all the meats and drinks before offering them to him, has essentially the same purpose of giving assurance that there is no danger from poison.

Homicidal poisoning has always been regarded with peculiar horror and loathing, partly, as Thomas[1] points out, because the use of poison involves the idea of death without the possibility of motor resistance, without giving the victim a fighting chance; partly also because the justice of organized society was often powerless against

1. Thomas, W.I. (1907). *Sex and Society*, pp. 163-167. Chicago.

the poisoner owing to the difficulty of detection. At the ancient Greek festival of the Thargelia, held in Athens every May, two public outcasts, set apart for the purpose, were flogged with squills and wild fig branches and then stoned to death or cast into the sea. The scapegoat in this case was called the φαρμακὸς which means poisoner or sorcerer[2]. Like many primitive peoples, the ancients regarded magic and poison as similar, when used for homicide.

The greatest deterrent to the poisoner is the likelihood of being detected and brought to justice. In the most highly civilized countries, where there are well-equipped laboratories and experienced toxicologists, very few cases of poisoning now escape detection, and people have therefore become less inclined to use poison for the furtherance of their material aspirations. At the same time the science of toxicology has developed its most accurate methods of detection in relation to the poisons commonly used in the civilized countries of the temperate zone. Much less is known about most of the poisons used in tropical countries, where the number of naturally occurring plant poisons is very great. The active principles of many of those poisons have not yet been isolated, or their chemical properties have not yet been worked out, and very little is known about some of them beyond the fact that they are poisonous. Their identification in the body of the victim may be impossible by chemical analysis alone. Consequently it is not surprising to find that the use of poison is much commoner in the tropics than in the temperate zone.

The late Dr. A. J. Chalmers[3] concluded from his wide experience that criminal poisoning was more frequently encountered in the east than in Africa. This may be so, but the use of poison is undoubtedly widespread in Africa, and records are not lacking to show that the African often uses great ingenuity in his methods of administering the

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2. Morley Roberts (1916). 'The Pharmakos.' *Folk Lore*, 27, 218. London.

3. Dr. A. J. Chalmers M.D., F.R.C.S., D.P.H. was Director of the Wellcome Tropical Research Laboratories from 1912 until 1920, after a wide experience in West Africa and Ceylon. He was a man of wide erudition and his untimely death in India, while on final leave from the Sudan, was a great loss to tropical medicine. The voluminous *Manual of Tropical Medicine* which he wrote in collaboration with Castellani includes many observations from his experience in the Sudan.

poison. Raymond,[4] for example, records one occasion on which arrow poison was coated on to prickly pear seed-pods, which were strewn in the path of the intended victim.

As a general rule the use of poison is commoner among the pagan tribes of Africa than among the Moslem peoples. Perhaps this is the reason why records from the Sudan are so scanty. During the past ten years, however, we have had reason to believe that poisoning is not quite so rare in the Sudan as is indicated by the records. Inorganic poisons (most commonly arsenic and mercury) can be detected by chemical analysis, but this method is not applicable to many of the vegetable poisons which occur in the Sudan. In some cases the specific botanical character of a seed, root, or fragment of a leaf may make up for the deficiency and enable the poison to be identified, but not always. Memory recalls cases in which a piece of bark, a root, or a vegetable powder, suspected to have caused poisoning, could not be identified. All that could be done in those cases was to prove the poisonous nature of the suspected substance by administering it to animals.

Crude as this test may appear, it often provides important information in medico-legal cases, but only if some kind of sample of the suspected poison is available for examination. There are other cases in which nothing is available but the dead body of the victim, not even an account of the manner in which death occurred. The investigation of such cases is extremely difficult, and the detection of poison may be impossible if some indigenous vegetable poison of the Sudan has been used, about which nothing is known.

The first step in attempting to cope with such cases in any tropical country is to become acquainted with the poisons which occur in the country, and the ways in which they are used by the indigenous peoples. Thereafter it may be possible to discover tests whereby these poisons can be detected, and so justice done in criminal cases. It has often seemed to the writer that in this matter we in the Sudan are much behind our neighbours in adjacent African territories. Interest-

4. Raymond, W.D. (1939). *East Afr. Med. J.*, 15, 419.

ing pioneer work is recorded in the old reports of the Wellcome Tropical Research Laboratories, but there has been no great increase in our knowledge during the last thirty years. At the same time, the writer has often had the impression, on trek, from conversations, and in other ways, that many administrative and departmental officials in different parts of the country have information which, if recorded, would go a long way towards making good the deficiency. Apart from its practical importance the subject has much interest in itself. Occasionally in outstations the interest is heightened by some local tragedy into a nine day's wonder, which finally dies away and is forgotten, without ever being explained.

I have compiled this article with a deep, and rather uneasy, appreciation of our ignorance in the hope that it will bring to the notice of colleagues in different departments of government service the great interest of the subject with which it deals. Perhaps even its deficiencies may tempt those who have more accurate knowledge to point out the errors and omissions of which it has been guilty, and thus add to the available knowledge about this most interesting and important subject.

In referring to the various poisons mentioned I have as a rule omitted all reference to popular or vernacular names, and given only the scientific names, followed in brackets by the reference number in Broun and Massey's[5] *Flora of the Sudan*, which lists the vernacular names, and can be consulted by anyone who is interested. Where the botanical name has now been changed from that given in Broun and Massey's work I have followed a scheme which is self-explanatory and which was suggested by Dr. F. W. Andrews, to whom I am also grateful for other suggestions and corrections in the script. Those who wish to follow the subject further are recommended to the works of Henry,[6] Dalziel,[7] and Watt and Breyer-Brandwijk.[8]

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5. BROUN, A.F. AND MASSEY, R.E. (1929). *Flora of the Sudan*. London: Thomas Murby and Co.
6. HENRY, T.A. (1924). *The Plant Alkaloids*. 2nd. Edit. London: J. and A Churchill.
7. DALZIEL, J.M. (1937). *The Useful Plants of West Tropical Africa*. London Crown Agents for the Colonies.
8. WATTS, J.M. AND BREYER-BRANDWIJK, M.G. (1932). *The Medicinal and Poisonous Plants of Southern Africa*. Edinburgh: E. and S. Livingstone.

Criminal Poisoning

Criminal poisoning is used for homicidal or suicidal purposes, to cause abortion and infanticide, to inflict injury, or to drug people with intent to robbery and other nefarious purposes. In certain circumstances the employment of aphrodisiacs and love philtres may amount to criminal poisoning.

Experience suggests that homicidal poisoning is uncommon in the northern Sudan. One hears rumours from time to time of a substance called *simm sa'a* (poison of an hour), which is said to be obtainable in Omdurman. I have been unable to obtain samples of *simm sa'a*, and suspect that the term includes any poison which is not instantaneous in its action. In most countries where homicidal poisoning is popular, metallic or inorganic poisons are much more frequently used than vegetable poisons, even in the tropics. The occasional cases of mineral poisoning encountered in the northern Sudan usually turn out on investigation to be purely accidental. For this reason it may be concluded that homicidal poisoning is not common, although the possibility always remains that some cases of homicidal poisoning are not detected owing to the use of some little known indigenous vegetable poison. At the present time we believe that this is not a common occurrence in the northern Sudan. The position in the southern Sudan is different, but complicated by greater difficulties of investigation, owing to the remoteness of the laboratories.

Calotropis procera Ait. (450) (Sudan arabic: *'ushar*) is used in India for infanticide and abortion. It is used in the Sudan, both internally and by local application, to procure abortion. It is reputed to be used also for homicidal purposes, but as far as I am aware this has never been proved, although it has often been suspected. The plant is used in the preparation of native beer (*merissa*). Cases of poisoning by *merissa* noted in 1904 by Balfour,[9] in 1911 by Thomp-

9. Balfour, A. (1904). *First. Rep. Wellcome Trop. Res. Labs*, 54.

son,[10] and subsequently by others, have been thought to be attributable to an excessive quantity of *ʿushar* in the beer, present either accidentally or by criminal intent. Thompson carried out a great deal of work on the chemistry of this plant with the object of discovering a test which could be relied on in cases of suspected poisoning. *Calotropis* is said by Lewin[11] to have been used in the Upper Nile to poison the lances used in elephant hunting, and as an arrow poison in other parts of Africa, but those statements need confirmation.

Datura poisoning. *Datura* is the well known *sakaran* poison of the Sudan. It is rarely employed for homicide, but usually to drug people with a view to robbery or other criminal purposes. Fatal results ensue accidentally from overdose. At one time it was believed that *Datura* poisoning was rarely encountered except in India, where it was used by the Thugs for drugging their victims. In the Third Report of the Wellcome Tropical Research Laboratories Balfour[12] notes that it was also a popular poison in Egypt, but not, apparently, in the Sudan. It has been necessary in recent years to revise this opinion. Many cases of *Datura* poisoning, some of them fatal, have come to light in the past five or six years, and there seems now little doubt that *Datura* is quite extensively used in the Sudan for criminal purposes, principally robbery.

The observed cases have occurred in Khartoum, Kordofan, Northern and Blue Nile provinces, especially the latter. The victims have usually been westerners on the pilgrimage to Mecca. Sometimes they are offered hospitality by the poisoner; in other cases the latter presents himself as someone down in luck, asking hospitality from his intended victims. The result is the same in either case. The victims are rendered unconscious, and find on recovery that they have been robbed of everything in their possession, and that the poisoner has disappeared. Many of the victims suffer in addition an illness serious enough to require hospital treatment, and some have died from overdose of the poison.

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10. THOMPSON, J. (1911). *Fourth Rep. Wellcome Trop. Res. Labs.*, B, 85.
11. LEWIN, A. (1894). *Die Pfeilgifte*, 298. Berlin.
12. BALFOUR, A. (1908). Footnote on page 297.

Two species of *Datura* occur in the Sudan flora, *Datura Stramonium* Linn. (614) and *D. Metel* Linn. The latter seems to be more commonly employed, probably because it is the commoner plant of the two. The poison occurs in all parts of the plant, but as a rule it is the seeds which are used. These, either crushed or whole, are mixed with the food. They are practically tasteless, and the poisonous effect is evident rapidly, always within half an hour. The dosage is haphazard, and toxicologists in India have estimated that death occurs from overdose in about 18 per cent of people to whom the drug is given in this way.

The principal poisonous agent in *Datura* is hyoscine, the poison used by Crippen. The writer has experienced a stupefying dose of hyoscine, and found it extremely unpleasant. The symptoms are very characteristic. The face is flushed, with eyes bright and shining and widely dilated pupils. The throat becomes very dry, so dry that breathing is painful. There is an appalling disturbance of vision. The victim is at first talkative and excited, but later drowsiness sets in, followed by unconsciousness. The muscles of the bowel are paralysed, and during recovery the belly becomes enormously distended with gas.

In addition to being used for criminal purposes *Datura* is sometimes employed in the Sudan as an ordinary narcotic. For this purpose it is added to *merissa* to increase the intoxicating properties of the latter, and is widely reputed to have an aphrodisiac effect when used in this way. The practice occasionally gives rise to cases of poisoning serious enough to require admission to hospital.

Hyoscyamus muticus Linn. (615) occurs in the northern Sudan, and is, like *Datura*, a well known narcotic, the toxic principles being the same as those in *Datura*, namely hyoscine and hyoscyamine. According to Lucas,[13] it is used in Egypt for the same purposes, and in the same way, as *Datura*. The Tuaregs use *Hyoscyamus* extensively, and it has almost certainly been used also in the northern Sudan, for the people are acquainted with its narcotic properties, and it has the

13. Lucas, A. (1946). *Forensic Chemistry*. 4th Ed. London: Edward Arnold and Co

same Arabic name as *Datura*.[14] The seeds are smaller than those of *Datura*, and more difficult to recognize. Drugging with *Hyoscyamus* was used by the ancient Hindus and later Arabs, among whom it was regarded as a cause of insanity by the physicians.[15] It was known in Anglo-Saxon medicine and Shakespeare refers to it as

"the insane root
That takes the reason prisoner."

At the present time *Hyoscyamus* forms the basis of some of the "knock out drops" of the underworld in America.

Cannabis sativa Linn. (361) is probably more a drug of addiction than a criminal poison, although it may be used for the latter purpose, like *Datura*. The use of hashish was formerly much more extensive in the Sudan than it is now. The most reliable chemical test for hashish, which is still used in medico-legal laboratories all over the world, was discovered in Khartoum by Dr. Beam.[16] The cultivation of hashish is now forbidden in the Sudan, but it is sometimes grown surreptitiously, and is also imported by smugglers. Hashish addicts are not common in the Sudan, but they are seen from time to time. Two of them came under my observation during a year's clinical practice in Omdurman. It was interesting to note that the mamorridoun appeared to be familiar with the condition, and knew all about the reputed dangers of sudden withdrawal of the drug.

In recent years there has on the whole been less trouble in the Sudan than in neighbouring countries from the use of narcotic poisons, although traffic in opium appears to be increasing in Khartoum and Omdurman. We have not experienced the large outbreaks of *Datura*

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14. Other plants known as *sakaran* are, according to Broun and Massey, *Withania somnifera* Dun (612), and *Rogeria adenophylla* Gray (663), but we have no records of their use as poisons.

15. For an account of the unseemly habits of hashish- and *Hyoscyamus*-addicts the reader is referred to Sir Richard Burton's *Arabian Nights*, Denver Edition (1899). iii. 91-93 Suppl., iv, 19, 189.

16. BEAM, W. (1911). 'A test for Hashish.' *Fourth. Rep. Wellcome Trop. Res. Labs.* B, 25. Dr. Beam was the first chemist to be appointed to the Laboratories in Khartoum. Humphrey Bowman (1942) describing the old days in Khartoum writes in his book *Middle East Window* (London; Longmans, Green and Co.) "Chemical research was in the capable hands of an American, Dr. William Beam, who was prevented by ill-health alone from attaining an eminence comparable to Balfour's."

poisoning which occurred in Kenya in 1943 owing to the accidental admixture of *Datura* with wheat in local flour mills.[17] Nor have we any records of the use of *Catha edulis* Forsk., which in adjacent countries has become sufficiently important to require special legislation.[18] *Catha edulis* is widely used as a narcotic in Abyssinia, Aden, Arabia, Somaliland, Kenya and other places. Addiction is said to produce degeneracy and even insanity. It has been known for many years that the Bushmen of South Africa use the young shoots as a stimulant, and make a stimulating beverage, known as Bushman's tea, from the leaves, apparently without serious results. The plant is not listed in the Sudan flora.

Attention has recently been attracted in the Sudan to a remarkably inebriant kind of *asalōb* (a drink made from honey), which differs from the ordinary product in the fact that the bark and other parts of a tree imported from Abyssinia are used in its preparation. The bark is known locally as *sadoh* and as far as I am aware it has not yet been identified either botanically or chemically, Mead to which this substance has been added is extremely potent. Comparatively small quantities produce rapid and prolonged intoxication, even in habitual heavy drinkers of alcohol. In some of the cases it has been noticed that the pupils are dilated.

Arrow Poisons

Poisoned arrows are used by the indigenous races of Asia, Africa, South America and Australasia. The custom is one of remote antiquity, and is alluded to in the Odyssey. When Ulysses applied to Ilus at Ephyra for a deadly arrow poison, Ilus declined, because 'he had in awe the immortal gods.' The physician Theophrastus (B.C. 372-257), to whom Aristotle left his library and botanic garden, and who did for botany what Hippocrates had previously done for surgery and medicine, refers to the use of arrow poison by the Ethiopians.[19]

17. *East. Afr. Med. J.* (1944), 21, 353.
18. *East Afr. Med. J.* (1945). 22, 2.
19. *Theophrasti Eresii Opera*, Pars I, Lib. ix, Cap. xv. (Edit. Wimmer Lipsiae 1894).

The name of the modern science of Toxicology is derived from the Greek word τόξον a bow, on account of the custom of smearing arrows with poison.

The most important arrow poisons of Africa are obtained from plants of the genera *Acocanthera* and *Strophanthus*. No species of *Acocanthera* is recorded in Broun and Massey's flora of the Sudan, although they occur in many adjacent parts of Africa, and provide arrow poisons used by Somalis, Abyssinians, and various other East African tribes, also by the natives of the Gold Coast and the Bushmen of South Africa. The active principle is a glucoside, called ouabain, a powerful heart poison which may cause death in a few moments by arrest of the heart's action. In his studies of this poison in Tanganyika, Raymond [4] found that a single arrow will commonly carry sufficient poison to kill about 250 men. The active principle of *Strophanthus* arrow poison is strophanthin, another heart poison well known in medicine as a useful drug in certain forms of heart disease. The use of *Strophanthus* is apparently restricted to the races of West and Central Africa, and this genus is not included in the Sudan flora.

Adenium Hongkel A.DC. (438). This shrub, which annually transforms the Nuba Mountains into a magician's rose garden at the time of its flowering, is a well known African poison, and is used by the Nuba for poisoning arrows (Broun and Massey). Other species of *Adenium* are used for poisoning arrows by the Somalis and by the Ovambos of South West Africa. In some places they are used also as fish poisons. *Adenium somalense* Poir. is used for purposes of trial by ordeal in Somaliland. Glucosides which act as heart poisons have been isolated from some of the species. From *Adenium Hongkel* an active principle called adeniine was isolated by Leprince.[20] It is a heart poison, but has also an action like strychnine on the nervous system.

The candelabra tree, *Euphorbia calycina* N.E. Br. (*E. candelabrum* Trem., 299 in Broun and Massey) is stated by Anderson[21] to be one

20. LEPRINCE, G. (1911). *Trav. Lab. Mat. Med. Paris*, 8, 5.
21. ANDERSON R. G. (1911). *Fourth Rep. Wellcome Trop. Res. Labs.*, B, 239.

of the Azande arrow poisons, while Broun and Massey record this species, and also *Euphorbia venenifica* Trem. as arrow poisons in the Sudan. Many species of *Euphorbia* are used as arrow poisons in different parts of Africa, *E. candelabrum* being recorded from several different areas. The genus *Euphorbia* is a large one with many species which differ greatly in their toxicity. The active principles are not known with certainty, but many authorities believe that some of the species contain ouabain, the same poison as occurs in *Acocanthera*. Others believe that *Euphorbia* juice is used only as an accessory ingredient in arrow poison, owing to its coagulative properties, and that the essential poison is derived from some other source. The writer has failed to demonstrate ouabain or any heart poison suitable for use as arrow poison in the juice of *E. erythrea* N. E. Br. from Erkowit, although it contained a powerful escharotic substance. There is reason to believe that *E. venenifica* is sometimes used in the southern Sudan as an ordinary criminal poison for homicidal purposes. Knowledgeable elders became strangely reticent when questioned about this plant, although they admitted that it is known to have poisonous properties which are understood only by 'bad men.'

Cissus quadrangulus Linn. (*C. quadrangularis* Linn., 375 in Broun and Massey) is stated by Broun and Massey to be used as an arrow poison in the Bahr el Ghazal. Various analyses have failed to demonstrate any poison in this plant, however, so its usefulness is doubtful. It is known that *Cissus* is used as an adjuvant arrow poison by various South American tribes,[22] in combination with *Strychnos*, the active principle of which is the celebrated curare poison which was first brought to Europe by Sir Walter Raleigh in 1595. Several species of *Strychnos* occur in the Sudan, but it is not known if any of them contain poisonous principles, or are used as arrow poisons. Various species of *Strychnos* are used as arrow poisons, however, in other parts of Africa. The active principle of the African species is not curare, but the alkaloids strychnine and brucine.

Scilla or *Urginea* sp. (772, 771). In the *Fourth Report of the*

22. Scott, H. H. (1921). 'Vegetal and Fish Poisoning.' in Byam and Archibald's *Practice of Medicine in the Tropics*. London: Henry Froude, and Hodder and Stoughton.

Wellcome Tropical Research Laboratories Anderson [21] records that one type of Azande arrow poison was prepared from bulbs, about the size of an onion. Anderson planted out some of the bulbs, but although they grew for over a year they failed to produce the flowers necessary for their identification. This is an interesting old record, since it has recently been discovered that one of the Tanganyika arrow poisons is prepared from species of *Scilla* or *Urginea*. Squills (*Urginea scilla* Steinh.), which was at one time widely used in medicine, has been known for years to contain a cardiac glucoside, but the employment of the bulbs as arrow poison has not previously been described. It seems likely that the bulbs to which Anderson refers are also *Scilla* or *Urginea*. Several species of both genera occur in the Sudan flora, although none is identical with any of those used for arrow poison in Tanganyika.[23]

Fish Poisons

It is a common practice all over the world to throw pieces of bark or leaves of trees and shrubs into the water in order to stupefy fish and thus enable them to be easily caught. The number of plants used for this purpose is very great. In all cases their action depends on the contained poison dissolving out into the water and killing or paralysing the fish, which are then easily caught floating on the surface. The poisons used vary in different places according to custom and tradition, and also according to the plants which happen to grow in the vicinity. Some of them are also poisonous to man and animals. Others are non-poisonous to man, although they may be virulent poisons to insects and other lowly creatures as well as to fish. Useful insecticides like derris have been discovered by investigating some of those fish poisons, and it is possible that further study may lead to other useful products. Very little is known about many of the African fish poisons.

A few notes on some of the fish poisons known to be used in the Sudan are given below.

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23. Private communications, *in litteris*, from Tanganyika.

Tephrosia Vogelli Hook. f. (303) is perhaps the best known African fish poison, and is cultivated in many parts of tropical Africa for this purpose. Broun and Massey record its use in the Sudan. The pounded leaves and branches are thrown on the water. The fish are stupefied in a few minutes and rise to the surface. They are quite wholesome and fit for food. In East Africa the powdered seeds are sometimes used. They contain a higher proportion of the active principle than do the leaves or branches. The poisonous principle is a crystalline substance called tephrosin. A very dilute solution of tephrosin is sufficient to kill or paralyse fish, fatal effects being produced by as low a concentration as one part in fifty millions.

Preparations made from *Tephrosia Vogelli* are highly poisonous to insects, and are used as insecticides against lice and other vermin. They are, however, less effective than high quality derris. The fact that an extract from the crushed root is highly lethal to freshwater snails has suggested the use of this plant in combating bilharzia, but I have seen no records of any attempt to put this suggestion into practice. *Tephrosia* has been identified as an accessory ingredient in the arrow poisons of the African pygmies and some of the tribes of the Congo region.

Lasiosiphon kraussianus Meisn. (*L. Krausii* Meisn., 139 in Broun and Massey). The crushed roots of this plant are used for poisoning fish in the Sudan (Broun and Massey). In West Africa the roots and also the leaves are used for this purpose, but the fish so killed are said to be unwholesome, and cause diarrhoea if eaten. In Nyasaland the roots are regarded as the most powerful fish poison known to the people, who do not hesitate to eat the fish. The plant is poisonous to man and animals as well as to fish, and is well recognised as dangerous to grazing cattle. Mixed with food it is believed to be used by the Hausas with criminal intent to effect robbery or homicide.

Paullinia pinnata Linn. (395). Throughout tropical Africa this plant is regarded as a powerful poison. The seeds and roots contain a narcotic substance, and are stated by Broun and Massey to be used

for stupefying fish in the Sudan. It is also a well known poisonous plant in South American, where it is used as an arrow poison and as a fish poison, and also to effect homicide. According to Rho,[24] it was formerly much used by negro slaves in Brazil to poison their masters. The active principle is said to be an alkaloid, timboin.

Dolichos pseudo-pachyrhizus Harms. (336). Both the tuberous roots and the beans of this plant contain a poisonous resin, and are used to poison fish in the Sudan and Nyasaland.

Randia nilotica Stapf. (478). The fruit of this plant is pounded and macerated for use as a fish poison in the Sudan and other parts of Africa. It is also widely credited with virtue as an antidote to arrow poison.

Balanites aegyptiaca Del. (382). The roots, bark and pulp of the fruit of the heglig tree contain a saponin substance and are widely used to poison fish. The active substance is poisonous also to fresh-water snails and the free-living stages of bilharzia. Sir Robert Archibald[25] suggested that the fruit might be used to combat this disease in the Sudan, but the results in the field have been less satisfactory than those obtained in the preliminary laboratory tests.

Prosopis africana (G. and P.) Taub. (*P. oblongata* Benth., 282 in Broun and Massey). According to Broun and Massey the pods of this tree are used in the Sudan for poisoning fish.

Fluggea virosa Baill. (*F. microcarpa* Blume., 239 in Broun and Massey). The bark is astringent and is used to poison fish in the Sudan. It does not appear to be used in other parts of Africa, but an allied species is used in India as a fish poison.

Mundulea sericea Greenway (*M. suberosa* Benth., 304 in Broun and Massey). Next to *Tephrosia* this is probably the most commonly used fish poison in Africa, and in places is cultivated for this purpose. It is known also as a fish poison in Ceylon. In the Sudan the seeds, leaves and branches are used in Equatoria to poison fish. The

24. Rho, F. (1914). 'Die Tropen Intoxikationskrankheiten', in Mense's *Handbuch Tropenkrankheiten*, vol. 2. Leipzig.
25. Archibald, R. G. (1933). *Trans. R. Soc. Trop. Med. Hyg.*, 27, 247.

active principle is a derris-like substance, and in East Africa it is said to be so poisonous that small crocodiles may be killed by it as well as fish. It has been suspected as a criminal poison in cases of homicide.

In addition to those mentioned above, the following well-known African fish poisons occur in the Sudan. They are used to poison fish in adjacent countries, and it is possible that they are used also in the Sudan, although I have seen no records of this.

Schwenkia americana Linn. (617). This plant is used as a fish poison in West Africa, particularly in Southern Nigeria, where the use of *Tephrosia* for this purpose is now prohibited by law.

Swartzia madagascarensis Desv. (347) is used as a fish poison in West Africa, the Zambesi basin and Portugese East Africa.

Probably numerous other fish poisons are regularly used in the Sudan, since the Sudan flora includes many species closely allied to some of those which are used for this purpose in other parts of the world. It is hoped that those who have the knowledge or the opportunity to increase the list will do so.

Ordeal Poisons

Trial by ordeal is a picturesque method used by pagan tribes to determine the guilt or innocence of accused persons. In the case of serious crimes, like murder or witchcraft, poison may be used in the ordeal. This is administered ceremoniously to the accused, whose guilt or innocence is decided by the result. Guilt is indicated by the death of the accused. If he only becomes sick (and thereby gets rid of the poison by vomiting) innocence is indicated. Sometimes the accused is required to perform certain complicated acts while under the influence of the poison, and innocence or guilt is decided by his success or failure to do so. In certain cases, such as disputes not involving a serious accusation, the poison may be given to animals, generally fowls, representing the contending parties.

Broun and Massey record a notable example of ordeal poison among the Dinka, who use the seeds of *Erythrophleum guineense*

(278) as a test of a person's guilt when accused of causing death by witchcraft or poison. The accused is required to swallow four of the seeds with water, after they have been cut into two, the belief being that the innocent vomit the poison and are safe, while the guilty retain the poison and die. The seeds and the bark of this tree contain a poisonous alkaloid, called erythrophleine, which was at one time suggested as a substitute for cocaine.

The most interesting example of an ordeal poison in the Sudan is probably the *benge* oracle of the Azande. Much has been written about the use of this oracle with fowls by Evans-Pritchard[26] and other anthropologists. *Benge* is described by Anderson[21] as a powdered red root obtained from the Congo, by Seligman[27] as a red powder obtained from a creeper growing in the wooded region south of the Uelle river in the Belgian Congo, in the land of the Mongbettu and the Abasambo. Its nature is a little uncertain. An ordeal poison known as "bengue", and obtained from the Haut-Oubangui region by Pouthiou, was analysed many years ago at Bordeaux by de Nabais and Dupoy,[28] who found that it contained strychnine and a red colouring matter, and concluded that it was identical with the M'Boundou poison of the Gabon (*Strychnos Icaja* Baill.) A sample of *benge* from the Bahr el Ghazal was analysed in Khartoum by Dr. Beam[29] and found to consist of a brownish-red oxide of iron with a small amount of fine sand. It contained no organic material or metallic poison. Beam suggested that the powder was probably selected because of its bright red colour, and when a bad omen is desired poison of some sort is added. A later sample analysed by Mr. Grindley[30] in 1943 was found to contain strychnine. Whatever its composition, *benge* is definitely an established social

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26. EVANS-PRITCHARD, E.E. (1939). *Witchcraft, Oracles and Magic among the Azande*. Oxf. Univ. Press.
27. SELIGMAN, C.C. and B.Z. (1932). *Pagan Tribes of the Nilotic Sudan*. London: Routledge.
28. Quoted by Gall and Clarac (1911)., *Traite de pathologie exotique*, vol. v. *Impoisonnements*. Paris: Balliere et Fils.
29. BEAM, W. (1908). *Third. Rep. Wellcome Trop. Res. Labs.*, 241.
30. GRINDLEY D.N. (1943). The information was circulated in Sudan Medical Service Circular Letter of 12th June 1943.

procedure among the Azande. The poison is prepared ceremoniously, and given generally to fowls. Like augury in ancient Rome, *benge* is consulted on all important occasions, to obtain assurance of success in social undertakings, also in tracking crime, adultery, theft and witchcraft. In the past *benge* was sometimes administered to human beings instead of to fowls, but only if the matter at issue involved a grave accusation, such as adultery with the wife of a chief, or using black magic against the life of a chief. According to Anderson,[21] a person who has been condemned by the result of the *benge* oracle in fowls, and who wishes to challenge the decision, may be permitted to swallow the poison himself. Death proves his guilt, but should he survive his innocence may still be left in question. The case is quoted of a man who underwent this ordeal three times in succession with no evil result.

Grove[31] describes the use of another ordeal among the Acholi, but the nature of the poison is entirely unknown. The general procedure, however, seems to follow the customary routine of ordeal by poison. Innocence is indicated if the person immediately vomits the poison, but if guilty he cannot be sick and begins to swell up owing to the effects of the retained poison. Anderson[21] records that a poison producing rather similar effects was formerly used by the Azande as a method of execution. The condemned person was made to eat four small beans from the pods of a tree called *tappa*, after they had been split, baked and crushed up with water. "Extreme thirst ensues, which is satisfied with quantities to drink. The body is then said to swell enormously, especially the head, neck and arms, death resulting in about half an hour." The extreme thirst recalls *Physostigma* poisoning, but this plant is not listed in the Sudan flora. Probably the poison was *Erythrophleum guineense*. Anderson says it was used also for poisoning arrows. On looking up the vernacular name given by Anderson for another of the Azande arrow poisons, one immediately arrives at the name of this species. *E. guineense* is used as an arrow poison by the pygmy tribes of Central Africa and the

31. GROVE, E.T.N. (1919). *Sudan Notes and Records*, II 157.

natives of Angola and South West Africa, so it is possibly used also by the Azande for this purpose.

It is a common feature of ordeal poisoning that the poison has to be prepared or administered by special initiates or fetish-men, who combine much ceremony with much secrecy in their methods. The ritual may be extremely complicated, and there is no doubt that the peoples who used ordeal poison had great faith in the infallibility of its decisions. Individuals would sometimes take the poison to show they were telling the truth or to prove a point in argument. Cases of poisoning by *Erythrophleum guineense* still occur in the southern Sudan owing to the persistence of the superstition. Sometimes in olden days a king, resolving to rid the land of evil-doers, would order the whole population to undergo the ordeal, leaving it to the poison to differentiate between the righteous and the unrighteous, which was a very logical thing to do if he believed in the infallibility of the ordeal. In Madagascar, according to Hooker,[32] the fetish-men were accessible to corruption on such occasions, and those who were able to offer an acceptable bribe could be assured of an innocuous brew. To maintain the prestige of the poison, however, it was necessary for each ordeal to count a certain number of corpses. These were provided by the poorer people. Hooker mentions one such ordeal in which there were six thousand victims. Sir James Frazer[33] includes the lavish use of the poison ordeal among the practices leading to racial suicide, and cites the Uwet tribe in West Africa. "On one occasion the whole population took poison to prove their innocence. About half perished on the spot, and the remnant, we are told, still continuing their superstitious practices, must soon become extinct."

Accidental Poisoning

It is well known that poisonous fungi mistaken for edible mushrooms may occasion loss of life, and similar mistakes occur with other vegetable products. The number of poisonous plants in the Sudan

32. Hooker, W.J. (1833). *Botanical Miscellany*. London.
33. Frazer, J.G. (1923). *The Golden Bough*. Abridged Edit. New York : Macmillan.

flora is very great, and includes many, such as *Abrus* (325), *Ricinus* (255), *Dichapetalum* (265), *Gloriosa* (774), *Nerium* and others which are commonly used for criminal poisoning in other countries, although we have no records of their use for this purpose in the Sudan. The toxicity of some poisonous plants varies greatly with the stage of growth, and often with the locality in which the plant occurs. Possibly some such explanation will be found to account for our somewhat conflicting records about *Capparis tormentosa* Lam. (34) in the Sudan. We have records of human and camel poisoning by *Capparis tormentosa*, but laboratory tests have failed several times to demonstrate any poison in this plant, even by feeding it to animals. Also, there are very curious discrepancies in the literature about the toxicity of this plant, some authors stating that all parts—roots, leaves, stems, and fruits—are poisonous, while other state that the fruit is edible, the leaves are eaten by animals, and decoctions of bark and roots are used as medicines for man and animals.

Normal articles of diet, like *Capsicums* (610), if taken in large quantities may cause burning in the mouth and throat, vomiting, colic, diarrhoea, and even death. The habitual use as food of the vetch *Lathyrus sativa* Linn. (324) may induce a form of paralysis known as lathyrism. This vetch is cultivated in many places in the Sudan, but lathyrism has not been reported so far. Some years ago, when we were trying to investigate the disease caused by a hitherto unknown virus affecting the nervous system which had been found in the Sudan by Dr. K. C. Smithburn[34] of the Rockefeller Foundation, I observed a number of cases with symptoms exceedingly suggestive of lathyrism. The question of virus infection was ruled out in these cases by immunity tests, but unfortunately the terms of reference of the investigation ended there.

Accidental plant poisoning is sometimes due to a peculiar sensitiveness on the part of the victim, as a result of which he reacts violently to a substance which is innocuous to other people. There are individuals who cannot eat strawberries or mangoes without developing more

34. SMITHBURN, K.C. (1942). *J. Immunology*, 44, 9.

or less serious symptoms. In susceptible persons the use of the bean *Vicia faba* Linn. (322) may produce a disease called favism. The disease was first recognised in Sicily many years ago, but has recently been found to have a much wider distribution. Cases have been reported even from America. In 1941 several cases were described from Palestine by Robinson,[35] who was later in the Sudan as an army medical officer in 1943. Robinson noted that *Vicia faba* was quite extensively cultivated here, and expressed to the writer his surprise that we had not observed any cases of favism. The signs and symptoms of this disease are often similar to those of blackwater fever, or an obscure blood disease called Lederer's anaemia, with which it might easily be confused; and I have examined blood films from patients in the Sudan, in which the blood picture closely resembled Lederer's anaemia. Hay fever and asthma, which are both common in the Sudan, are in most cases the result of a similar violent reaction to the pollen or other parts of some plant to which the unfortunate sufferer has become sensitized.

Other cases of accidental vegetable poisoning fall into a number of fairly well defined groups.

Cyanogenesis. In bitter almonds, cassava, some members of the rose family, like wild cherries and plums, poisoning is due to prussic acid. It is not usually present in the free state in the plant. The poisonous properties are due to what is called "cyanogenesis," or the power of producing prussic acid, usually on being crushed and moistened with water. The precursor is a glucoside present in the plant, which in the presence of water is attacked by a ferment, also present in the plant, and split up into sugar and prussic acid. Some plants contain the glucoside without the ferment, and *vice versa*. Each would then be innocuous separately, but poisonous if mixed. In plants which contain both, heating, as in cooking them for a meal, would destroy the ferment, but other vegetables eaten at the same meal might be able to supply the missing ferment, and thus produce poison-

35. Robinson, P. (1941). *Amer. J. Dis. Children*, 62. 701.

ing. This is less likely to occur in man than in animals consuming green food of different kinds.

Probably the commonest cause of this type of poisoning is bitter cassava, *Manihot utilissima* Pohl (245). Native of Brazil, cassava was originally imported by the Portugese to Africa, where it is now a staple food plant in many forest and extra-forest tribes, and a subsidiary food in some cereal growing areas. There are said to be at least forty different varieties, but broadly speaking, these fall into two groups "bitter" and "sweet". Sweet cassava is used as a vegetable. It is believed to be harmless and is eaten cooked after being peeled and cut into pieces. Actually it contains the poison in the rind and outer layers of the tuber. Bitter cassava is more extensively cultivated, and from it are prepared farina (*bufra*), starch, tapioca, cassava cakes, and other products. Poisoning by bitter cassava arises from failure to remove the contained glucoside and ferment, which in the presence of water react to liberate prussic acid. They are contained in the milky juice, which must be thoroughly pressed out after washing, scraping, and grating, before the tuber can be used with safety.

Broun and Massey noted in 1929 that cassava is cultivated in the Bahr el Ghazal for its tubers, which are eaten after being cooked. They noted also that the juice of the uncooked tuber is poisonous. Since then attempts have been made to extend the use of cassava in the southern Sudan, notably by the late Dr. J. G. Myers, who tried to popularize a simple method of extracting the poisonous substances. Accidents have occurred, however, and it is possible that there will be more accidents. Since there may be a useful place for cassava as a reserve food in certain areas, it is to be hoped that its use will not be prejudiced by those unfortunate accidents, as has happened in other parts of Africa.

Other food plants which contain cyanogenetic substances, and which are known by the people to be poisonous, are *Phaseolus lunatus* Linn. (332), which is cultivated in some places, and *Lotus arabicus* Linn. (297), well known as dangerous to cattle. *Sorghum vulgare*

Pres., the principal cereal of the Sudan, is also cyanogenetic in its immature stages. I have never heard of poisoning in human beings arising from this cause, but camel poisoning from the use of immature durra is well known.[36]

Famine foods. In times of famine people often eat wild root vegetables and fruits, some of which are poisonous, although they have a close resemblance to cultivated products. One of the most interesting examples is the yam, *Dioscorea dumetorum* Pax. (779). Various yams are cultivated for food in different places, but this particular one is a common wild plant in many parts of Africa. Occasionally it may be cultivated, but is not used for food, or is used only in times of great scarcity. The tubers are poisonous, but like bitter cassava can be rendered edible by treatment, usually prolonged washing, after being sliced or pounded. Eaten in times of famine in the Sudan, it has caused deaths by poisoning, owing to omission of this preliminary treatment. The plant has been described as an accessory ingredient in the preparation of *Strophanthus* arrow poison in Nyasaland. In the allied Malayan species *Dioscorea hirsuta* Bl., which is also used in arrow poison, the toxic principle has been isolated and studied. It is a poisonous alkaloid, called dioscorine. Apparently the poison is found only in the wild yam ; it tends to disappear when the plant is brought under cultivation.

Probably many other plants have caused poisoning in similar circumstances in the Sudan. One certainly hears of tragedies now and then. Sometimes a whole family, or a larger number of people, may be poisoned at one time. It is difficult to obtain accurate information about these events, as the whole affair is usually over and done with, long before one hears of it. The knowledge possessed by the people that certain plants are poisonous is, no doubt, the result of similar accidents in the past.

Native medicines. Among the cases of poisoning most frequently encountered are those which result from the use of native medicines

36. BALFOUR, A. (1904). *First Rep. Wellcome Trop. Res. Labs.*, 46.

by unqualified practitioners. The subject is one of great difficulty in a country like the Sudan, and one about which it is by no means easy to obtain accurate information. It is especially difficult in a case in which disaster has occurred, since the tendency is then to conceal everything which might be incriminating evidence. Even in ordinary circumstances, however, it is often found that the drug vendor seems to know little about his wares beyond a vernacular name, which is often inaccurate. The drugs themselves are presented to the enquirer only as dried and withered specimens, scraps of bark, roots, seeds, or a powder, botanical or chemical identification of which proves impossible.

The number of plants used in native medicine is very great, and when one considers the known poisonous properties of many of them the wonder is that more cases of poisoning do not come to light. Broun and Massey state, for example, that the seeds of *Abrus precatorius* Linn. (325) are used as a purgative in the Sudan. This seems an exceedingly dangerous practice, in view of the uses to which *Abrus* seeds are put in other countries. The use of the seeds of *Ricinus communis* Linn. (225) to produce sterility in women, as recorded by Ahmed Abdel Halim[37] is certain to produce fatalities, sooner or later. *Ricinus* and *Abrus* seeds have both been found in the collections of drug pedlars.

It is probable that many cases of poisoning do not come to light owing to the fact that the most potent drugs are often given to patients who have a severe or incurable disease, death in such cases being attributed to the disease. True, the patient is often warned that the medicine is dangerous, but, having tried milder remedies with no success, is willing to take the risk, on the assumption that desperate diseases need desperate remedies. The late Dr. E. C. Smith[38] of Nigeria suspected that native medicines containing liver poisons might be responsible for some of the cases of obscure fatal jaundice, which are so commonly encountered in Africa.

37. Ahmed Abdel Halim (1939). *Sudan Notes and Records*, XXII, 27.
38. Smith, E.C. (1942). *Ann. Trop. Med. Parasitol.*, 36, 38.

In the absence of post-mortem examination, it is equally easy to err in the opposite direction and attribute poisonous properties to a drug which was taken immediately before death, when in reality death was due to disease. A woman in Darfur, having a stomach-ache, was given a pinch of the powdered leaves of a local plant, and died a few hours later, after violent vomiting. The plant was identified as *Marsdenia rubicunda* N.E.Br. (459). There are no other records of this plant ever having caused poisoning, and it was said by the people to be a commonly used local remedy for flatulent colic. One may suspect, in the absence of post-mortem examination, that the stomach-ache for which this woman took the medicine was in reality the beginning of some acute internal condition which was mortal.

When a similar thing happens to someone who is given a native cure for gonorrhoea, however, there need be little hesitation in ascribing the result to poisoning, since gonorrhoea is not normally a fatal disease. The use of native cures for this condition ranks among the commonest causes of poisoning in the northern Sudan. Prior to the introduction of M & B 693 and its allies, the Sudanese regarded native cures as more efficacious in gonorrhoea than the orthodox treatment of European medicine. The most popular remedy seems to have been *Trianthema pentandra* Linn. (68). The pounded root is given in *merissa*, water or milk, daily for three days. I have been confidently informed that this is a certain cure for gonorrhoea, but the treatment is a drastic one, and the patient must be informed beforehand that it is not without danger to life. Of the curative properties I have no certain knowledge, but there is no doubt whatever about the dangerous nature of the treatment. It produces vomiting and blood-stained diarrhoea, besides having a specific poisonous action on the kidneys, causing a form of acute Bright's disease. The symptoms of this are the passage of blood in the urine, pain and difficulty in urination, sometimes going on to complete stoppage of urine, and death.

Other gonorrhoea cures known to have caused poisoning are the seeds and fruit of *Citrullus colocynthis* Schrad. (172), and the root of *Ximenia americana* Linn. (368), given internally. The latter drug

may also be given *per urethram* by a feather quill or a tin syringe of local manufacture, a procedure which is sometimes followed by a gangrene of the nether parts.

The injudicious use of violent purges may occasionally cause death. I have known this to result from the administration, as purges, of the native drugs *hubbat el meluk* and *milgat*. In neither case was botanical identification made. *Hubbat el meluk* is said by Broun and Massey to be the seeds of *Jatropa curcas* Linn. (241), and by Anderson [39] to be the seeds of *Croton* sp. (240). *Milgat* is apparently the seeds of *Ipomoea* sp. (618).

Dermatitis venenata. This term is used to include a number of inflammatory skin conditions caused by the irritative action of poisonous principles contained in certain plants, of which poison-ivy is the best known. It includes also the skin eruptions produced in carpenters who work with certain woods, such as teak and satinwood. According to all records dermatitis venenata is commoner in the temperate climates than in the tropics, but a very complete account of a Sudan dermatitis venenata was given by Chalmers and Pekkola in 1917.[40] The plant incriminated was *Ruta tuberculata* Forsk. (376), which was proved to be the cause of the disease by bringing the patient into contact with it some time after he had been cured of the original attack. At the time of this experiment the patient was in Khartoum. The plant does not grow there, and had to be brought specially from Dongola for the experiment. After contact with the plant for a few seconds the patient developed headache, and later a skin eruption similar in appearance and with similar symptoms to that from which he had originally suffered. According to Broun and Massey, the active principle is a volatile oil, which may act as an irritant when the plant is handled, but it is probable that, as in other cases of dermatitis venenata, the effect is only evident in susceptible people.

39. ANDERSON, R.G. (1908). *Third. Rep. Wellcome Trop. Res., Labs.*, 281.
40. CHALMERS, A.J. AND PEKKOLA, W. (1919). *Bull. Soc. Path. Exot.*, 10. 512.

Under the name of " sadd dermatitis " Chalmers and Joseph [41] refer to the skin irritation caused by two of the sudd grasses, *Vossia cuspidata* Griff. (844), and *Echinochloa pyramidale* Hitchcock and Chase, but it is probable that the irritation caused by these grasses is due, like that of buffalo bean, to the mechanical action of the hairs rather than to any chemical poison.

41. CHALMERS, A.J. AND JOSEPH, F. (1920). *J. Trop. Med. Hyg.*, 23, 57.

THE ORIGIN OF THE SUDAN GEZIRA CLAY PLAIN

By J. D. Tothill.

Introduction

Gezira is the Arabic word for island or peninsula. The area known by local usage and tradition, however, as the Gezira is neither an island nor a peninsula, but is the triangle of land with apex at Khartoum, with the Blue and White Niles as legs, and with an indefinite base. For the purpose of this paper the railway from Sennar to Kosti is used as base (see fig. 1). This comparatively small area has been and will continue to be the basis on which the prosperity of the Sudan rests, because it is irrigated by waters of the Blue Nile impounded behind the Sennar dam.

A great deal of work has been done by the Gezira Research Farm Staff of the Agricultural Department [1] on the peculiar and interesting soils of this triangle. The surface of the plain is almost unbelievably flat with a slope from Sennar to Khartoum so regular and gentle as to make the area an irrigation engineer's paradise. The upper six feet of soil, with which alone this paper deals, is a clay that has been described minutely by the soil chemists, H. Greene and O. Snow (*loc. cit*), but that for the purpose of this paper may be described as a clay soil with strongly developed cracking system descending approximately five feet, extremely impervious to water, without signs of bedding and with the surface of the cracks at lower levels generally polished. The salt content of the soil is fairly high with sodium salts high enough locally to inhibit plant growth and with gypsum generally abundant. (See fig. 181 on p. 448 of *Agriculture in the Sudan*).

As to origin J. Ball has suggested [2] that the Gezira was part of

1. For an account of this work and for a bibliography, see *Agriculture in the Sudan*, edited by Tothill, Oxford Univ. Press, 1947.
2. Ball, J. *Contributions to the Geography of Egypt*. Cairo, 1939.

'Lake Sudd' thus implying a lacustrine origin; P. and Alten Vageler[3] regarded the soil as alluvial; and G. W. Grabham[4] suggested that it was probably aeolian. There has been insufficient evidence to prove any of these hypotheses, and the question has remained unsettled. This question can be approached from the geological, the soil chemistry, the archaeological and the biological points of view, and any mode of origin to be generally acceptable will necessarily have to accord with the data from all the sciences concerned. As the biological line of approach had not been attempted, and as Oscar Snow had informed the writer that semi-fossil shell fragments were present in the original soil samples of the upper six feet examined to test the agricultural value of the irrigable plain, it seemed worth while to explore this avenue, and I commenced to do so towards the end of 1941. The area sampled is shown at fig. 1, also at fig. 181 p. 448 of '*Agriculture in the Sudan*' 1947.[5]

Method of Study

The Distribution of Living Species. The first step was to ascertain the distribution of living species of freshwater and terrestrial mollusca on the clay plains of the Sudan. Every opportunity has been taken in the last few years (1941-1944) to collect specimens when on trek, and in addition to my own collections, valuable collections have also been made for me by F. W. Andrews and by Mohammed Khogali Ishak in the Nuba Mountains, and by H. Ferguson and G. Andrew from the Nile Congo watershed area from Juba to Yambio. Representative collections have now been made in all the provinces, and, with the exception of Equatoria Province east of the Nile, it is now possible to map the distribution of each species with some degree of accuracy. (See figs. 10, 11 and 12).

The Identification of Living Species. The British Museum very kindly sent out a named collection of the shells of all species known

3. Vageler, P. und Alten. *Boden des Nil und Gash* i-viii Pfl. Ernahr.
4. Grabham, G. W. 'Note on geology of the Singa District.' *Antiquity. Vol.* 12 p. 193.
5. *Agriculture in the Sudan* edited by J. D. Tothill. Oxford Univ. Press, 1947

to occur in the Sudan, and this enabled me to determine most of the specimens collected. Doubtful specimens have been sent from time to time to Major M. Connolly of the British Museum, who has been kind enough to take an interest in this study and to complete the determinations.

The Nature of the Fragments. Early in the study it became apparent that some of the shell fragments in the original soil samples could be identified, and Snow was good enough to have the shells and fragments sorted out from some thousands of samples and sent in for determination. To these it was also possible to add a recent series from ten-foot soil pits dug in the White Nile riverain area. The broken condition of the shells from the Gezira is due to the samples having been taken in six-inch steps with a steel tube driven down by successive blows with a weight. In all, 2,008 tins of fragments were examined, each representing those from a six-inch step. It was in the end, when experience had been acquired, found possible to determine specimens from 1,680 of these samples, and because two or more kinds of shells sometimes occurred in one tin, the total number of specimens identified was 1,745.

The Identification of the semi-fossil Fragments. All identifications of semi-fossil fragments were made by artificial light with the aid of a Watson's Speera magnifier, which proved excellent for this purpose The species found in the Gezira proper were chiefly *Cleopatra bulimoides* Oliv., *Ampullaria wernei* Phil., *Lanistes carinatus* Oliv., and *Limicolaria flammata* Caill. Of these, *Cleopatra* was generally unbroken and easily distinguished from *Viviparus unicolor* Oliv., the only other species of this general type now common as a living species on the muddy floor of the White Nile. *Limicolaria* when crushed produced three types of fragments that served for generic identification, namely, apex, columella and suture fragments; the apex of the spire of this right-handed shell proved to be distinguishable from that of *Ampullaria*, the only species with which confusion is possible, by its smaller size and steeper taper; the columella was often largely intact, and as no other Sudan genus has a columella of this type these

fragments were readily determinable; suture fragments were naturally abundant and all those showing the 45° angle of contact or less between labrum and suture were easily separable from *Ampullaria* and *Lanistes*, both of which have a 90° angle, and from *Cleopatra* by their larger size, greater thickness, and in fragments from near the apex by the curvature of the shell. As to specific determination there are in the Sudan only three species of *Limicolaria*. *L. Kambeul* var *turris* Pfeiff. does not occur on the clay plains, and although widely distributed is never abundant. *L. festiva* Mts. is abundant in the wetter parts of the Nile-Congo watershed, occurs sparingly in the Nuba Mountains, and the Fung, and only very rarely on the clay plains. *L. flammata* Caill. occurs as a living species in great abundance on the clay plains of the "acacia tall grass zone" [6] and, as a dwarf only, to the west and south of this zone. For these reasons the *Limicolaria* fragments are, therefore, identified as *L. flammata* Caill., the only species that occurs today abundantly on the clay plain. *Ampullaria* and *Lanistes* produced a large number of labrum-suture fragments showing the 90° angle of contact; those of *Ampullaria* could, in nearly all cases, be identified by the striae, which curve strongly to the right, and those of *Lanistes* also by the striae, which curve equally strongly to the left; a few apex fragments occurred, but as one is dextral and the other sinistral no difficulty arose; some fragments from the wall of the umbilicus also occurred and many of them could be identified, particularly in the case of *Lanistes carinatus* Oliv., which exhibits a characteristic angle of entrance, that is an excellent specific character. As *A. wernei* Phil. is the only species of this genus now known to occur in the Sudan, it seems safe to refer the Gezira semi-fossil fragments to this species. Most of the fragments in each box had nothing characteristic about them, and, while many of them could be determined as probably *Limicolaria* from the direction of the striae, no determinations are included in this paper unless from one of the positively identifiable fragments described above.

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6. There is a vegetation zonal map of the Sudan in *Agriculture in the Sudan* at ig. 1 on p. 34.

The Distribution of the Species as Fossils and in Life. The area sampled and the horizontal distribution of each species in its sub-fossil occurrences as determined in this study are shown in the maps figs. 1-9; living occurrences of three of the species as recorded to date are shown in figs. 10-12; and the vertical distribution of sub-fossil occurrences of each species is shown in the diagram fig. 9.

Occurrences of Molluscan Shells in the upper six feet of the Gezira Soil and Inferences to be Drawn Therefrom.

Ampullaria and Lanistes. The first point of interest is that *Ampullaria* and *Lanistes*, (see figs. 2 and 3), occur widely as sub-fossils over the part of the Gezira triangle sampled, and that they occur with remarkable regularity throughout the six feet of soil, (see fig. 9). Both species, particularly *Ampullaria*, have a wide distribution in the Sudan as living species, but on the clay plain, as distinct from rivers and ponds, are now absent or rare north of the eleventh parallel of latitude, and only become common south of 10° N. on somewhat lower parts of the plain subject annually to immersion from accumulations of rainwater, (see figs. 11 and 12). These two amphibious species, equipped with lungs in addition to gills, are today characteristic of temporary swamps, and meandering streams with gentle slope in the tall grass area, that are normally subject to drying out for a few months each year. They do not occur in the sunt forest, Khartoum, which is subjected to annual inundation, but where the rainfall is inadequate for the production of tall perennial grasses.

Inferences from these facts of distribution and of habitat are that the conditions of deposition of the clay of the upper six feet of the Gezira were regular and that the surface was covered with water either from rains or from flooding of the Blue Nile or both for several months in the year. It may further be inferred that the area was an 'acacia tall grass' plain that dried out annually, and, because of the proportion of juveniles which occur, that this sometimes took place

so rapidly that individuals were unable to seek shelter in the mud from the sun.

Melanoides, Corbicula and Unionidae. The next point of interest is that almost complete absence of the river bottom species *Melanoides tuberculata* Mull., (fig. 4), *Corbicula artini* Pall., *C. consobrina* Caill., *C. radiata* Parr. (fig. 5) and *Unionidae* (fig. 6) on the high level parts of the Gezira and their general abundance in the soils of the lower level lands along both banks of the White Nile. In this White Nile area the maps do not give so complete a picture of distribution, because sampling was confined to a limited number of soil pits dug in connection with the comparatively few areas possibly suitable for development as pump-schemes. A high percentage of the inspection pits did in fact yield semi-fossils of these river bottom species.

The inference to be drawn from the semi-fossil distribution of these species is that, on the higher levels above the 382 metres contour, conditions during the entire period of soil deposition of the upper six feet were never lacustrine, and that on the lower levels, that occur only along the White Nile, there was a lake or very wide river during the whole of the period of deposition of the upper six feet of the Gezira soil.

Limicolaria. A third point of interest is the distribution of the land snail *Limicolaria flammata* Caill. As a semi-fossil the shell of this species is extremely common on the higher lands of the Gezira plain, and very uncommon in the soil of the low level White Nile lands centred on Dueim (see fig. 7). The vertical distribution is not regular as is that of *Ampullaria* (see fig. 9), but shows great abundance in the upper six-inch step with regular reduction, to the vanishing point of the curve, at the five-foot level below which only traces occur. As a living species (see fig. 10) *Limicolaria* is abundant on the clay plain east of the Nile from Gedaref to Malakal in the 400 to 800 mm. rain belt, and is now practically extinct in the Gezira north of a line drawn parallel to, but twenty miles northward of, the Kosti-Sennar railway.

Several inferences may be drawn from these facts. Because the amphibious *Ampullaria* and the terrestrial *Limicolaria* are not found together except by accident in the same habitat today, one must infer that they did not co-habit in the period of up building of the top six feet of the Gezira, and that *Limicolaria* came into the picture only at the very end of the upbuilding process with the surface becoming too dry for *Ampullaria*. The vertical distribution is consistent with the view that the presence of these shells in the lower layers is due to their having fallen down the cracking system, the lower point of which is at the level of the vanishing point of *Limicolaria*. In and probably throughout historical times the triangle has been a dura (*Sorghum vulgare* Pers.) cultivation plain, and seasonally has carried great herds of domestic animals, and this has undoubtedly provided ample opportunity for the shells of the surface to have been pushed into the cracks.

Another inference is that the rarity of this species in the low level area along the White Nile is probably due to that area having been under water at the time of the *Limicolaria* episode of the higher levels.

A third inference is that, because this species is now practically extinct north of the 400mm. isohyet, the *Limicolaria* episode represents a period of time intervening between the period in which the soil of the Gezira was laid down and the climate of historical times.

It is possible roughly to date the end of this *Limicolaria* episode as contemporaneous with the early pottery cultures of Kenya and Uganda, because A. J. Arkell has recovered the species from several occupation sites in and near Khartoum in association with early hand-made pottery, to which he is at present inclined to attribute a date between 5000 and 3000 B.C.

A fourth inference to be drawn from the distribution of *Limicolaria* is that at this period the Gezira was probably an "acacia tall grass" plain with red *talh* (*A. seyal* Del.) the dominant tree, this being governed by the heaviness of the soil. Today areas of such a plain in their tall-grass phase would be swept by annual fires, and the shells of *Limicolaria* would show a good deal of calcining. No marks

of fire were in fact seen on any fragments of shells examined from the Gezira, which suggests either that the climate may have been just too wet for fires to run easily, or that annual burning was not practiced by the neolithic people of the time.

On the point as to where the soil of the Gezira plain above the 382 metres level came from, there is evidence from *Cleopatra*.

Cleopatra. Sub-fossil *Cleopatra* occurs regularly in the fifth and sixth foot levels in a belt twenty five miles wide on the left bank of the Blue Nile (see fig. 8), and throughout these levels all age groups are represented. Today, when the waters of inundation that annually immerse the *Acacia arabica* Linn. or sunt forest at the Mogren in Khartoum recede, and the forest floor dries out after five months of immersion, the ground is strewn with great numbers of *Cleopatra*, killed by exposure to air, in all age groups. This suggests that the twenty five mile belt in question was subjected, when the fifth and sixth foot levels were being deposited, to a slow flow of slightly muddy water annually from the Blue Nile, for a period of about five months, and that drying out so as to cause the holocaust was an annual event. Were the inundation due entirely to rains, and not to river flooding, one would expect this species to be distributed more evenly over the whole plain. The gradual disappearance of this species above the four foot level (see fig. 9) would be consistent with the view that inundations due to the annual floods of the Blue Nile became gradually smaller in the final stages of the upbuilding of the plain.

Discussion of Factors other than Biological.

Archaeology. A. J. Arkell has shown the age of the Gezira soil to be probably post-Kenya Fauresmith, because at Singa this massive bed of clay rests upon a river gravel deposit containing a Proto-Bushman type of skull[7] and artefacts of a culture that he identifies as

7. Woodward, Sir A. S. 1938. "A fossil skull of an ancestral Bushman from the Anglo-Egyptian Sudan." *Antiquity*. 12th June, pp. 190-5. Also Grabham, G. W. *ibid.* p. 193.

being somewhat similar to the Kenya Fauresmith, which is believed to have flourished in Kenya in the dry interval before the last major or Gamblian wet period of glacial times.

A. J. Arkell has also dated the final stages of the *Limicolaria* episode as probably between 5000 B.C. and 3000 B.C., because the shells occur in abundance with early pottery of about that date in a village site excavated at Khartoum. It is thought to be the final stage, because the shells are notably smaller in stature than those occurring alive today at Gedaref, where the species enjoys optimum conditions (see fig. 10).

Soil Chemistry. Five peculiarities of the soil have to be accounted for in any acceptable hypothesis of origin, namely the large quantity of gypsum, the presence of calcium carbonate nodules, the peculiar vertical distribution of salts, the absence of stones, and the large proportion of clay. The soil has been studied in detail by H. Greene, O. Snow and others, and the facts are well established.[8]

Gypsum occurs in all lands watered by the Blue Nile, but not in those watered only by the White Nile. It occurs all over the Gezira plain and in the riverain soils of the White Nile up to, but not south of, Renk.[9] This indicates that Blue Nile waters have flowed over the Gezira and contributed much of the water, at the period of soil deposition, that covered what are now the Pump Scheme lands of the White Nile as far south as Renk.

Calcium carbonate nodules are formed under desert or semi-desert conditions, and their presence in the Gezira and White Nile lands seems to require a period of desiccation following the wetter period during or perhaps toward the end of which the clay seems to have been deposited.

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8. For a general account and a bibliography see *Agriculture in the Sudan* edited by Tothill. Oxford University Press, 1947.

9. See 'Origin of Soils' p. 138 in *Agriculture in the Sudan* edited by Tothill. Oxford Univ. Press, 1947.

The distribution of salts at the Gezira Research Farm is given by H. Greene[10] as follows :

Depth inches	Clay (percentage)	Salts easily soluble (percentage)	Gypsum crystals over 1 mm. (percentage)
0—12	59	0.08	0
12—24	60	0.10	0
24—30	60	0.16	0
30—36	60	0.43	0.3
36—48	62	0.46	0.3
48—60	59	0.60	1.2
60—72	57	0.63	1.1

Salt concentrations do not occur today on plains wet enough to provide a habitat for *Lanistes* and *Ampullaria*, and these concentrations seem to indicate that a period of desiccation followed the phase in which the clay was deposited. Furthermore the comparative freedom from salts in the first foot and a half seems to suggest that a wet period, neither very prolonged nor very intense, followed the dry interval and removed the surface salts by leaching.

The absence of stones in the Gezira soil and the high and uniform proportion of clay seem to suggest that the area was not a delta in the period of deposition, but that the Blue Nile was approximately where it is now and had a deep steepsided channel that carried away the stones, gravel and sand. The flood water that spread over the plain would then represent the upper few feet of the river containing only the lightest particles—mostly clay—in suspension. The Gamblian or post-Kenya Fauresmith pluvial in Kenya represents a period of time of the order of 40,000 years. During this period the soil of the Blue Nile catchment area may have been strongly bound by vegetation, and erosion may have been consequently relatively slight. It may be therefore that active erosion of the kind required to produce the enormous deposits of Sebilian silts and the Gezira clay did not commence until the beginning of the subsequent period of desiccation.

10 In *Agriculture in the Sudan*, a map of the salt distribution is given on p. 448.

In so far as the clay is concerned it is not permissible to go too far in this direction, because either local rainfall or flood waters must be adequate to provide the swampy conditions required by *Ampullaria* and *Lanistes*. It may also be noted that 50 feet of clay would be built up in 40,000 years by an annual average deposit of 1 inch in 66 years. It may be therefore that the clay represents a continuous Gamblian deposit and the Sebilian a later deposit made towards the beginning of arid conditions. The point can only be settled by further archaeological work.

Geology. G. Andrew has reviewed the geological data and summarizes the position as follows :- [11]

"Examination of the levels in the plains south of Sabaloka has shown that the development of the plain which now has a thick bed of dark cracking clay has been the result of the formation of a depression in the Blue Nile basin.

There is still considerable uncertainty whether downward movement in the basin was compensated by deposition *pari passu* with depression, or whether the drainage north *via* the Sabaloka was ever ponded to any great extent.

It seems most likely that the formation of the clay plain was completed in neolithic times and that this corresponds with the end of the movement.

The evidence of the mollusca does not suggest that the Blue Nile was unable to escape north during this phase of clay-deposition. A seasonal, wide and shallow, lake-like inundation south of Dueim was formed in the White Nile.

It is not at present possible to work out the succession of events in greater detail than this, because of absence of correlation evidence, most of which must be obtained from wells and bores."

There is also the patch of continental or 'qoz' sand to be explained

11. In a letter dated March 11th, 1944, which he has kindly permitted me to quote. For details see Andrew's chapter on Geology in *Agriculture in the Sudan*.

on the wrong side of the river, namely the right bank, at Kosti. This seems to represent the end of the Kordofan 'qoz' in this direction, and to presuppose a period of desiccation during which there was no water in this part of the White Nile, and during which the desert sands were carried southwards, followed by a wet period in which the river was rejuvenated, the patch of 'qoz' being left on the right bank.

Contemporary Pleistocene Events Elsewhere.

(a) *In Kenya and Uganda.* As a result of work done over a long period of years by E. J. Wayland and L.S.B. Leakey and their collaborators and recently by Erik Nilssen, the main geological and archaeological events from the dry period preceding the Gamblian pluvial down to date in both Kenya and Uganda are known with some degree of precision.[12]

As the great Kamasian pluvial period began to decline at a date set very approximately at 80,000 B.C. a Kenya Fauresmith contact culture arose, linking the Lower Palaeolithic age with the Upper. A dry period intervened between the Kamasian and the Gamblian Pluvials, and the great lakes dried out.

The pluvial that followed the Kenya Fauresmith phase is thought to have extended very approximately from 70,000 B.C. to 10,000 B.C., and a series of cultures without pottery are represented including Tumbian, Lower and Upper Kenya Aurignacian, Developed Levallois, Proto and Kenya-Stillbay. The great lakes filled up again and connected, and Lake Edward was presumably inhabited by crocodiles and Nile perch.

Then followed a dry interval thought to extend very approximately from 10,000 B.C. to 6,000 B.C. Two cultures, the Magosian from Karamoja and Aurignacian Phase C from Naivasha, are known

12. Wayland, E. J. Chapter on Geology in *Uganda* by Thomas and Scott. Oxford Univ. Press, 1935. Leakey, L.S.B. *Stone Age Africa.* Also many other publications, and his magnificent display of Stone Age collections in the Coryndon Museum, and his explanatory wall map (1942). Nilssen, Eric. *Ancient changes of climate in British East Africa and Abyssinia.* Geografiska Ann. Arg. XXII, Haft 1-2, 1940, pp. 1-78.

from this period with crude pottery appearing for the first time in the latter culture. "This intrapluvial oscillation that can be widely identified" (Wayland. *loc. cit.* p. 63) probably resulted in the drying out of Lake Edward and the killing out of Nile perch and crocodiles.

This was followed by the Makalian wet phase extending very approximately from 6,000 to 2,000 B.C. with a number of cultures exhibiting a gradual refinement in the art of making pottery. Lake Edward filled up again, but the crocodile and Nile perch failed to ascend the forest and falls barriers now imposed above Lake Albert.

After two minor oscillations the climate settled to that of today.

(b) *In Palestine.* The remarkable series of excavations of the Mount Carmel caves conducted jointly by the British School of Archaeology and the American School of Prehistoric Research, the results of which were published in 1937 under the authorship of Miss D. A. E. Garrod and Miss D. M. A. Bate[13], has greatly clarified later Pleistocene history in Palestine.

Commenting (p. 121) on the findings of Picard on the Pleistocene history of the Jordan Valley, these authors say "Picard finds evidence of two major pluvials within the Pleistocene separated by an interpluvial marked by volcanic activity and followed by a period of increasing aridity with a possible minor pluvial before the beginning of the Bronze Age." (p. 122). "The second pluvial, Pluvial B, is the period of the Lisan marls, which were laid down in the inland sea, which filled the whole Jordan valley at that time . . . . The arid period which follows on Pluvial B is marked by the gradual shrinking of the Jordan Lake, and to this stage he refers the so called Jordan High Terrace and the Jericho Terrace, which are cut in the Lisan marls. The transition from the Pleistocene to the Holocene is marked by slightly rolled gravels resting on the High Terrace indicating perhaps a minor pluvial episode, Pluvial C, which ceases before the Bronze Age; at its close a Low Terrace or alluvial plain is formed."

Turning to archaeology the authors go on to say "If we turn to

13. Garrod, D. A. E. and Bate, D. M. A. *The Stone Age of Mount Carmel.* Rep. Joint Exped. of Brit. Sch. of Arch. in Palestine and the Am. Sch. of Prehistoric Research 1924-34. Vol. I. Clarendon Press, Oxford 1937.

the Wadi el Mughara, we must rely almost entirely on the evidence of fauna to guide us in determining climate, and this is not a completely reliable criterion." In part II Miss Bate draws from the evidence certain tentative conclusions which may be summarized here. "The remains from the earliest part of the Upper Acheulean (Tabun F) are scanty, but suggest tropical conditions. From the beginning of the Micoquian (Tabun E) till the end of the lower Levalloiso-Mousterian (Tabun D and C) the fauna which remains more or less unchanged throughout this long period, points to a warm climate with high precipitation. The gradual replacement of deer by gazelle from the base of the Aurignacian onwards suggests increasing aridity throughout the Upper Palaeolithic into the Mesolithic.

"When we try to correlate these things with Picard's scheme the correspondence between the Upper Palaeolithic and the Jung diluvium are at once obvious and can be accepted as reasonably certain ..... The question arises whether an interpluvial, if it were not really arid, would necessarily affect animal life very seriously; it should also be borne in mind that the change from wet to dry and again from dry to wet conditions would be gradual. It seems therefore not inadmissable that the Upper Acheulean and Lower Levalloiso-Mousterian should be placed in the Interpluvial, the Upper Levalloiso-Mousterian alone being referred strictly to Pluvial B."

The lists of animal remains through the succeeding Aurignacian (Wad F, E, D and C) show no great change, the proportions of deer and gazelle remaining more or less equal, and the authors say: "There is nothing to suggest that the climate of Aurignacian times was anything but a warm temperate one."

Toward the end of the Aurignacian gazelle bones become more numerous than deer, indicating that the climate is becoming increasingly dry.

In the succeeding Natufian (M. Wad. B.) the "fauna is of modern type, but still shows important differences from that of the present day. Gazelle remains are very plentiful, those of fallow deer now rare. This suggests a condition of aridity ... a dry country with some rivers bordered by vegetation seems to be suggested."

The succeeding neolithic-chalcolithic age is described by J. H. Iliffe[14], who says "We may therefore conclude that Palestine was, during the Vth. and IVth. millenia B.C., united in a single culture province with the Delta of Egypt. The type of culture is what is known as an irrigation culture; towns built on alluvial plains; rectangular houses built of reeds plastered with mud, standing on some kind of firm supports, and with pitched roofs .... Agriculture had reached a developed stage."

That the moist climate suggested by this description deteriorated with the coming of the Pyramid Age and recent times is suggested by the fact that Ghassul, where one of these neolithic cultures flourished "is today in a practically waterless region just N.E. of the Dead Sea." (p. 22)

Summary

In these notes on the origin of the upper six feet of the Gezira plain the molluscan evidence has been examined, and other evidence has been reviewed from archaeology, geology and chemistry in the Sudan. Finally what is known of the main Pleistocene events from the end of the Old Stone Age onwards in Palestine and East Africa has been briefly reviewed.

All this is now summarized in the form of a provisional table of contemporary events. Any such table must remain provisional until more archaeological work has enabled particularly the clay, and the continental sand at Kosti, and the Sebilian silts to be more closely dated.

In this table the Gezira occupies the position of the jam in the sandwich. The purists will say that one cannot yet correlate events in Palestine with those in Kenya and Uganda. With this it would be idle to quarrel, but it is none the less true that provisional tables of this kind do help to call attention to difficulties, and to keep in focus climatic consequences of European and American glaciation that were world-wide in some of their manifestations.

14. Iliffe, J. H. *A Short Guide to the Exhibition illustrating the Stone and Bronze Ages in Palestine*. Dept. of Antiq., Jerusalem, 1937.

The interpretation that most easily fits the established facts is that the Gezira clay was laid down either during or toward the end of the final big post-Kenya Fauresmith pluvial period. The sheli remains in the upper six feet rule out the possibility of the Gezira having been a lake at this stage. It was therefore aeolian or deposited by annual flooding.

Probabilities are rather strongly against aeolian, because it is so difficult to picture the conditions under which it could have been laid down. In distribution this clay is confined to the flood plain, which must therefore be assumed to be wet in order to catch the dust; but the strong winds that carried the continental sands south were the winter northerlies, when the Gezira must on the gastropod evidence be presumed dry.

All the available evidence falls into place by supposing the Gezira to have been laid down in or toward the end of the last big pluvial period by annual inundation of water carrying very little suspended matter; the period of flooding, as now, would have been July to November and the abundance and distribution of semi-fossil *Ampullaria* and *Lanistes* that as living species on the plains occur only in the heaviest rainfall parts of the acacia tall grass zone, would more happily be accounted for by presupposing a rainfall similar to that of Malakal today in addition to the annual inundation; without rain it is difficult to account for the fact that *Lanistes* occurs so far to the westward of *Cleopatra*.

During the course of this study it was my privilege to visit the Palestine Archaeological Museum. Mr. Iliffe enabled me to work in the library and to study the extremely rich and superbly exhibited collections of Stone Age cultures of the period covered. I am deeply grateful to him and to the Museum staff for the assistance they so kindly gave me.

It was also my privilege to spend a week in the Coryndon Museum, Nairobi, as Dr. Leakey's guest. Again I am deeply grateful to him and to his staff for all the help so willingly given. It was a memorable week.

I am indebted also to Messrs. O. Snow, G. Andrew, and A. J. Arkell for help and criticism given from time to time.

PROVISIONAL TABLE OF CONTEMPORARY EVENTS

YEARS[1]	PALESTINE			SUDAN			KENYA AND UGANDA		
	PERIOD	CULTURES	REMARKS	PERIOD	CULTURES	REMARKS[2]	PERIOD	CULTURES	REMARKS
1940 A.D. 3000 B.C.	Recent	Modern	Ghassul has returned to desert.	Recent	Neolithic to Modern.	*Limicolaria* retreats to 400mm. isohyet (E)	Recent	Neolithic to Modern.	Lake Edward shrinks to present level.
3000 B.C. 5000 B.C.	Pluvial C (Picard)	Neolithic Chalcolithic. Pottery cultures.	Ghassul was the site of a flourishing neolithic culture. Agriculture reached a developed stage at Carmel.	*Limicolaria*. Wet.	Neolithic at Khartoum Pottery well developed	*Limicolaria* at station 10 north of Abu Hamed, and abundant at Khartoum. (E) Site of Dueim submerged (P).	Makalian Wet	Final Kenya Aurignacian. Variant of Stone Bowl. Elementeitan. Pottery well developed.	Lake Edward above present level. Free from Nile perch and crocodile. (E)
5000 B.C. 10,000 B.C.	Somewhat dry.	Natufian (M Wad B) Pottery not yet invented.	Sickle blades indicate beginnings of agriculture. Dog domesticated. Bone and stone carvings. Gazelle more abundant than fallow deer. Jericho and Jordan High Terraces formed.	Kosti dry.	Not yet sorted out	River at Kosti & Dueim dry (P). Continental sand crosses site of river at Kosti (P). Salts concentrate in upper layers of Dueim and Gezira soils as desiccation occurs (P).	Dry.	Kenya Aurignacian phase C. Magosian (Uganda). Crude pottery occurs in Kenya Aurignacian C.	"There followed an intrapluvial oscillation that can be widely identified." Wayland. *loc. cit.* p. 63. Crocodile and Nile perch killed out in Lake Edward.
10,000 B.C. 50,000 B.C.	Pluvial B. (Picard)	Aurignacian M Wad C. M Wad D. M Wad E. M Wad F. Upper Levallois Mousterian M Wad G and Tabun B.	The fallow deer more abundant than the gazelle. Lisan marls laid down. No pottery.	Gezira Pluvial	Developed Levallois. Upper Sebilian. Lower Sebilian.	Gezira clay deposited towards end of period with the onset of desiccation[3] (E). Site of Dueim under water (P).	Gamblian Pluvial.	Kenya Stillbay. Proto-Stillbay. Developed Levalloisian. Upper Kenya Aurignacian Phases A & B Tumbian. No pottery.	"When Pluvial II started the lakes rose again and connected as in Pluvial I." (Wayland *loc. cit.* p. 63). This presupposes a common fauna.

PROVISIONAL TABLE OF CONTEMPORARY EVENTS—Contd.

YEARS (1)	PALESTINE			SUDAN			KENYA AND UGANDA		
	PERIOD	CULTURES	REMARKS	PERIOD	CULTURES	REMARKS (2)	PERIOD	CULTURES	REMARKS
50,000 B.C.	Somewhat dry.	Lower Levallois Mousterian Tabun C Tabun D Upper Acheulean Tabun E(a)		Dry.	Singa Fauresmith in gravel bed beneath the Gezira clay near Singa.	Proto-Bushman skull from same horizon at Singa (E).	Dry.	No cultures known.	The great lakes shrunk to pools or dried out.
60,000 B.C.									
60,000 B.C.	Pluvial A (Picard)	Acheulean Tabun E(b) Tabun E(c) Tabun E(d) Tabun F		No data.	Acheulean at Omdurman		Kamasian Pluvial.	Kenya Fauresmith (Levallois-Acheulean contact culture). Kenya Pseudo-Stillbay. Acheulean 6 " 5 " 4 " 3 " 2 " 1	The vast Lake Kamasia in Kenya fully developed.
200,000 B.C.									

1. The years column is based on Iliffe's table (*loc. cit.* p. 11). It is intended to serve only as a very approximate guide. A dry interval has been incorporated at 50,000 to 60,000 B.C. to provide for the Levallois-Acheulean contact cultures recorded from Tabun C, D and E (a), where the fauna indicates a slightly drier climate, particularly in Tabun C.

2. This column contains a mixture of items that appear to be fairly well established, marked (E), and items suggested as probable, marked (P).

3. The deposition of Gezira clay in the post-Kenya-Fauresmith or Gamblian pluvial is recorded as fairly well established, because it rests upon gravel containing a culture resembling the Kenya-Fauresmith contact culture. At what stage in a pluvial deposition takes place has not been settled. In Fiji, where the rainfall is phenomenal, erosion is remarkably slight, because the vegetation is luxurious even on the steepest hillsides. It may well be that erosion associated with a great pluvial period occurs chiefly toward the beginning of the following period of desiccation, when vegetation has lost its grip. It may be on the other hand that clays are deposited throughout a pluvial and silts chiefly toward the end.

Some additional literature consulted but not referred to in footnotes :—

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M. CONNOLLY. 1939. *Annals of the South African Museum.* Vol. XXXII 'A monographic survey of South African non-marine mollusca.' Plates I—XIX and 58 text figures, 660 pages.

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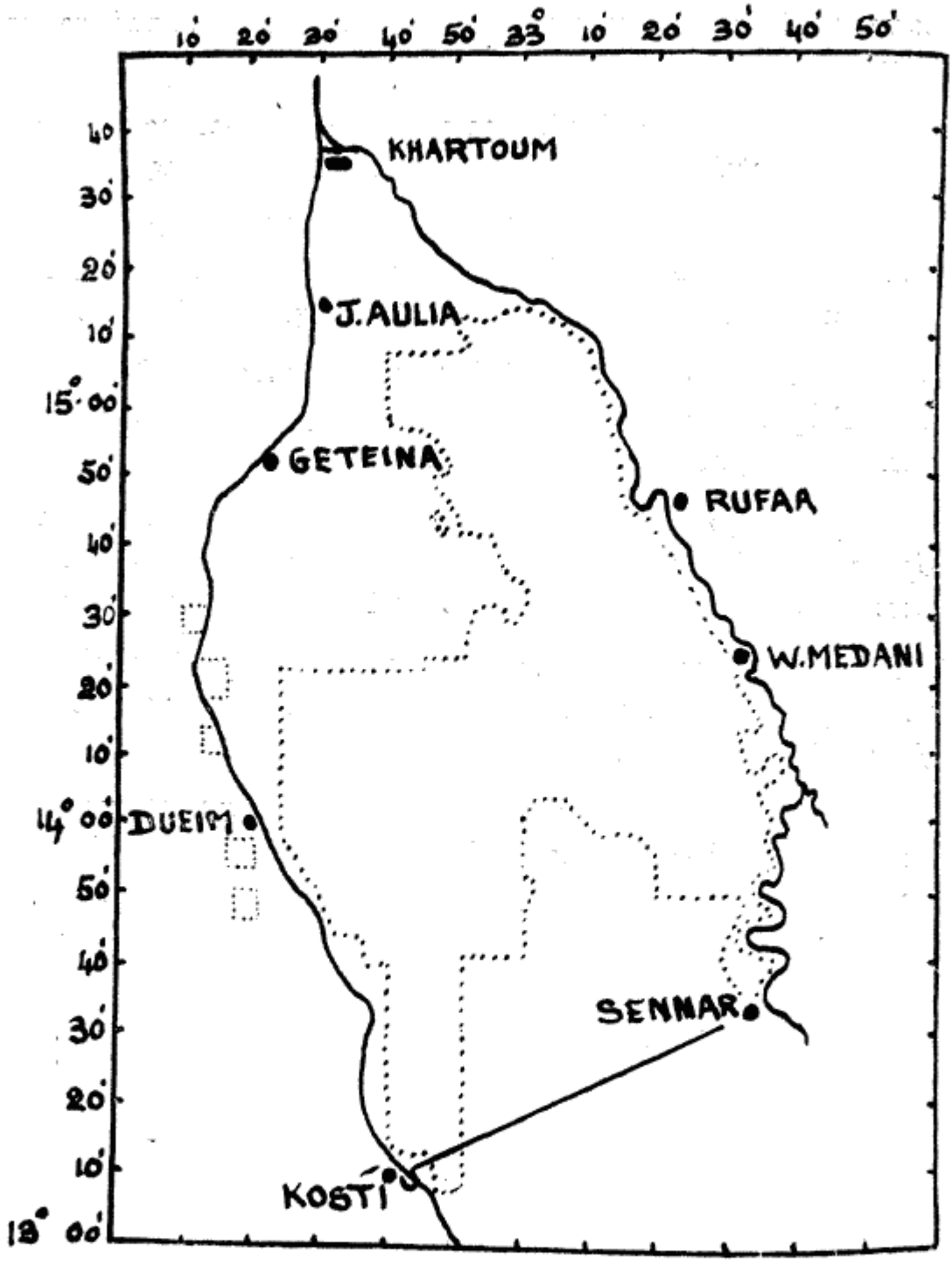


FIG. 1.

The area sampled is shown within the dotted lines.

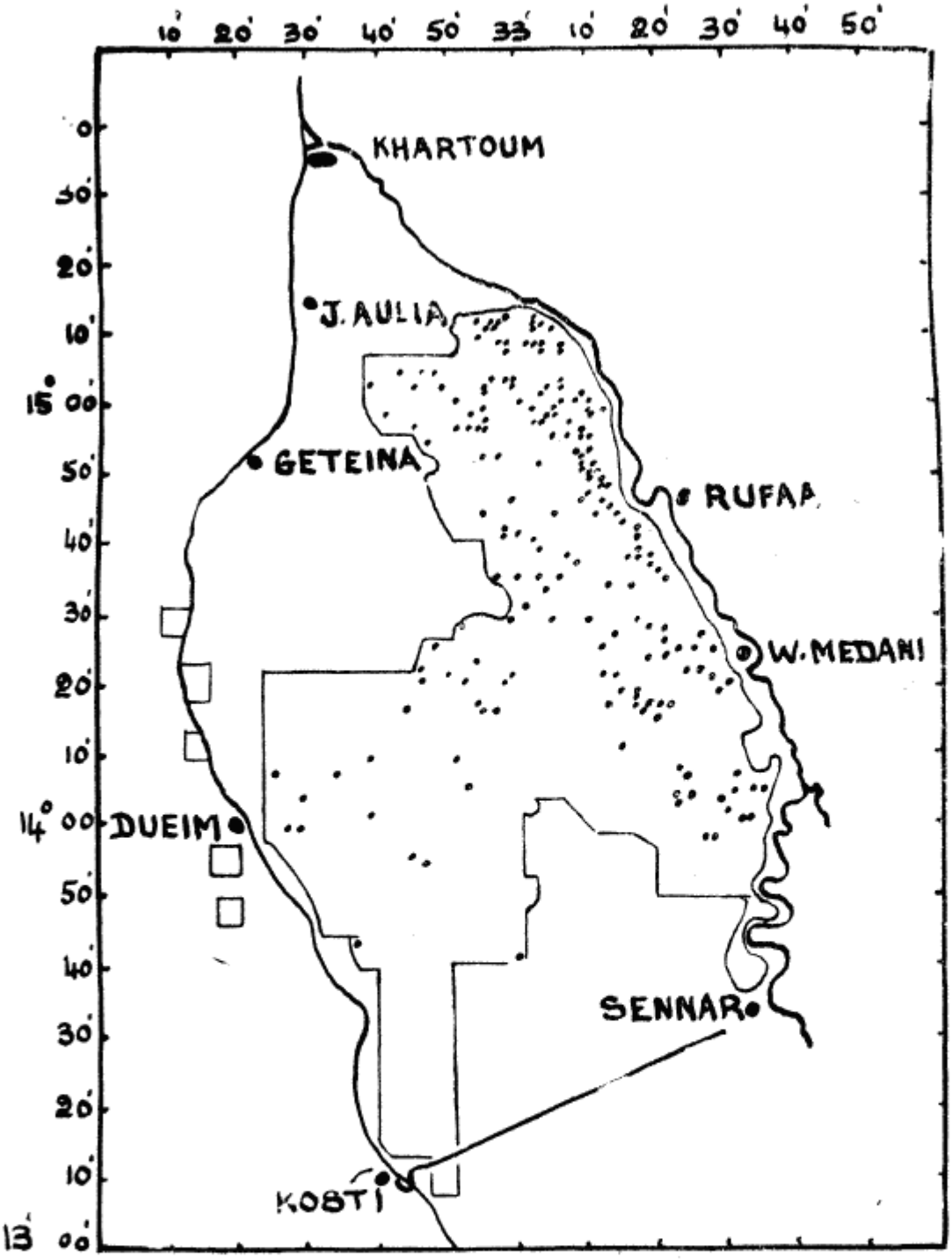


FIG. 2.

Ampullaria wernei Phil. as a semi-fossil is widely distributed over the area sampled above the 382 metres contour (shewn approximately at fig. 241 in 'Agr. in the Sudan') and absent below this level in the White Nile area.

This indicates that the area of abundance was a poorly drained 'acacia-tall-grass' plain, covered with water for several months a year, that dried out annually during the period of deposition of the upper six feet of soil.

The living animal occurs in such situations in all provinces of the Sudan (cf. fig. 11) and is recorded (Connolly 1939) from Uganda, Zanzibar, Mozambique, Belgian Congo, Nigeria, Ubangui and Abyssinia.

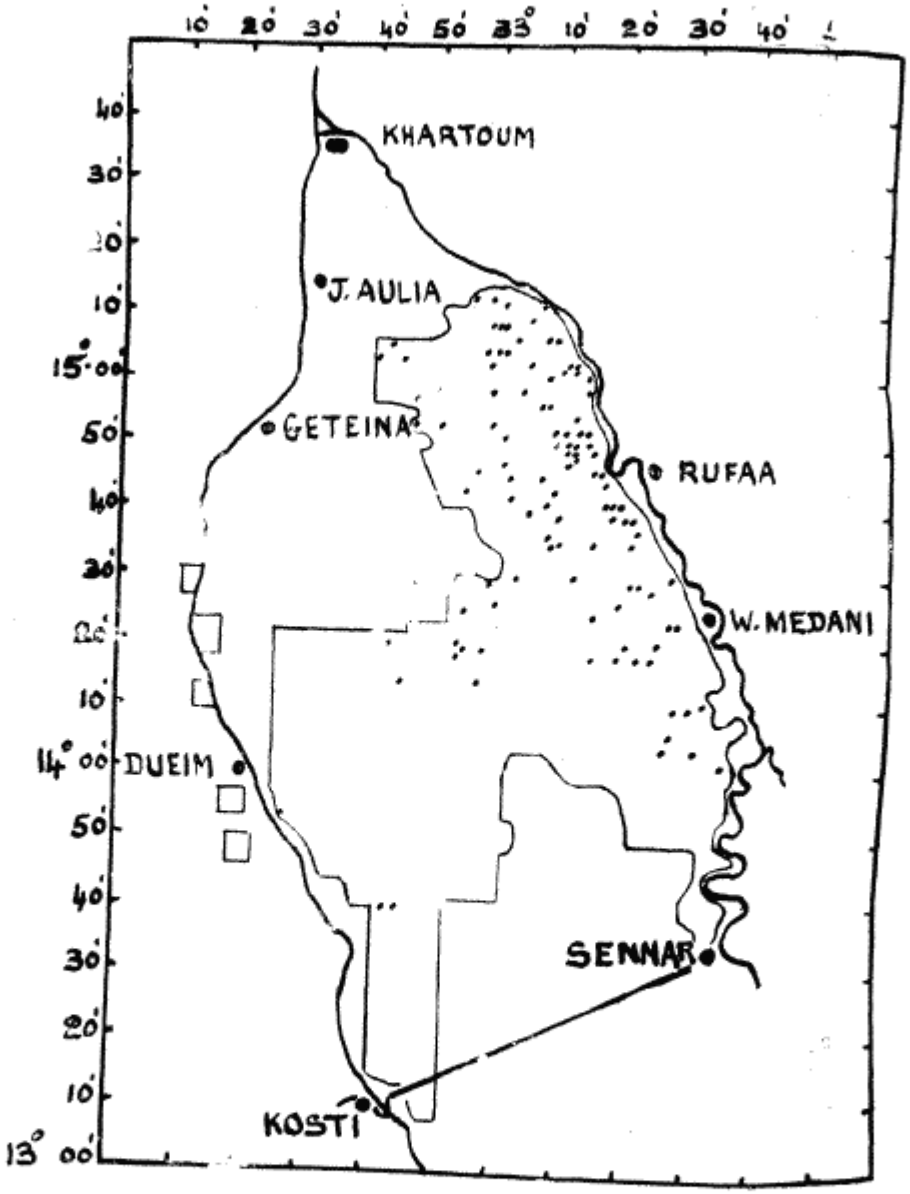


FIG. 3.

As a fossil *Lanistes carinatus* Oliv. is widely distributed over the area sampled above the 382 metres contour and absent below this level.

This indicates that the area of abundance was a poorly drained 'acacia-tall-grass' plain, covered with water for several months a year, that dried out annually during the period of deposition of the upper six feet of soil.

The living animal occurs today in such situations on clay plains in all provinces except Darfur (cf. fig 12).

In comparison with *Ampullaria* the living species has a restricted distribution. It is recorded from Egypt and at many sites along the river to Lake Victoria, and also from the Tana river.

As a fossil the species occurs in Miocene beds near Lake Victoria.

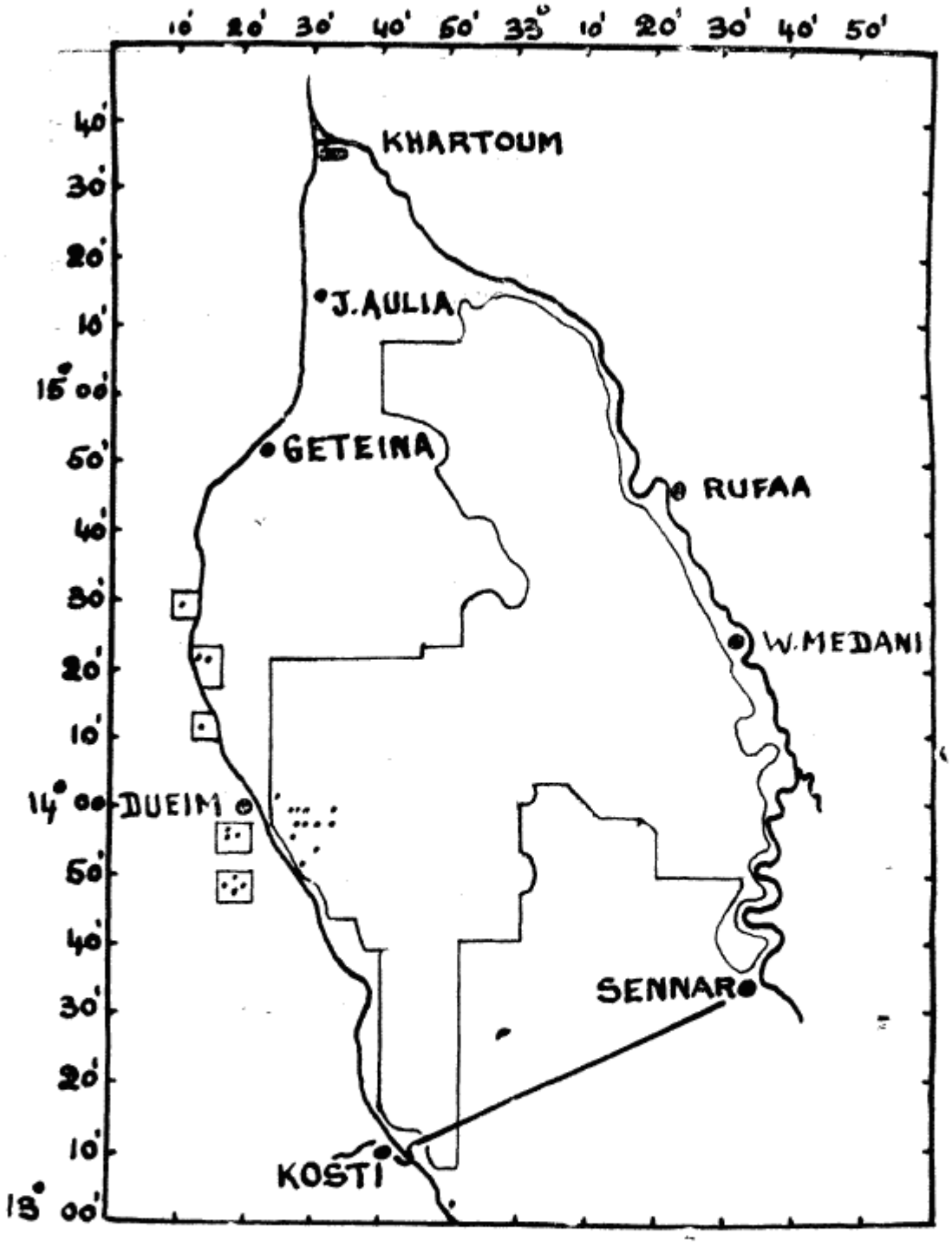


FIG. 4.

Melanoides tuberculata Mull. as a fossil is almost entirely absent from the area sampled above the 382 metres contour. It is characteristically present below this level.

This distribution indicates that the upper six feet of these low level areas were deposited under lacustrine conditions.

The living animal inhabits permanent fresh water rivers and lakes and has a wide African and Asiatic distribution being recorded from most of Africa, the south coast of the Mediterranean, Palestine, parts of India, Java, Borneo, and other islands of the Indian and Pacific Oceans.

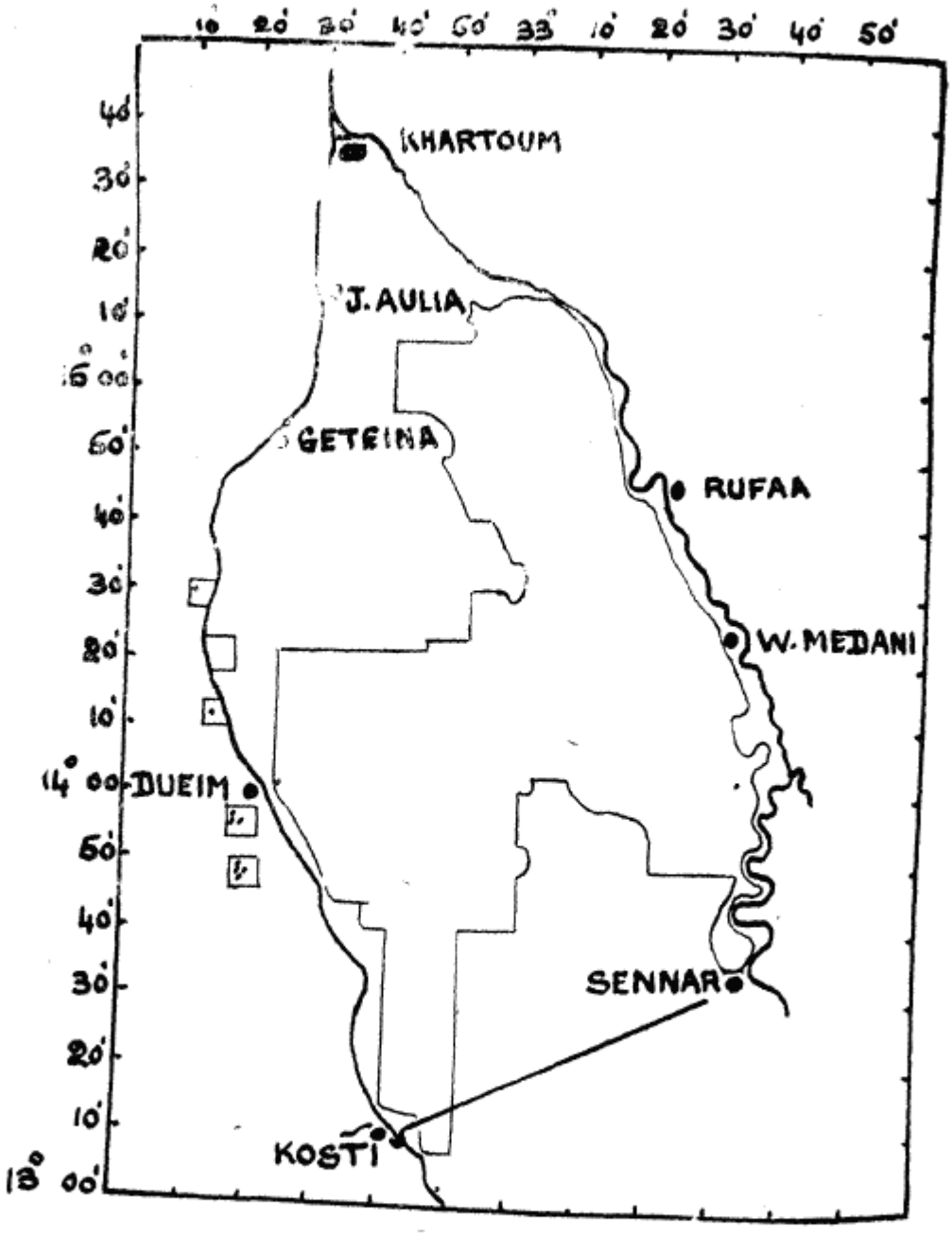


FIG. 5.

The semi-fossil bivalves *Corbicula artini* Pall. in the area sampled and *C. consobrina* Caill. are confined to the low level White Nile riverain territory falling below the 382 metres contour.

This indicates that the upper six feet of soil in these riverain areas was deposited under lacustrine conditions.

The living species inhabit permanent rivers and fresh water lakes and are widely dsitributed along the Nile from Egypt to Lake Victoria, and also occur in Asia.

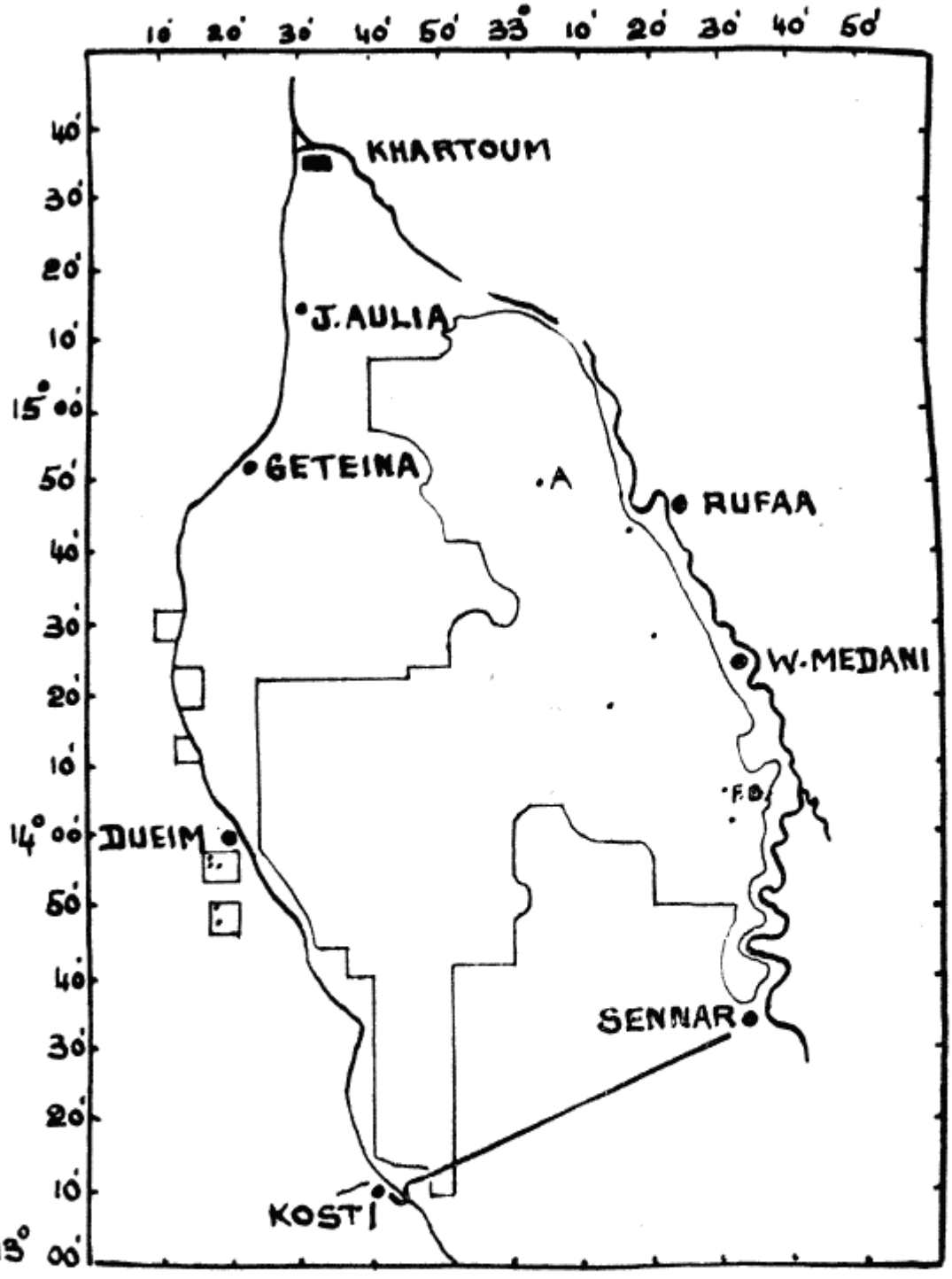


FIG. 6.

Showing the distribution of fossil fresh water mussels (dots), an *Aetheria elliptica* Lam. (A), and fish bone (F.B.) within the area sampled.

Above the 382 metres contour this distribution indicates that at each site there was water sufficiently deep, or free from vegetation, to enable fish to penetrate. The very small numbers rather suggest that the sites may represent shallow channels corresponding to the ' lugud ' of today.

Below this level the dispersal is consistent with a lacustrine origin of the upper six feet of soil.

Living fresh water mussels inhabit the muddy bottoms of rivers and fresh water lakes of the Nile and Congo river systems. They are distributed in a special larval stage, the glochidium, attached as a cyst to fish.

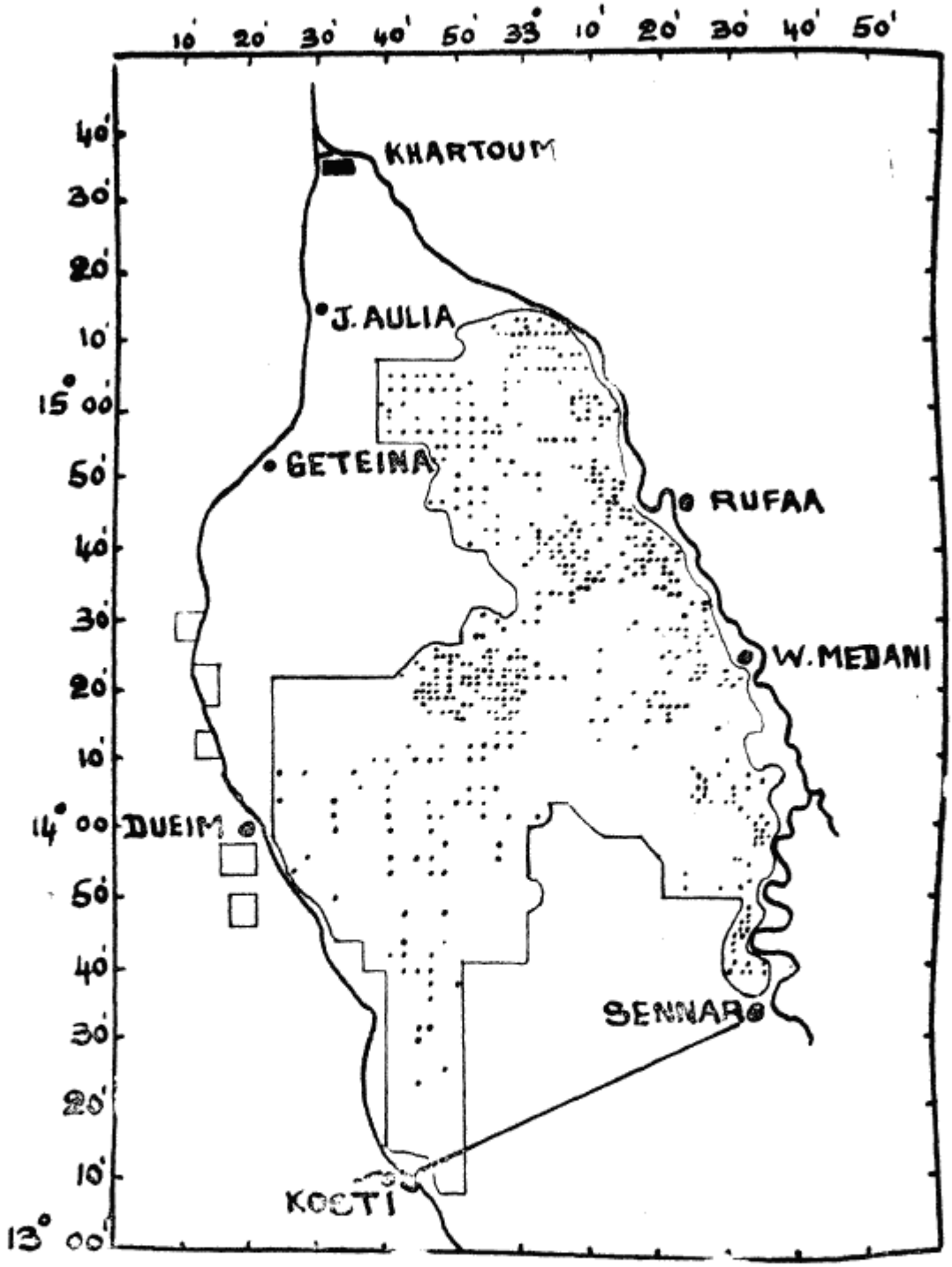


FIG 7.

The distribution of semi-fossil *Limicolaria flammata* Caill. in the area sampled.

The general distribution above the 382 metres contour indicates that at the time of their occurrence, probably between 5000 and 3000 B.C., the area was an 'acacia-tall-grass' plain with a rainfall of 400-600mm. per annum. The few fairly large blanks may represent heavy growth of *Acacia seyal* Del. the dominant tree of this association on clay soil; the areas of greatest density patches of open well drained grass land; and the remainder may represent lightly forested areas.

Below the 382 metres contour the land was clearly unsuitable for this species and the simplest interpretation is that it may have been under water or subject to annual inundation.

As a living animal the species occurs abundantly (cf. Fig 10) on the open parts of well drained 'acacia-tall-grass' clay plains in the Sudan where the rainfall is from 400-800mm. yearly.

The distribution of *Limicolaria* is confined to tropical Africa.

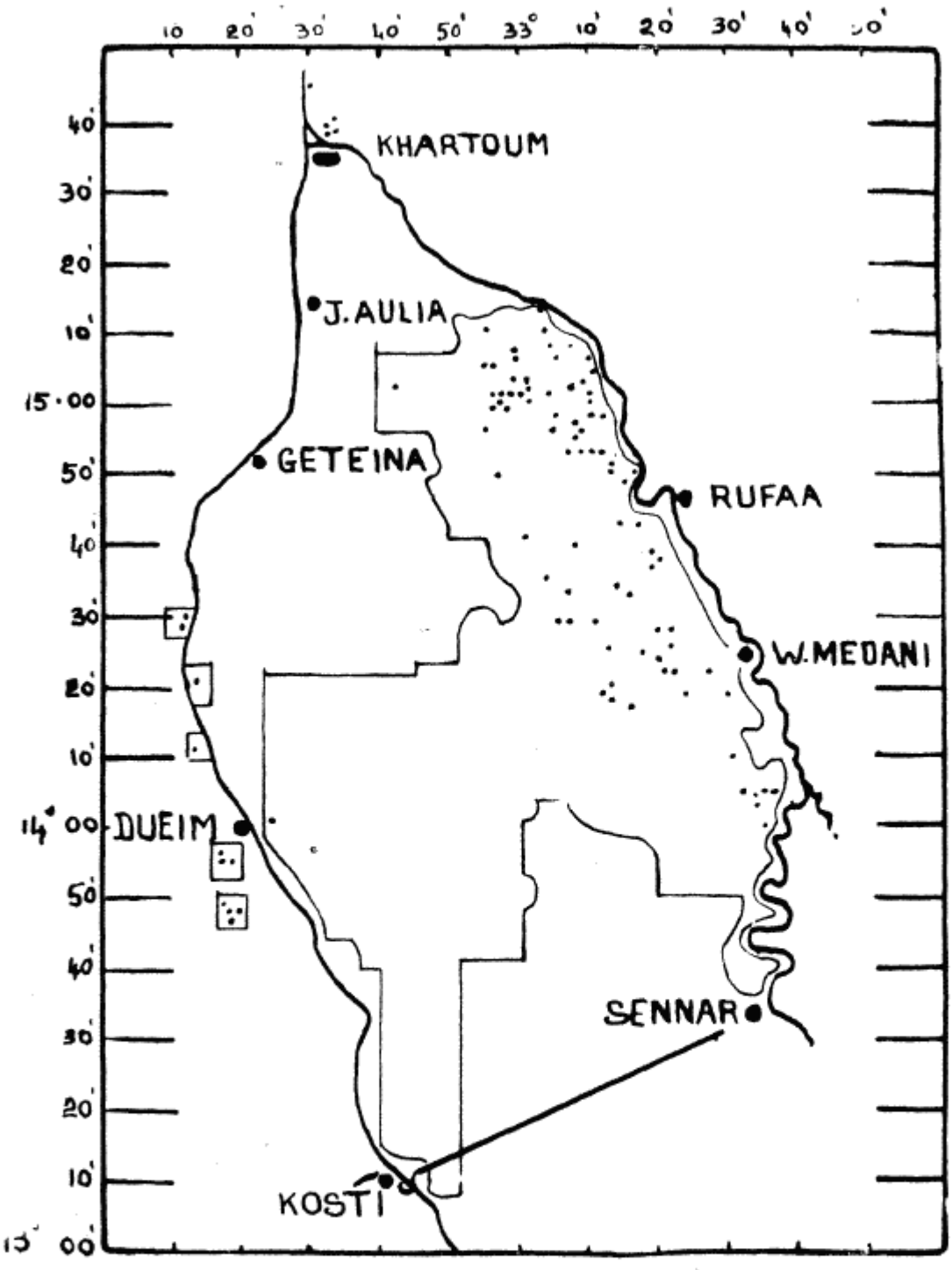


FIG 8.

The distribution of semi-fossil *Cleopatra bulimoides* Oliv. within the area sampled. Above the 382 metres contour it is limited to a 25 mile belt on the left bank of the Blue Nile. This suggests thatat the period in question the water was deep enough annually over this belt for a sufficient number of months to enable some snails to reach maturity. Because all age groups occur it is clear that annual drying out of this belt was the rule. Restriction of distribution to this belt rules out the possibility of local rainfall being the source of the water and presupposes inundation from the Blue Nile.

Below the 382 metres contour the occurrence in the area sampled is consistent with the view that the six feet of soil were deposited under permanent fresh water.

The species lives today in permanent rivers and lakes and, an annually catiastrophic existence in places like the Khartoum sunt (*Acacia arabic* Del.) forest that is inundated for five months annually. It occurs from Egypt to South Africa throughout tropical Africa, and in Syria and Asia Minor.

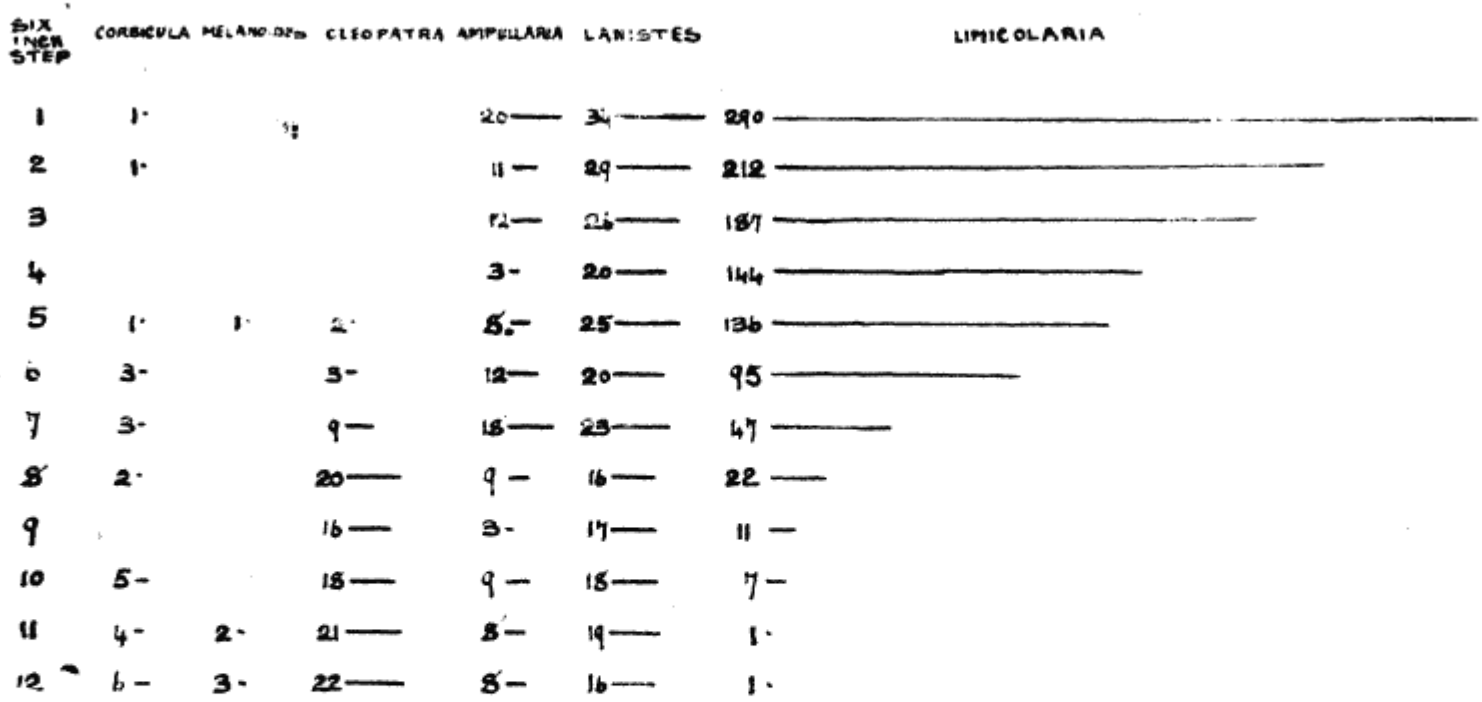


FIG. 9.

Diagram shewing the vertical distribution of the semi-fossil mollusca collected in the area sampled.
The lines are drawn to scale and represent the numbers of each species found in each 6-inch step.
At the left of each line the actual number of specimens represented by the line is given.

Corbicula and *Melanoides* taken together show a gradual diminution in numbers from the sixth foot upwards. This suggests a gradual drying out of the While Nile area from a permanent to semi-annual, but still fresh-water, lake.

Cleopatra disappears upwards at about the 3-foot level and this suggests that the Blue Nile inundation was diminishing.

Ampullaria and *Lanistes* taken together show that the conditions for the existence of these species were remarkably regular throughout the entire period of deposition.

Limicolaria differs from the other species in showing a steady increase in numbers from the bottom of the cracking system to the surface. This coupled with the fact that today it nowhere, except by accident, cohabits with *Ampullaria* and *Lanistes* suggests that it came on the scene later in time. The time is probably between 5000 B.C. and 3000 B.C. and the rainfall was evidently sufficient for *Limicolaria* but not for *Lanistes*.

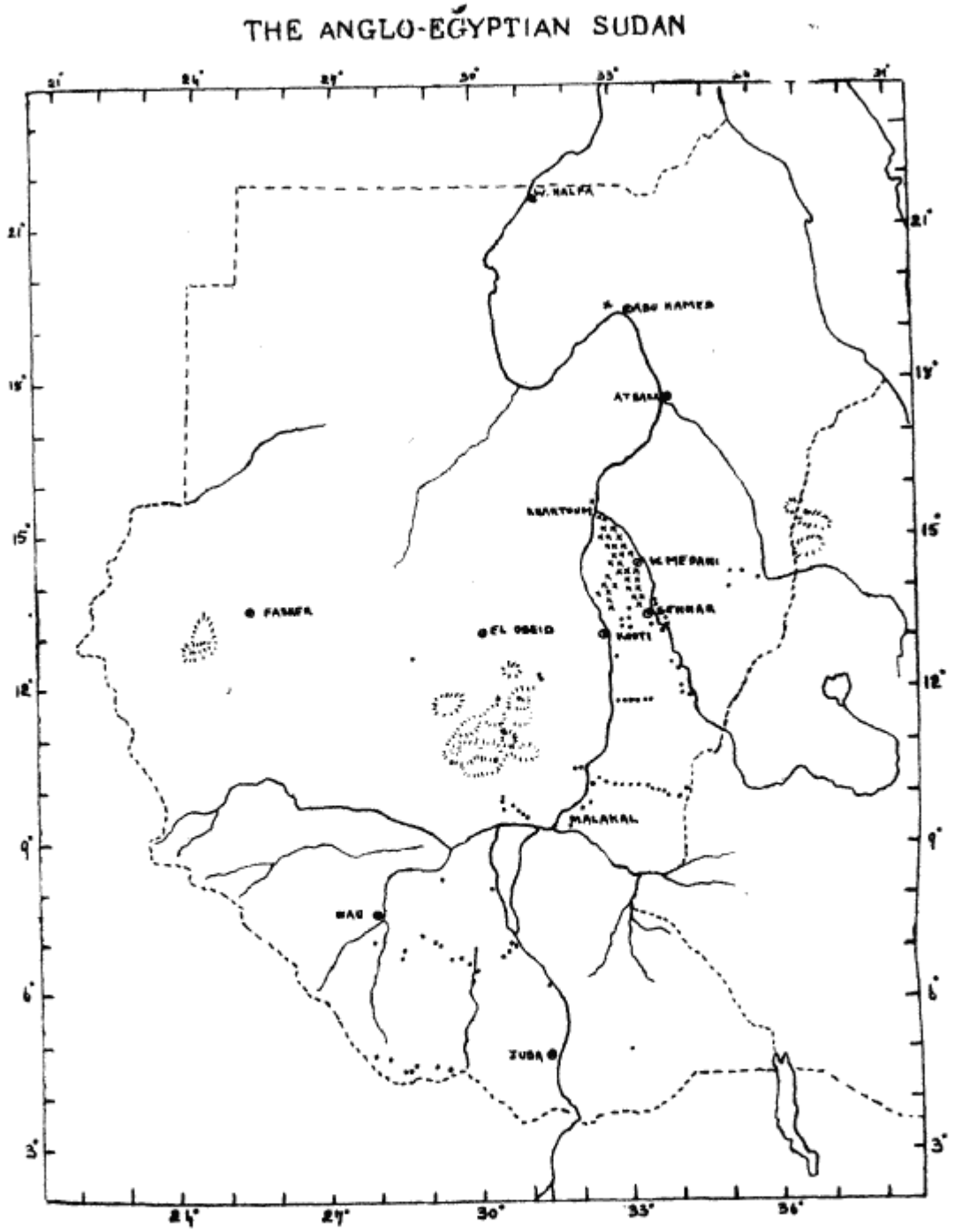


FIG. 10.

The distribution in the Sudan of fossil (crosses) and living (dots) *Limicolaria flammata* Caill. Living specimens have not been taken north of Sennar : the species is very abundant at Gedaref and Renk and occurs usually as a dwarf around the edges of the Sudd and in the broad-leaved forests of the Nile Congo divide. It is uncommon in Kordofan Province and no specimens have been found in Darfur Province.

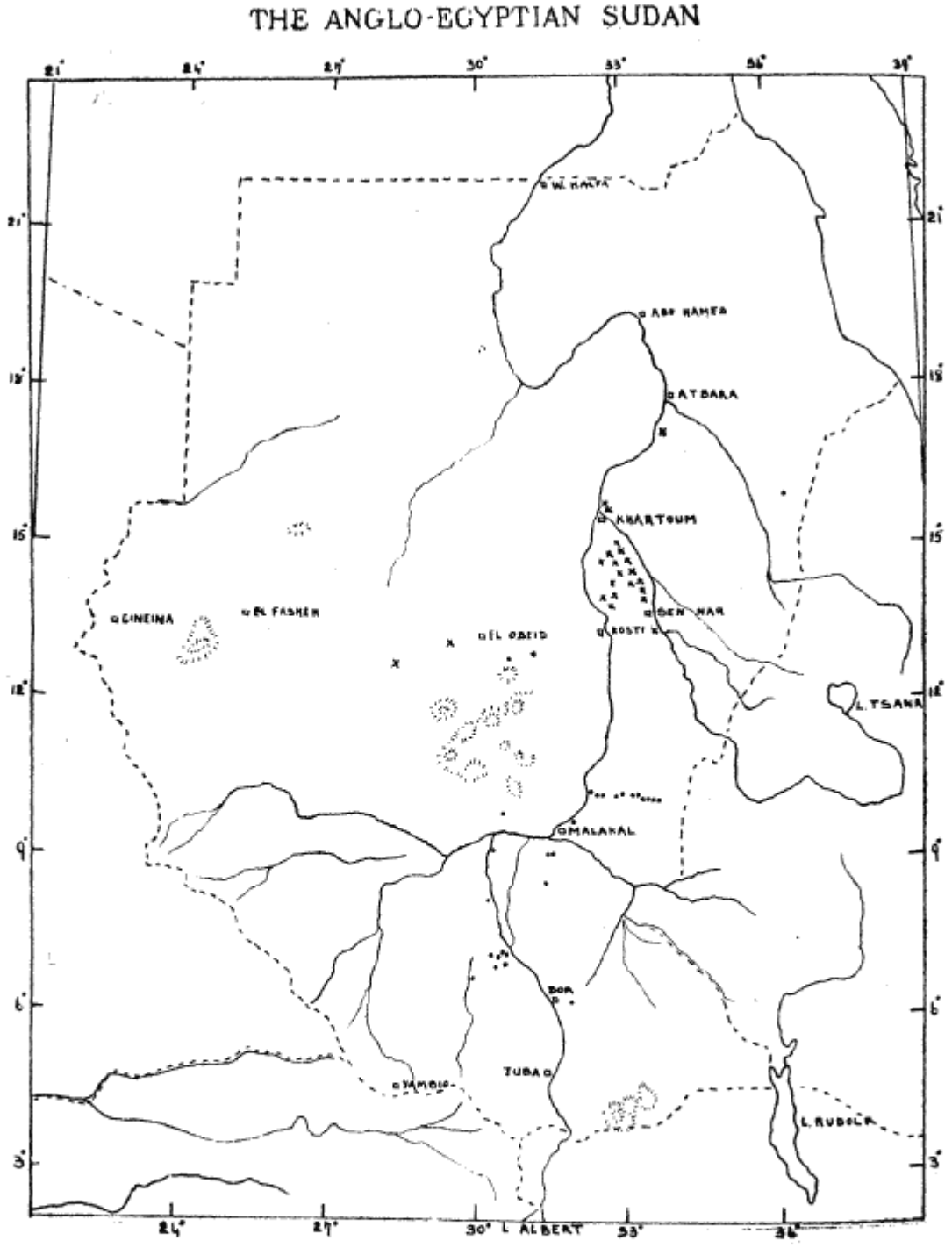


FIG. 11.

The distribution in the Sudan of fossil (crosses) and living (dots) *Ampullaria wernei* Phil. This amphibious species occurs throughout the Sudan south of Kosti in temporary or permanent ponds and on lands subject to flooding and is absent on well drained lands. It occurs in most streams and rivers where clay is found and has been collected in the Gash (extreme east) and Wadi Hawar (extreme west) as well as in all the main tributaries of the Nile.

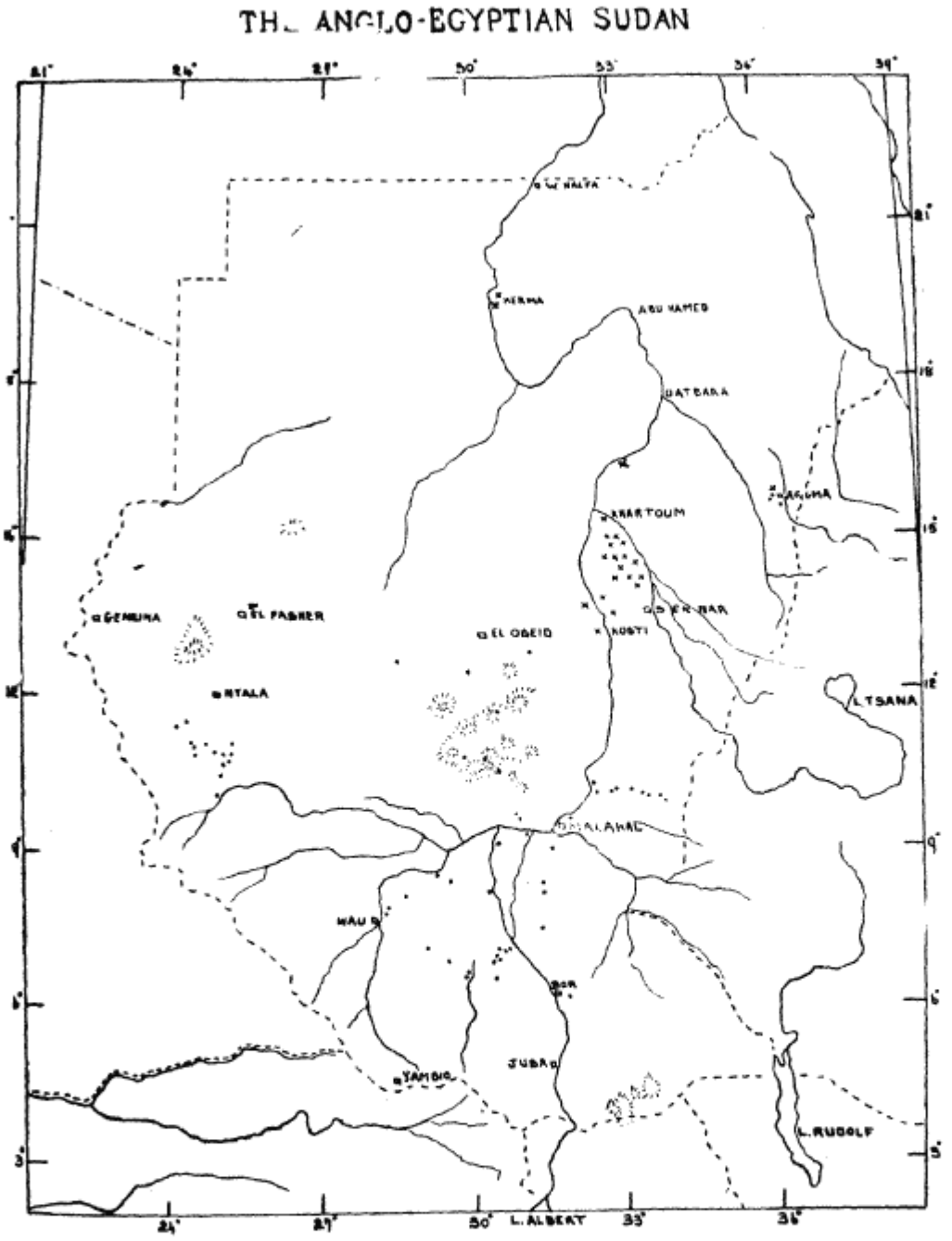
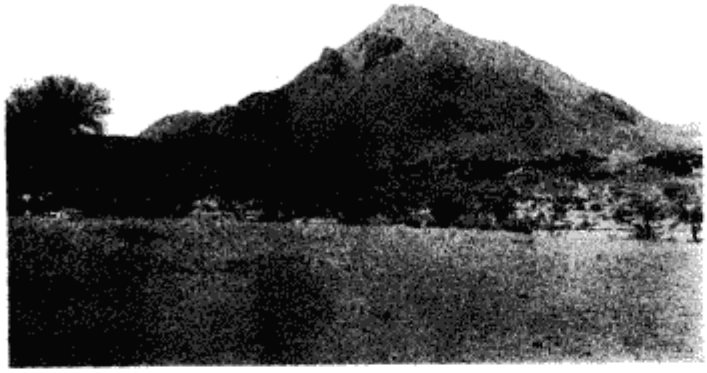


FIG. 12.

The distribution in the Sudan of *Lanistes carinatus* Oliv. Crosses mark fossil collections and dots living specimens. It occurs in the same situations as *Ampullaria* but is much less widely distributed. No specimens hav been found in Darfur Province and it seems unable to reach isolated ponds (*fula*).

A. Jebel Uri from E. with Wadi Uri in the middle distance. The road up the hill can just be made out.



B. Looking E. across the courtyard of the Lower Palace at Uri, and showing the massive wall flanking the steps up to the platform of audience on the right. The wall flanking the steps on the left has fallen over the steps.



C. In the Lower Palace, looking S. along the wall of the building, of which the brick-like stones are laid in mud mortar, to the platform of audience and the wall which has fallen over the main steps.



DARFUR ANTIQUITIES[1]

By A. J. Arkell.

(PLATES I—XXI).

III. *The Ruined Town of Uri in Northern Darfur.*

As one looks north-west from Kutum, the headquarters of Northern Darfur district, the horizon is bounded at a distance of 25 to 30 miles by a line of hills out of which rise a number of remarkable peaks. The easternmost of these peaks is particularly pointed and is known as J. Muterrag. The peak next to it on the west is a more typical cone (Pl. I A), and is marked on the map as J. Orrei. The local inhabitants call it Oori, which is Fur for 'sheep'. Sheep in Northern Darfur being mostly black, they explain the name by the black aspect of the eastern side of the hill, which falls into shadow as soon as the sun begins to decline at midday. This is the most usual view of the hill, for it is thus seen from the wells, two holes in the rocky bed of a wadi, which runs out of this range past the east side of the hill and in a north-easterly direction. Local pronunciation and a more likely derivation for the name led me some years ago to adopt the spelling Uri, *i.e.* 'hill' in Berber,[2] for the hill stands in the centre of the ruins of an extensive stone-walled town, the largest ruined town in Darfur, which may have owed its creation to the influence of Berbers haling originally from north Africa. It is in any case difficult to imagine a more suitable name for this town than that of the "Town of the Hill."

The easiest way to get to Uri is to take the Kutum-Dar Zaghawa motor road and, a mile or two before reaching Ain Siro, where the road passes through the Furnung hills, to turn to the right down a

1. For Parts I and II see *Sudan Notes and Records* Vol. XIX, pp. 301 ff. and Vol. XX pp. 91 ff.

2. Rinn. *Origines Berberes*. pp. 87, 221 etc. *Or* also means 'hill' in the Meidob language. An alternative explanation of the name may be that it is a corruption of Wara an early word for a royal capital in Wadai and Darfur, connected with *ari* the archaic Fur word for 'sultan'.

track which runs parallel with the south side of the hills, until after some eight miles it turns north and drops down over a ridge of black stone of volcanic origin into Wadi Uri. (According to Mr. W. B. K Shaw[3] this track offers *via* Musbat a better route for cars to the Wadi Howar than the Umm Buru road).

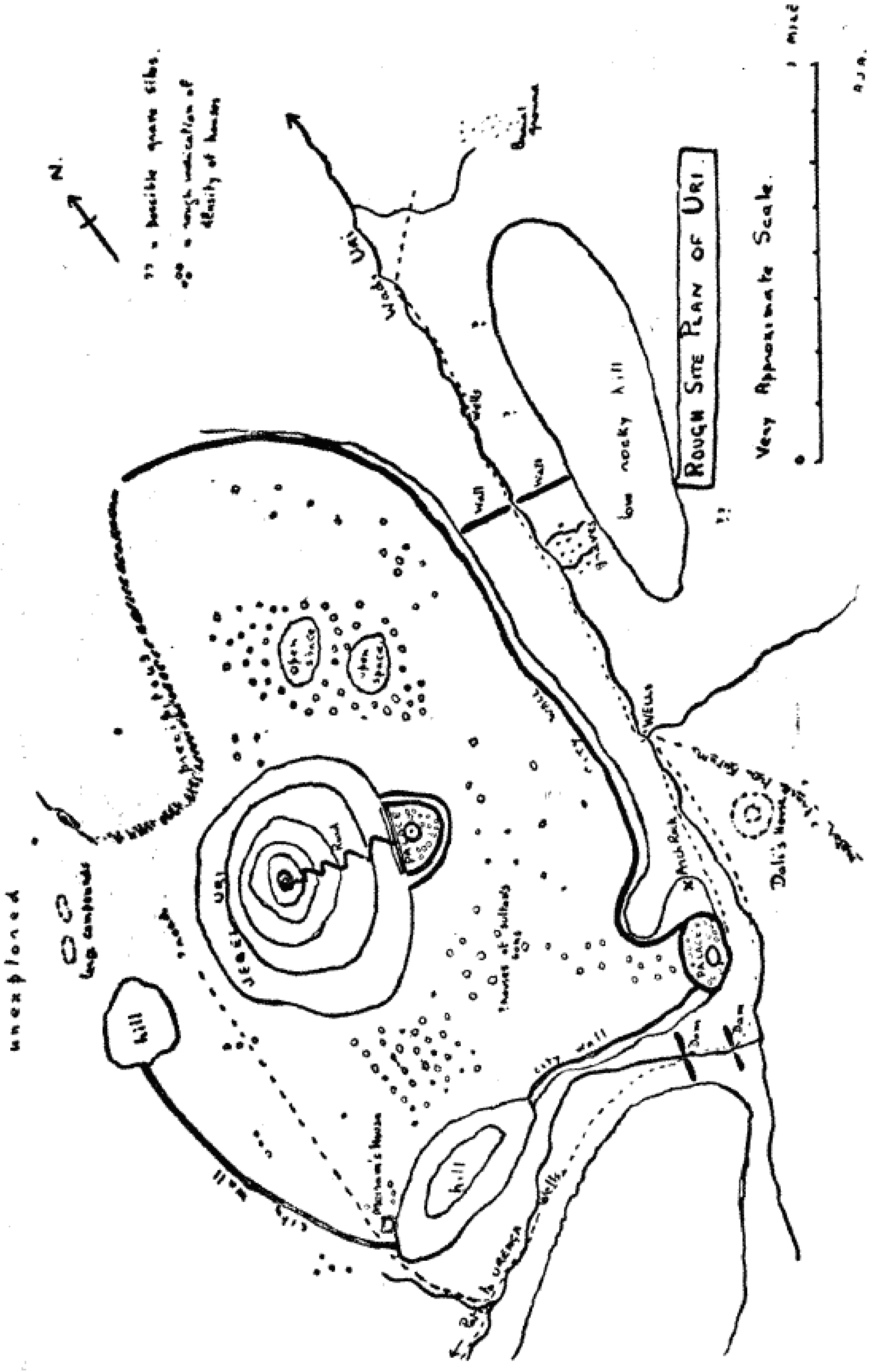
The site at Uri was, I believe, discovered by Mr. E. Campbell, when he was in charge of Northern Darfur a few years ago. I have only been able to pay it two visits, once in 1934 and once in 1935; and in between these visits through the kindness of Capt. G. Prendergast I had a view of the ruins from the air, which gave me a most valuable general impression of the site, and enabled me to make the most of my second visit. The site is so thickly overgrown with *kitir* thorn-bush, and the time at my disposal on each occasion was so short, that the following can only be regarded as a preliminary account of what is from a historical point of view possibly the most important site in Darfur.

A rough sketch (Pl. II) shows the relative positions of the main features of the ruins, as far as they are known to me, but it must be remembered that I have not been able to visit the western part of the town.

The town has a circumference of from three to five miles, and is surrounded by a wall, which is continuous except where natural features, especially on the north side, make it unnecessary.

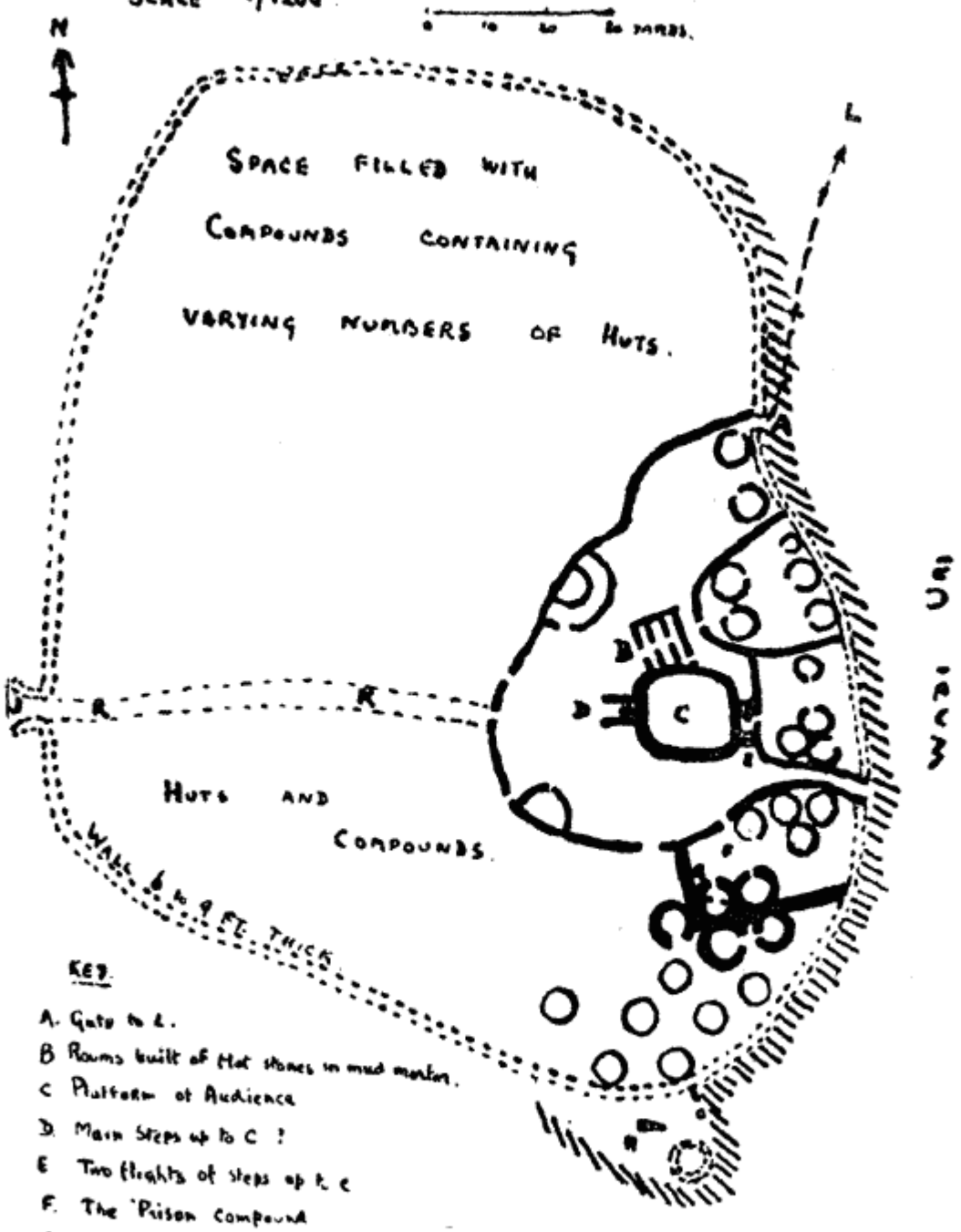
SSW. of the wells, and on the top of the sandstone cliff, which forms the west bank of Wadi Uri, and is about 30 ft. high, is a group of buildings within their own defensive wall. This wall is from six to nine feet thick, its course is roughly circular, and the space it includes has a diameter of approximately 150 yards. These buildings, now known to the local inhabitants as the Mosque and Kadi's House, appear to have formed the earlier palace of the ruler of the town. There is no trace whatever of a mosque, and a glance at the rough site plan (Pl. III) will leave little doubt as to its true nature.

3. See *J.R.G.S.* Vol. LXXXVII p. 198.


ROUGH SITE PLAN OF URI
Very Approximate Scale
1 mile
N.
low rocky hill
hill
hill
JEBEL URI
Palace
Palace
city wall
wall
wall
Wells
Wells
Wells
Wadi Uri
open space
open space
Dam
Dam
Arch Rock
unexplored
Dali's House
Road
Road to Urenga
graves
precipitous

THE LOWER PALACE AT URI – LOCALLY KNOWN AS THE MOSQUE.

SCALE 1/1200



KEY.

A. Gate to L.
B Rooms built of flat stones in mud mortar.
C Platform of Audience
D Main steps up to C ?
E Two flights of steps up to C
F. The 'Prison Compound
G. Hut containing 2 vertical stone posts.
H The Kadi's judgment seat.
J The Main Gate
K Street walled and ? roughly paved
L. Path down cliff to well.

The chief feature of this ' Lower Palace ' is a roughly semi-circular courtyard, 35 yards or more from north to south, and about 20 yards from east to west, in which was a ' platform of audience '[4], approached from the west, *i.e.* from the centre of the courtyard, by steps flanked with massive stone walls, and also from the east side by a smaller double flight of steps, which were presumably for the private use of the ruler. One of the flanking walls has collapsed over the steps, (Pl. I B), and all that now remains of the platform are walls of well-built dry stone masonry, faced and rubble-filled, still more than six feet high, which presumably once supported a floor of wood on which the sultan sat. All the ruins in Uri, that I have seen, are built with this dry stone masonry, faced and filled with rubble, with the exception of one building just on the north side of this platform, which is possibly a later addition, being built of specially selected flattish stones set in mud mortar, as if by someone used to building in brick (Pl. I C.)[5]

Between this platform and the outer wall, which here runs along the top of the cliff above the Wadi Uri, are three compounds each containing from four to six circular stone huts. The southernmost of these compounds, which lies between the cliff and the main west gate of the royal courtyard (Pl. IV A.), may, judging from the strength of its outer walls and two stone posts inside one of the huts, possibly have formed a prison. The other two compounds may have served as storerooms or living rooms. There are two entrances to the lower palace. The path from the well slopes up the face of the cliff to one gateway, which leads into the NE. corner of the main courtyard north of the three compounds just mentioned. No doubt this door corresponded to the *ura baiya* or ' narrow door ' (for the women) in the palace of the historical Fur sultans. Just inside the entrance are two huts, presumably for the gatekeeper. The main entrance, corresponding to the *ura deiya* or ' men's door ' in the later Fur palace,

4. Cp. Nachtigal, *Sahara und Sudan*. III. p. 55. :- 'a 4 foot long terrace to which steps of earth led up, which was called *tirja* and which served on various ceremonial occasions as the royal seat '.

5. There are stone walls in this style in the later palaces at Meroe, which probably date from the second or third centuries of the Christian era.

was an imposing gateway in the west wall, flanked by a curtain wall on each side. From this gate a walled and possibly roughly paved street about 60 yards long led straight to the royal courtyard, which it entered directly opposite the main steps of the platform of audience.

Between the 'prison' compound, and the compound directly behind the back steps up to the platform, a path leads off the courtyard to a breach in the walls, where a good view of the eastern approaches to Uri may be obtained, the cliff at this point being so steep that there is no possibility of ascent or descent.

It is probable that the confused mass of circular stone huts and compounds, which fill up the rest of the area inside the main wall on either side of the street which runs from the courtyard to the west gate, were inhabited by the royal women and eunuchs.

On a flat rocky space on the cliff just outside the south wall of the palace is the ruin of a stone hut and near it a large rock of about 4½ feet cube, with a stone-built ascent sloping up from the east to the top of the rock, on which the *qadi* is said by the local inhabitants to have sat when he gave judgment, (Pl. IV B).

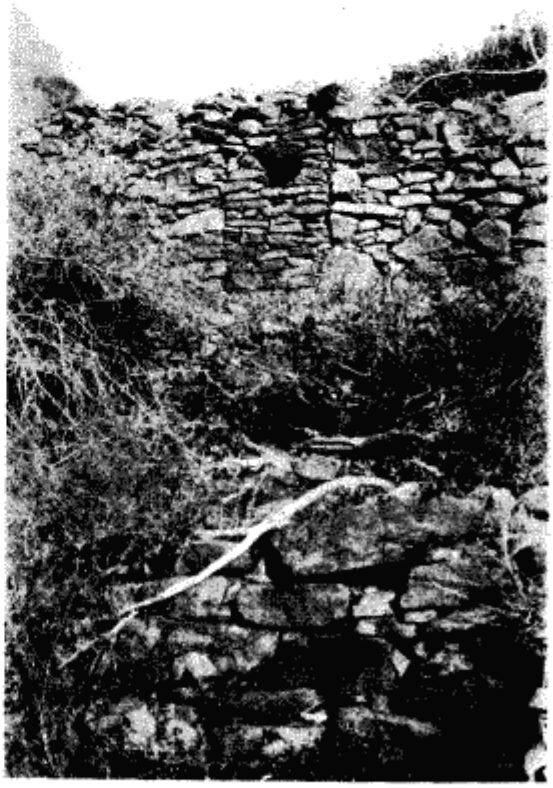
Owing either to need for greater space or to a change of ruler, the royal residence appears to have been moved later to the larger Upper Palace situated on the eastern shoulder of J. Uri itself (Plates V-VIII). Possibly when this move took place the lower palace was handed over to the *qadi* as a residence, and probably the tradition, that he gave judgment on the modest platform outside the walls, is correct. He would not have presumed, or been allowed, to sit on the royal platform. In order to approach the upper palace today, one has to force one's way through *kitir* bush across the more or less level space, which lies between the hill and the wadi, and on which a considerable part of the town is built. Part of the time one appears to be following a walled street. The proper entrance being concealed by thorn bush, one has to scramble over two massive walls consisting of roughly piled rocks and of the type known in Darfur as *tirga* (Pl. IX A), and after making one's way through various compounds of well built round stone huts,



A. The South Gate of the courtyard of the Lower Palace at Uri, showing the wall flanking the main steps up to the platform of audience.



B. The judgment seat of the Kadi at Uri, showing continuation of the city wall in the middle distance.



C. A blocked-up doorway in the Upper Palace Courtyard wall.



Looking down on the Upper Palace before it had been cleared.



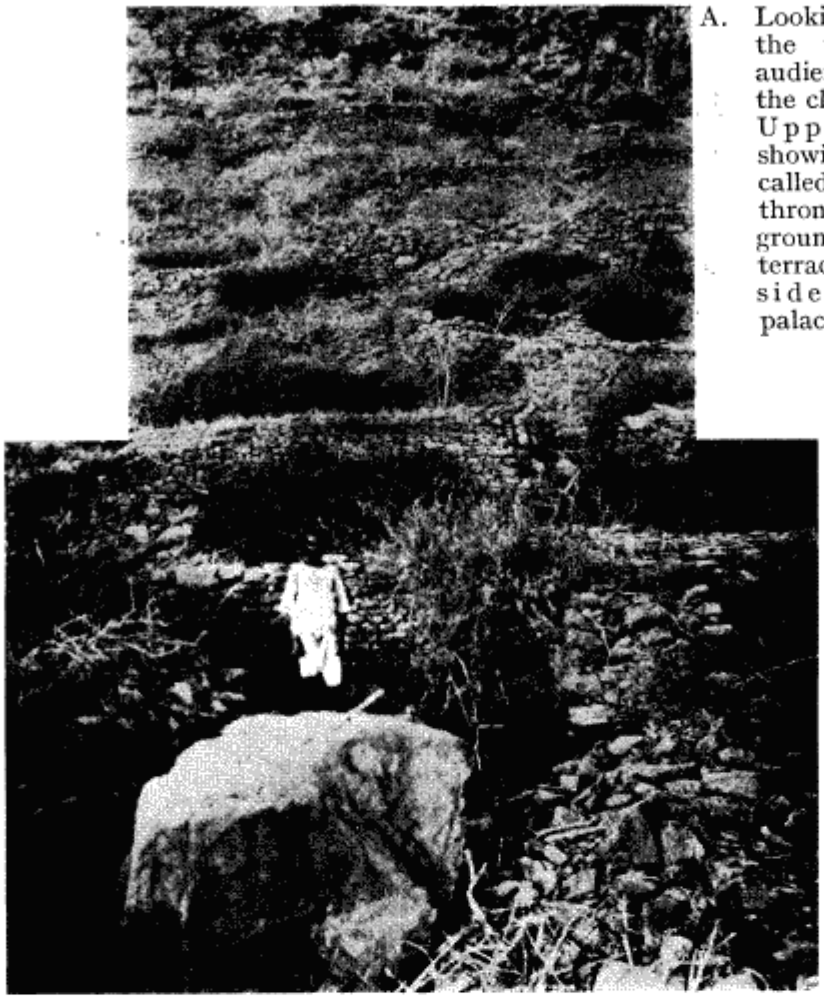
A. General view of the Upper Palace from one of the terraces, showing the platform of audience, its courtyard, the large building to the south, and presumably the quarters of the sultan's women in the middle distance.

B. The S.W. entrance to the inner courtyard of the Upper Palace, showing the platform of audience.

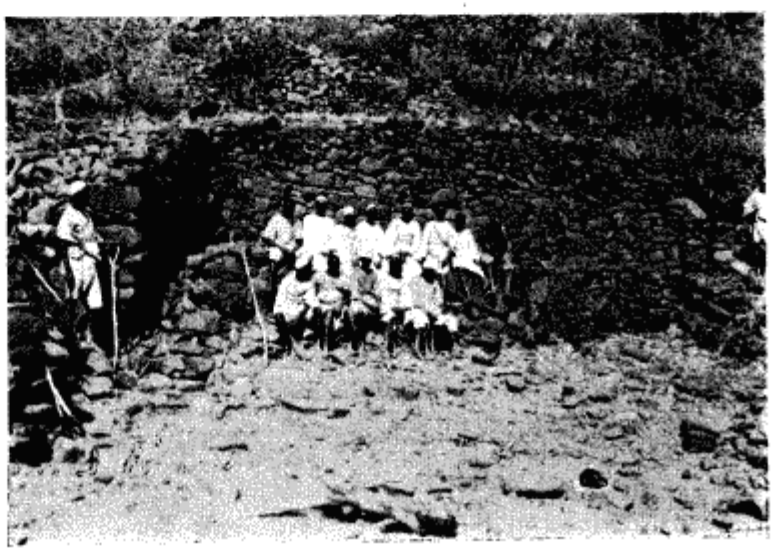




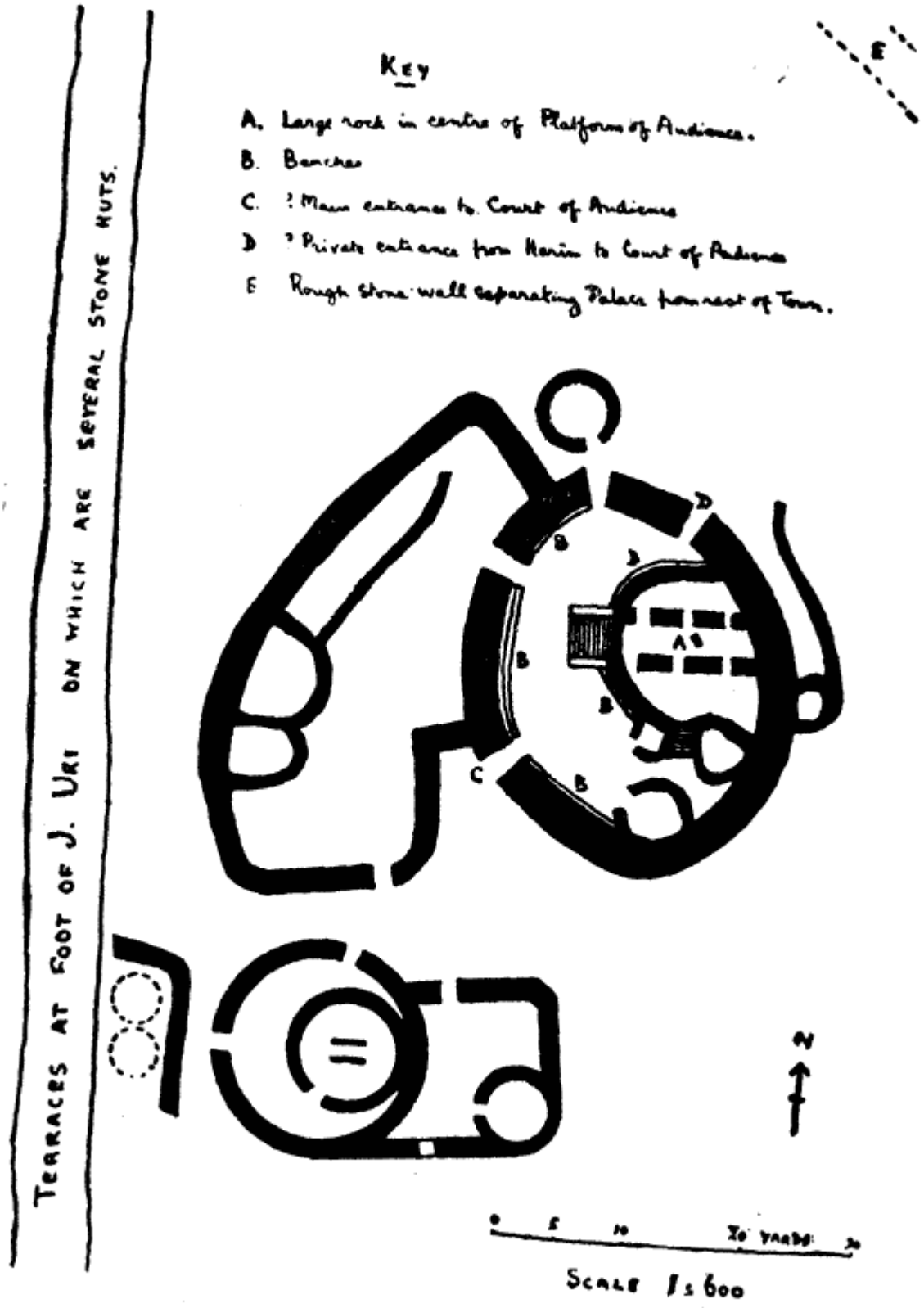
C. The main steps up to the platform of audience, Upper Palace.



A. Looking W. across the platform of audience during the clearing of the Upper Palace, showing the stone called the royal throne in the foreground, and the terraces on the hill-side above the palace.



B. Looking W. from the platform of audience (Upper Palace), showing the double tier of benches between two doors, in each of which a man is standing.



THE UPPER PALACE URI

which must have housed the royal women, the upper palace is reached. Some of the larger of these huts can be seen in the background of Pl. IV A.

In this upper palace also the main architectural feature is a platform of audience (Pl. VI), situated in a circular courtyard, whose walls of magnificent masonry still stand 15 ft. high (Plates VII B and VIII). Of the platform of audience there remains today a massive, roughly circular, wall, about 9 ft. high, up to the top of which from the west side leads an imposing flight of nine steps. Inside this wall are five masonry pillars and approximately in the centre of the space enclosed is a rock of about 5 ft. cube. This rock is said by the local inhabitants to have been the actual throne, but it can only have formed the base of a prop for the wooden floor which also rested on the circular wall itself and the pillars shown in Plates V, VI B and VIII. The fact that two and probably three fights of stairs led up to the top of this wall, which has no doorway, indicates that it can have had no other purpose. There are stone benches about two feet high on either side of the main steps up to the platform and on the outer side of the two chief entrances to the inner court yard; and between these two entrances there is a double tier of benches (Pl. VII B). One entrance leads to an outer courtyard, and the other, the more southerly one, leads across an open space to a large building, which consists in part of a circular room, that apparently once had a flat roof, standing inside a large circular compound (Plates VI A and VIII).

Rising for a hundred feet or so immediately above this palace, and filling all the space between it and the almost perpendicular side of the hill, is a series of half a dozen or more well built masonry terraces (Pl. VII A). In some of these terraces there are drain holes, and on some of them are the walls of circular huts. Huts built in this position would have been comparatively safe from fire, and since it is inconceivable that they could have been used for the houses of retainers, since they would have overlooked their royal master, it is probable that they were used as storerooms.

The numerous stone-built compounds which contain circular

huts of various sizes, and with the palace are cut off from the rest of the town by the side of the hill and the rough double wall already mentioned, must have formed the royal harem.

Immediately above the royal palace a road, elaborately engineered and several yards wide, zigzags its way up the steep hillside to the very top of the hill. In the construction of this road enormous blocks of stone have been used. With the exception of a break in the steepest part of the hill, the road remains as sound as when it was first made, although any surface it may have had has been washed away.

The summit of the hill is fortified by three walls, more roughly built than most of the walls in the town below. The doorways in the two outer walls leading to the innermost enclosure at the extreme summit can be seen in Pl. IX B. In the first enclosure a spherical iron bead was picked up. In the middle enclosure are the ruins of a circular stone hut, and a small midden containing bones, ash and a few pieces of broken pottery. The innermost enclosure contains a few boulders but no traces of permanent buildings. On one of the boulders is a groove where grain used to be ground.

The best general idea of the layout of the town can be obtained from the top of the hill. Pl. X, showing the view from the north-east, gives some idea of the size of the town, which lies all round the hill. The buildings are thickest on this side, and to the south-east (between the hill and the lower palace) and also immediately south of the hill. In the western part of the town one or two large oval compounds containing circular huts could be seen.

From the top of the hill I made my way with difficulty down its south side through euphorbia forest and thick *kitir* bush to a square-cornered stone building of outstanding size, situated at the south-west end of a comparatively low hill, and just inside the south east end of a section of the city wall, which here runs from this hill to another small hill situated a short distance west of J. Uri itself. This ruin is now known as the House of the Princess (*beit el meiram*), and is said till recently to have had a flat stone roof. In 1934 all that remained of



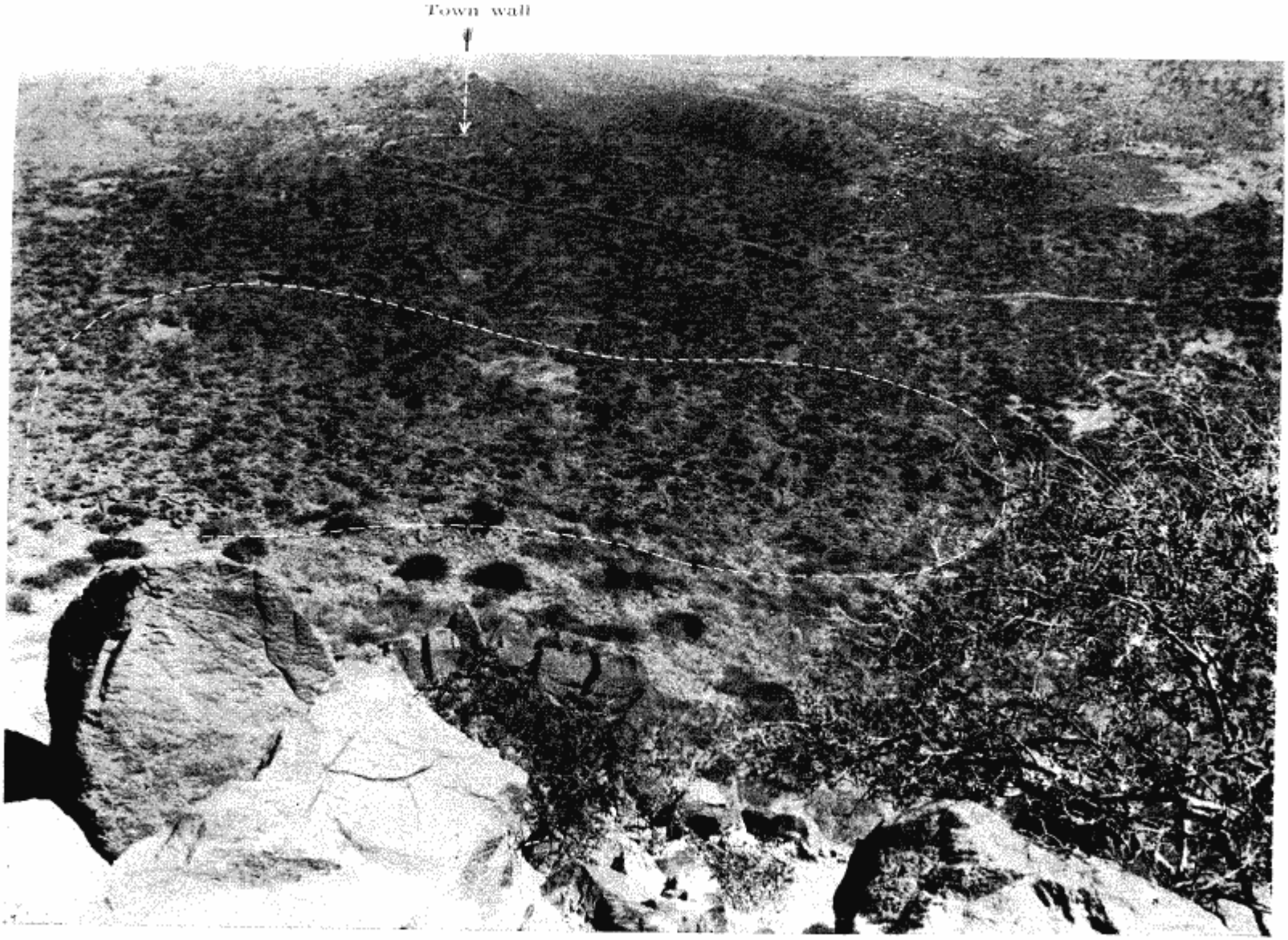
A. Two walls which divide the Upper Palace from the rest of the town.

B. The entrances to the two outer enclosures on the top of J. Uri.



C. Looking N.E. across Wadi Uri, showing the Arch Rock in the middle distance, and on the right the low hill behind which was found the grave which was excavated.





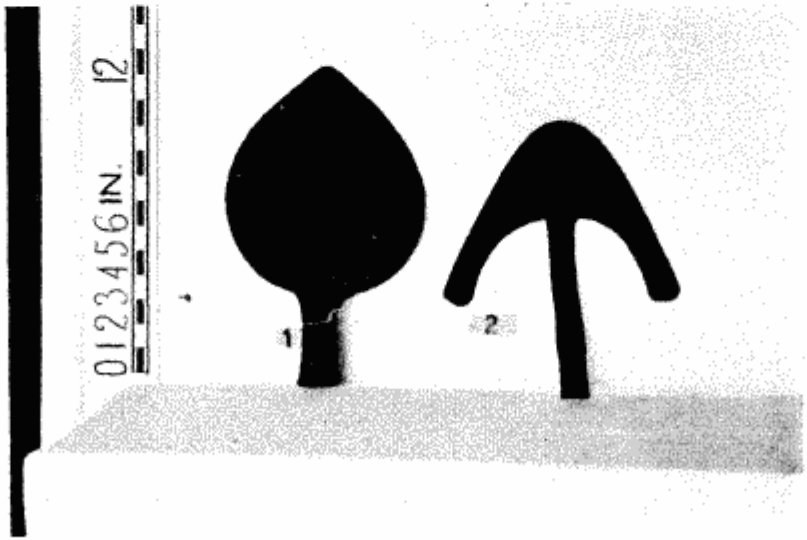
Looking N.E. from the top of Jebel Uri, showing part of the town. Note the town wall.
The area in which ~~the ruins of the~~ circular stone huts are situated is indicated by the broken white line.
most of the ruined



A view of part of "the House of the Meiram" from the S.E. corner of the roof. The man in white is standing on the wall near the passage the roof of which is still standing. Note small cubbyhole in wall of room in foreground.



A. The south front of the House of the Meiram, showing J. Uri in background.



B. Two large hoes found in the wall of a house in Uri town.

the roof was a number of long rafter-like rocks laid across a short and narrow passage. The rooms of this house are small, and connected with each other by very small and low doorways. There are small recesses in the walls for cupboards, but no windows. The building, with its attempt at square corners instead of circular walls, gives the impression of being a definite imitation of a European house. Pl. XI shows a view of three of the rooms and the roofed passage taken from the south-east corner of the roof; a cupboard recess can be seen in the wall of the room in the foreground.

Pl. XII A. gives a view of the house from its southern terrace; but the ruin was so overgrown with bush that photography was difficult, and the time at my disposal was insufficient for a thorough examination of the ruin Under the terrace, near where the man on the left is standing in Pl. XIII A, appeared to be a room to which there was no obvious entry except a slit in the floor of the terrace. This may have been a privy.

To the south of the upper palace and outside its walls are several important-looking houses which probably belonged to princes and other men of rank. Two of these houses had in their compounds low circular platforms of solid masonry (Pl. XIII A and B), which I first noticed from the air. I have little doubt that these are small versions of the large 'platforms of audience' in the upper and lower palaces, and that they indicate that the houses in which they were found belonged to sons of the sultan.

In Wadai the royal platform is said by Tunisi[6] to have been called *tirdjeh*, a name of uncertain origin, which nowadays usually indicates in Darfur a large rough defence wall (see above), and formerly also denoted the belt of uninhabited forest which separated the medieval states of Darfur and Wadai from one another as a wall. Tunisi describes the *tirdjeh* as a round *mastaba* usually about three cubits high and at least nine metres round, which in Wadai could only be built by the sultan or his sons. It was usually built between

6. Tunisi. *Voyage au Ouadai*. (tr. Perron) Plate II. and page 95. See also note 4 above.

the outer and inner walls of the royal compound. The prince sat on this platform with his scribe and often spent whole hours there in conversation. The *tirdjeh* figured by Tunisi as that used by Sabun before he became sultan of Wadai is a small and simple platform reminiscent of that said to have been used by the *qadi* outside the walls of the lower palace at Uri, in that it is shown and said to have been 'monté par un simple plan incliné'.

On the sandstone plateau between Wadi Uri and the city wall, only a short distance north-west of the well, are two peculiarly shaped rocks, the eastern of which forms a kind of natural arch and provides baboons with a resting place during the heat of the day (Pl. IX C.). These rocks are very hard, and have been left in their present position by erosion of the surrounding sandstone. I endeavoured without success to mark them with the point of a steel lanyard, but the only result was that the point of the lanyard was turned. Yet at some time, whether contemporaneous with the occupation of the city or at some earlier date, man has cut several sets of concentric circles in the rock inside the left hand side of the arch. These circles and the artificial nitches, in which the artist obtained a foothold while working, can be seen in Pl. XIV C.

In the sand east of Wadi Uri and approximately south-east of the wells are the ruins of a round house surrounded by an inner and an outer circular wall all in stone, but of less massive and skilful construction than the better buildings in the town. This ruin is known locally as the House of Dali.

Across a branch wadi along which now runs the path to Urenga wells, and near the junction of this wadi with Wadi Uri itself, have been constructed two massive rough stone walls, in each of which is a complete breach where the water of the torrent runs in the wet season. In the upstream side of one of these walls large natural roughly pentagonal cylinders of basalt, which come from a neighbouring hill, have been used and give the impression that these walls were not part of the defences of the town, as which they would have been somewhat superfluous, but that they were dams constructed in an



A. A solid stone circular platform found in one of the houses S. of the Upper Palace.

B. Another similar platform in a neighbouring house.





C. Showing at the foot of the rocks the grave after it had been excavated, with the square space outlined with stones on its N. side : also two other partially exposed graves in the foreground.

attempt to increase the water supply. The present supply would be quite inadequate for a town the size of Uri. These 'dams' were much overgrown by bush and grass, but Pl. XV A shows in the upstream side of one of them the pentagonal rocks mentioned above, the purpose of which would appear to have been to obtain greater resistance to the force of the water by utilizing rocks which fit together more closely than ordinary ones.

About half a mile north-east of Uri well, and on the east side of the main wadi, between the wadi and a low hill, is a burial ground, where considerable erosion of the soil caused by water running off the hill has exposed a number of graves. In seven or eight cases the remains of the skeletons were lying on the surface of the ground. In others the stones, with which the grave had been lined, appeared above ground level.

Near one skull were found a number of ostrich egg disc beads and decomposed iron rings: near another were found the objects shown in Pl. XVI A, viz:—

a roughly cylindrical white carnelian bead, undoubtedly made at Cambay in India.

six roughly cylindrical beads, apparently made of conch shell, and probably of Indian origin, (much decomposed).

three glass beads, one of black with a white band round it, one (badly decomposed) tube, with a number of colours running lengthwise, and one small simple green bead — all types still made at Venice, except that the black and white bead is more roughly made than would be the case today.

a small brass bead, and a small brass wire double-spiral pendant[7].

Near a third skull was found the double spiral pendant of brass wire shown in the centre of Pl. XVI B., and near another skeleton was found part of a badly decomposed iron pendant of the same design, that must have been about 3 x 2 inches in size when complete.

7. See 'The Double Spiral Amulet.' *S.N.R.* xx pp. 151-155.

On my 1934 visit Mr. R. G. Dingwall, who accompanied me, excavated three of the partly exposed burials in this cemetery. In each case the corpse was found to be laid more or less fully extended on a N-S axis with the head to the south, apparently facing east. In two of the graves nothing was found except bones, and in the third were found four cowries, four decomposed iron beads, and two small brass beads like the one in Pl. XVI A. The graves appear in most cases to have been lined at the sides with masonry, and to have been roofed with from four to seven long flattish stones resting on this masonry. In most cases a small pile of boulders was placed on top of the flat stones, or a ring of stones was made round the grave. Among the stones on top of one of the graves I found the small pot shown in Pl. XXI C.

Just downstream of this graveyard a rough massive wall, about five yards thick at the base, runs across the valley, being completely breached where the water runs in the wet season. I am not sure whether this was a defence wall or an attempt to dam the stream—possibly both, though as a dam it must have been doomed to failure in a year of heavy rain, unless covered by much soil and provided with a proper spillway.

Going a mile or so down the wadi, and then taking a track that goes east up a sandhill and passes close to the north end of the low hill that lies north-east of the burial ground just described, one comes in about another mile to other graves also exposed by soil erosion. The graves here visible appear to be rather larger and more elaborate than those in the first cemetery, and there are indications that their contents are somewhat richer. For lining several of the graves have stone-walling at the ends and individual large stones at the sides; others have stone-walling all round. The rafter-like stones which rest across this walling are rather larger and so seldom exceed five in number.

Plate XIV A shows one grave as I found it on my visit in 1934. A few ostrich egg disc beads and small Venetian glass beads known as 'pound beads', both blue and white (Pl. XVI B) had come out of

A. The north end of the grave excavated (before excavation).





B. Three partially eroded graves in the more northern cemetery at Uri.

C. Concentric circles cut in the hard rock inside Arch Rock. Two circles have been outlined in chalk and two indicated by arrows. A fifth circle may be seen to the left.





A. Pentagonal rocks in the upstream side of a wall across a tributary of the Wadi Uri.



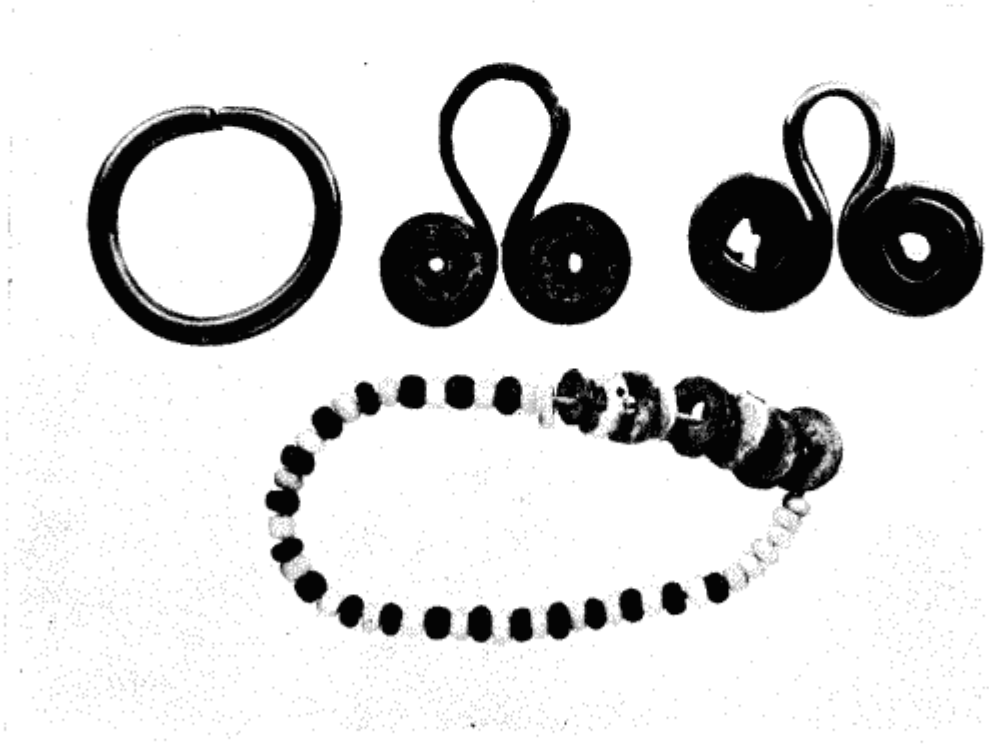
B. The skeleton in the grave excavated. Note bracelets, anklet, and rings in the hair.



C. The grave excavated.



A. Beads &c. from one burial at Uri.
1 brass, 3 glass (black and white, mixed colours running lengthwise, green), 6 conch shell, 1 white carnelian, also one double spiral pendant of brass. Actual size



B. A ring and beads from the grave excavated, a double spiral pendant from another grave at Uri, and on the right a similar pendant worn by an Aulad Suliman woman.
Actual size

the crevices between the stone-work. A few similar white 'pound beads', a small cowry and some decomposed iron beads were picked up near other graves. On my second visit in March 1935 I spent a day excavating the grave out of which the blue and white beads were coming. Plate XIII C shows the general situation of this grave. It stood close to the edge of the hill, in a square enclosure marked out by a line of stones. Plates XV B and C show the result of the excavation. The axis of the grave ran north and south. The interior measurements of the grave were 6 ft. maximum length by 4 ft. maximum breadth. As can be seen in the photographs the grave was lined by semi-circular masonry walling at the south end. The east side was lined by three large slabs of rock, and the west side lined with several massive rocks built into a rough wall. The top was closed by four long flat slabs of rock, each 5 ft. to 6 ft. long, placed on top of the side walling at right angles to the axis of the grave. When found one of these long slabs had fallen off, and excavation merely consisted in taking off two more of these slabs and carefully removing the sand of which the grave was full. The corpse was found at present ground level. Plates XV B and C clearly show how the corpse was found, lying on its right side with its legs flexed, its right hand under its head and its left hand in front of its face. Judging from the ornaments there is little doubt that the corpse was that of a young woman.

Along the centre of the head in a single line from the forehead to the nape of the neck, and clearly attached originally to the hair, as may be seen from the position of the rings behind the skull in Plate XV B, were 22 brass rings, one of which may be seen lifesize in Plate XVI. B. I am indebted to Mr. G. W. Grabham for drawing my attention to the fact that the shape of these rings is exactly that into which gold used to be made up in the Sudan. Also worn on the head in front were four discs of the same size and embossed with the same pattern as the larger discs which form part of a modern Sudanese woman's head ornament shown in Plate XVII A. This ornament is called *khurūs* after the two ear-rings, and is said to be worn all over the Sudan, but not in Egypt. The larger discs of the *khurūs* ornament are called *sherīfi* and the smaller *sheiāl*. In the head dress figured

all the discs are of gold, but the discs found in this grave were of very thin brass and dropped to pieces when touched.

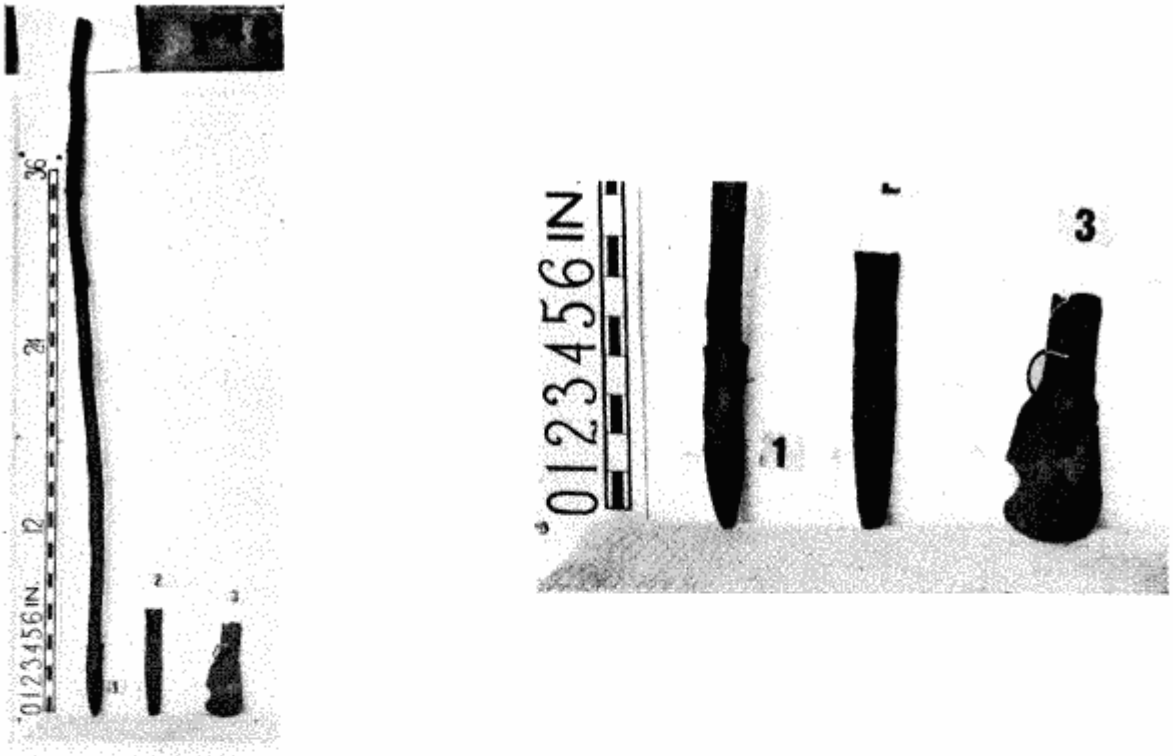
Under the skull, and thus apparently worn in the hair on the right side of the head were four cowries. Also on either side of the skull was a brass ring with pendant attached, (Pl. XVII B. figs. 3 and 4). The brass had become very fragile, and the ring in fig. 4 was accidentally broken in transport. I am not sure whether these pendants were worn in the hair or the ears. Behind the skull and presumably dependent from the hair were three agate beads, which are figured in my article entitled 'Cambay and the Bead Trade' in '*Antiquity*', Vol. X. Plate III, fig. 22. I have no doubt that these agate beads were made at Cambay in India; they are almost identical with some, which date from the sixteenth century, in the Tradescant collection at the Ashmolean Museum. Round the neck were at least two strings of ostrich egg disc beads, and there were strings of these beads also round the arms. A string of many light blue and a few red Venetian 'pound beads' was also round the neck, and round the waist and also probably round the ankles were numerous ostrich-egg disc beads, and darker blue and also white Venetian 'pound beads', of which a few specimens, together with some of the ostrich-egg disc beads, are shown in Plate XVI B. Specimens of these glass beads have been submitted to the Consorzio Vendita Conterie at Venice, who confirm that the beads are of Venetian manufacture, although it is impossible to date them, since beads have been made there by the same process for centuries. Round each wrist was a plain brass bracelet (Plates XV B and XVII C figs. 1 and 2). Round the right wrist also was an iron bracelet so decomposed that it fell to pieces. Round each ankle was a rather more massive brass anklet with thickened end. (Plate XVII C figs. 3 and 4).

Some idea of the culture of its earlier inhabitants may be gathered from the implements and ornaments that have been found at Uri. Plate XII B shows two hoes that were found together in a crevice in the stone wall of a house in the town. Fig. 1 is a very heavy blunt hoe, of the type known in the Sudan as *gilmoi*, which is used for sowing

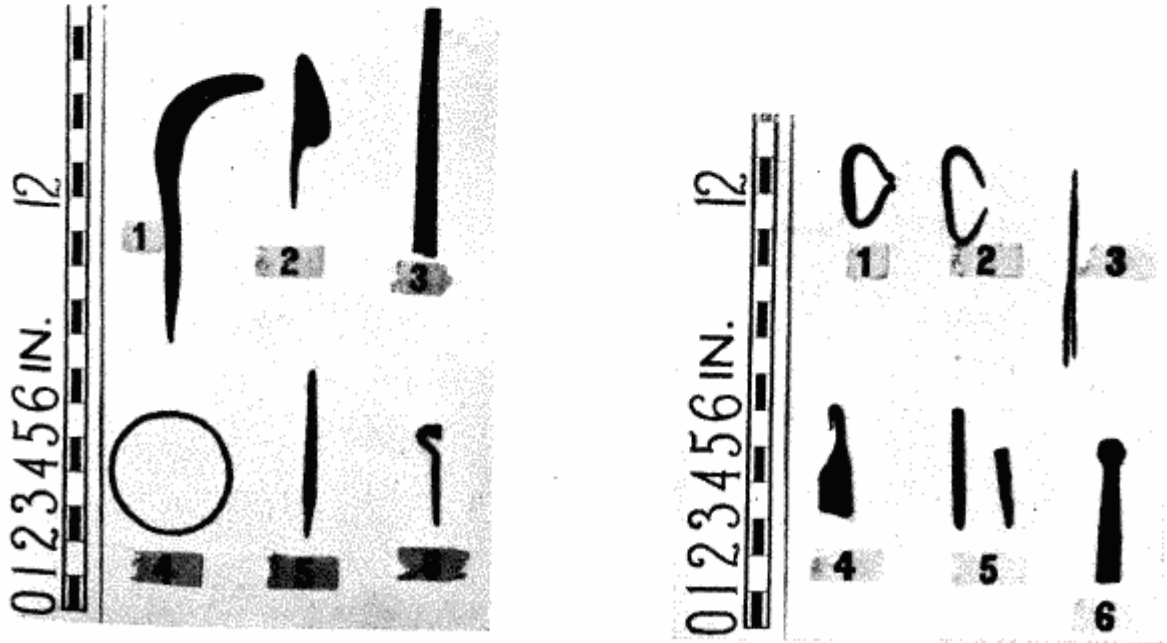
A. Modern Sudanese woman's gold headdress, called *khurūs*.

B. Two of the 22 rings and the two rings with pendants—from the grave excavated at Uri.

C. The bracelets and anklets from the same grave.



A. A modern iron-shod digging stick from the Furnung hills, and 2 similar iron points said to have been found in the ruins at Uri.



B. C.

Iron objects from the ruins at Uri (with the exception of C2, which is a modern steel, still in use in the neighbourhood).

Fig. 2 is a peculiar type of hoe [8] used for weeding crops in sandy ground. Plate XVIII A, figs 2 and 3, show two types of iron points for digging-sticks said to have been found in Uri town. Fig. 1 shows a similar point mounted on a stick as used today for making holes in stony ground by the Fur of neighbouring hills, who call it *kebi*.[9]

Plates XVIII B and XX C give various objects of iron or steel which were obtained (unless otherwise stated) at Uri from local inhabitants, who said that they had been found in the ruins. In Plate XVIII B, fig. 1 is a grass-cutter, and fig. 2 is a knife similar to the type still in use in Darfur for cutting leather. Both of these once had wooden handles. Fig. 3 is a knife of European origin, which once had a handle rivetted on to its lower half. Fig. 4 is a native-made iron ring presumably for the upper arm. Figs. 5 and 6 are a screwdriver and a wall-hook of European origin that I found together in a cache in a house to the south of the upper palace. Plate XVIII C fig. 1 shows a steel for making fire with flint and tinder picked up in Uri town. Fig. 2 shows a similar steel (*zinat*) still in use in the neighbouring hills today[10]. Fig. 3 are tweezers of iron. Fig 4 is an iron bell. Fig. 5 shows two socketed ? arrow-points. Fig. 6 is also socketed, but its purpose is obscure. It may be spear butt.

In the lower palace a number of reaping knife (*tigda*)[11] blades were found. I was told at Uri that in the Mahdia a tanged axe, such as is now only used in Darfur by Tuareg (Kinīn), was found in the ruins. (Modern Darfur axes are all socketed).

Plate XIX A shows a number of spear-heads and knives which I obtained from the local inhabitants and which I was told all belonged to the former inhabitants of the ruins. I am only really doubtful about fig. 9, which may well be part of a modern Zaghawa sword (*jugadi*), and fig. 10, which is a razor of the type still in use today. Fig. 1 is a pointed spear of the type known as *selatiya*, and is unusual in that

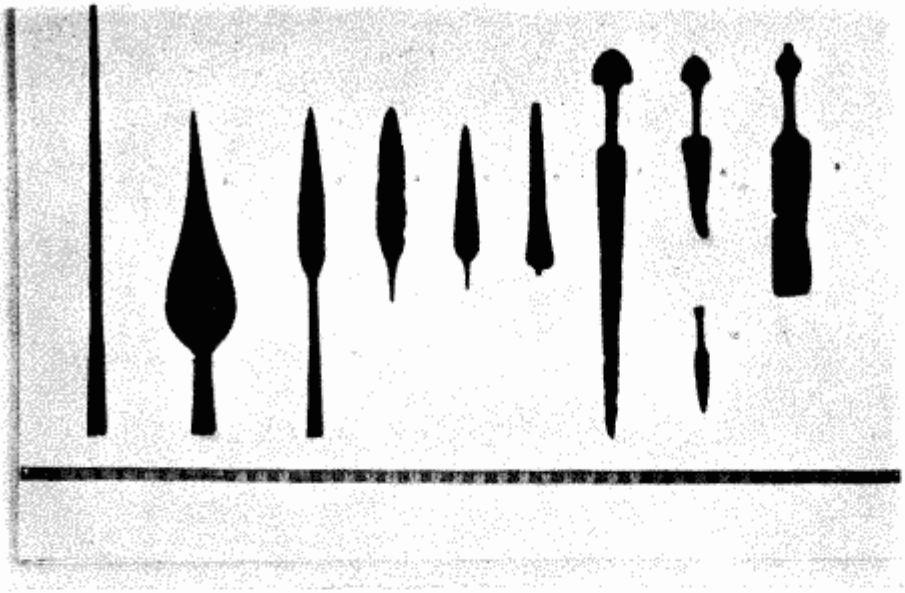
8. See 'An Extinct Darfur Hoe.' *S.N.R.* XX pp. 146-150.
9. *Kebi* means iron in the Berti language.
10. See 'The Steel and Tinder in Darfur'. *S.N.R.* XIX 320.
11. See 'The Tigda or Reaping Knife in Darfur' (*S.N.R.* XX pp. 306-307) in which some of these blades are illustrated.

it has a square cross section above the socket. Fig. 2 is a ribbed spear-head of a type not used in Darfur today, which was found near the upper palace. Fig. 3 is a spear-head that was found in the northern burial ground. I am not certain whether figs. 5 and 6 are the blades of spears or of knives. Fig. 4 is heavy and ribbed and therefore may be a spear-head, although tanged spear-heads are unknown in Darfur today. Fig. 5 is probably a knife blade. Fig. 6 is almost certainly part of a knife similar to fig. 8. Figs. 7 and 8 are a type of knife still used in Dar Masalit, Wadai, and further west, but not elsewhere in Darfur or farther east. Fig. 7 is ribbed, but fig. 8 is not. Knives bent as fig. 8 is, are common exhibits in stabbing cases in the Sudan, and one imagines that this knife may have been used in earnest in the final sack of Uri.

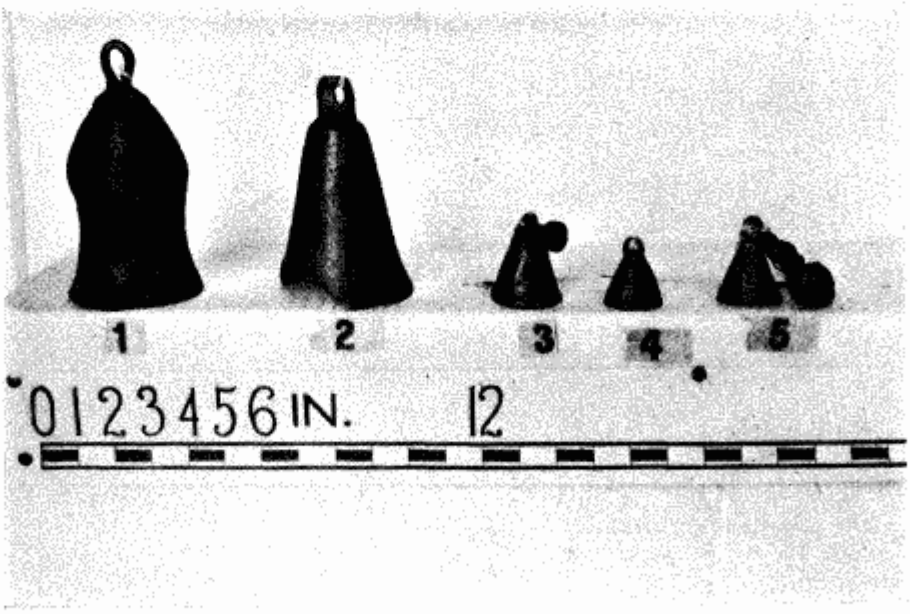
Plate XIX B shows (figs. 1-4) a number of brass bells said to have been found among the ruins. For comparison two bells made recently (by *cire-perdue* process) by Gorān of Borku (fig. 5) are also illustrated.

A number of bracelets and rings of iron, brass, and other yellow metals, all of which were said to have been used by the inhabitants of the ruined town, and which, except when otherwise stated, were said to have been found by local natives in the burial grounds already described, are shown in plate XX :—

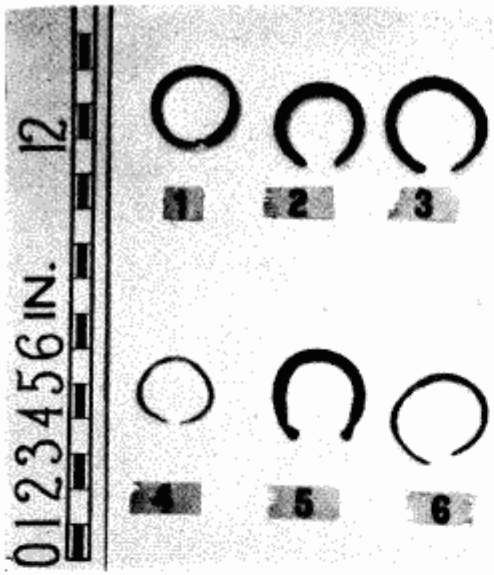
A 1 is of yellow metal (very like gold), has a design reminiscent of two snake's heads, and is of undoubtedly foreign origin.
A 2 is ? of brass, and probably foreign.
A 3 is of white metal, showing rust, and is of foreign origin. It came from the north cemetery.
A 4 is of iron, and of local manufacture.
A 5 is of iron, and was said to have been picked up in the ruins
A 6 is of iron, and of local manufacture.
B 1 & 2 are an anklet and bracelet of brass from the same grave in the north cemetery.
B 3 is an anklet of ? brass.
B 4 is a bracelet of ?.....
B 5 & 6 are anklets of ? copper.



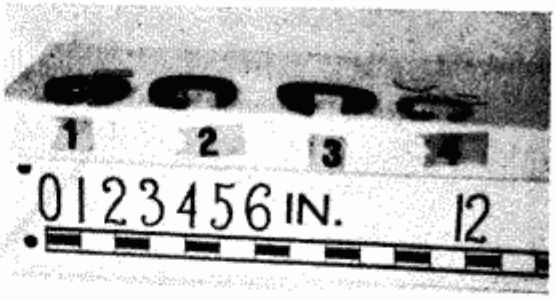
A. Iron spear-heads and knives said to have been found at Uri.



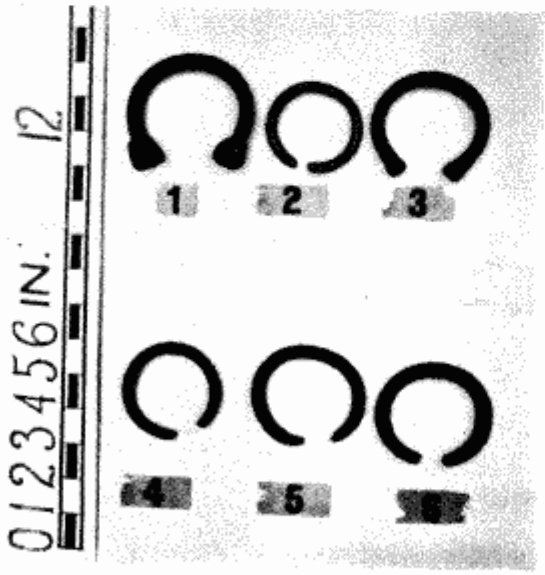
B. Bells found at Uri (with the exception of No. 5, which is modern).



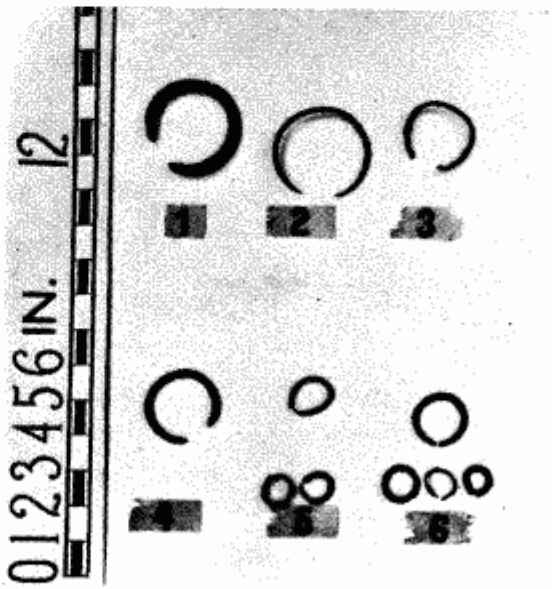
A.



A[1]



B.



C.

Bracelets, anklets and rings, found at Uri.

Presumably all the above are of foreign origin, although similar ornaments are now made in Darfur by the Tuareg and some other smiths, who have learnt the *cire perdue* process from them.

C 1-3 are bracelets of yellow metal.

C 4 is a bracelet of iron.

C 5 are rings of yellow metal.

C 6 are rings of iron.

In addition to those beads already described a number of old medieval Hebron beads, such as are described by Tunisi as being imported into Darfur in large quantities at the end of the 18th century, were produced by the local inhabitants, and said to have been found in the ruins. Excavation will be required to prove whether these beads were used by the earlier inhabitants of Uri, though I suppose that this type of bead may have been made in Hebron at the date of the founding of Uri and even earlier, and I have found similar beads in association with stone ruins of approximately the same date elsewhere in Darfur; it may therefore be only accidental that no beads of this type were found in the graves which were excavated[12].

The pottery, of which a few examples were found among the ruins, and which may not belong to the earliest inhabitants, is very similar to the mat-impressed ware made by the Fur today.[13] The damaged *duani* and *burma* from houses south of the upper palace (Pl. XXI A) are indistinguishable from modern Fur ware. A broken *burma* of similar type containing the decayed remains of grain was found apparently built into one of the stone walls surrounding the upper palace, and gave the impression of having been a sacrifice built into the wall to ensure its strength, but it is possible that it may have been hidden there at a later date. A small pot (Plate XXI B), found in the same house as the *duani* etc. already mentioned, is rather slimmer and more graceful than the present day *sukhkhāna*. Some other fragments of pottery picked up in the ruins include the neck of a

12. See 'Hebron Beads in Darfur'. *S.N.R.* XX. pp. 300-305.
13. See 'Darfur Pottery'. *S.N.R.* XXII. pp. 79 ff.

dulang (Pl. XXI D 1) and part of a *sukhkhāna* (Pl. XXI D 3) indistinguishable from present day types, though the upper part of a pilgrim bottle (Pl. XXI D 2) is unlike the present day *ibrik*, and water-jars of the thickness of the fragment shown (Pl. XXI D 4) are quite unknown today. The small rough pot already mentioned (Pl. XXI C) is also strange.

Local Tradition.

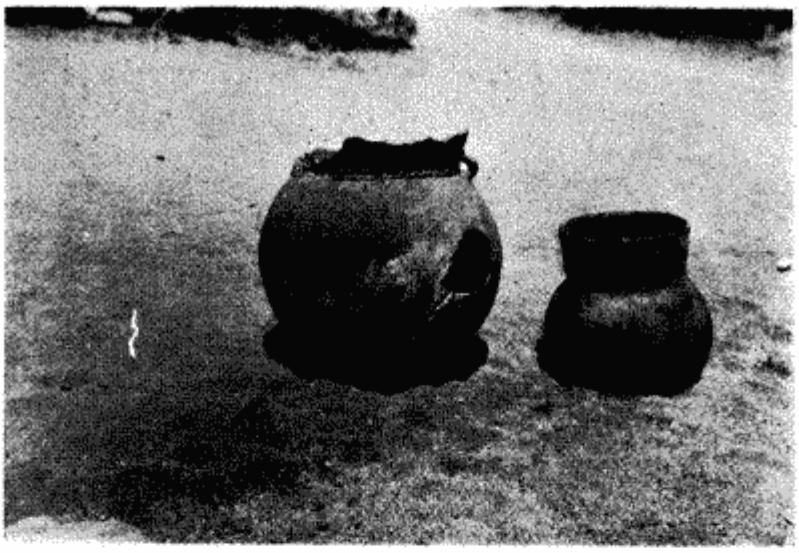
The local wiseacres, led by old Ahmed Hamid, who described himself as 'Lord of Uri' (*sīd el jebel*) and stated that he was a Tunjur Kirāti descended by nine generations from Show the original founder of the town, said that Show was a light-coloured man who owned many horses and much chain-mail, but had no firearms or camels, and ruled over reds and blacks alike. He was raided by Magharba (westerners), who had firearms and rode on camels and came from the north. They said that the original name of Uri was Jebel el Tūm, 'the hill of the sword hilt', because it was the royal residence [14]. They thought that Show was a pagan, although they had always been told that the lower palace was the mosque, and could not explain the discrepancy. Pressed for further information they took refuge in the story, told all over Darfur where any ruins of pre-Suliman Solong age are found on a hill, of how Show used to live on the top of the hill with his horse, and a long line of slave girls passed pots of water to them from the well to the top of the hill.

They also pointed out the site of Dali's house already mentioned, and had a vague tradition that Dali was a eunuch, one of the Kongāra, who quarrelled with Show and tried to become sultan. He never became sultan although he administered the town after Show's departure.

They also believed that Suliman Solong was the grandson of Show, and had no idea that he ever went to Turra at the north end of Jebel Marra or that he was buried there[15].

14. This name would appear to be connected with the Fur name for the royal spear, *kor dōmi* that was carried before the royal drums and with the name of the Tūmiŋa sections of Fur in Jebel Marra who were once royal slaves.

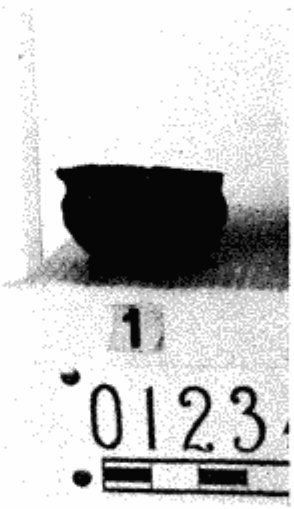
15. See *S.N.R.* XX. 103, and IX. (2). 77.



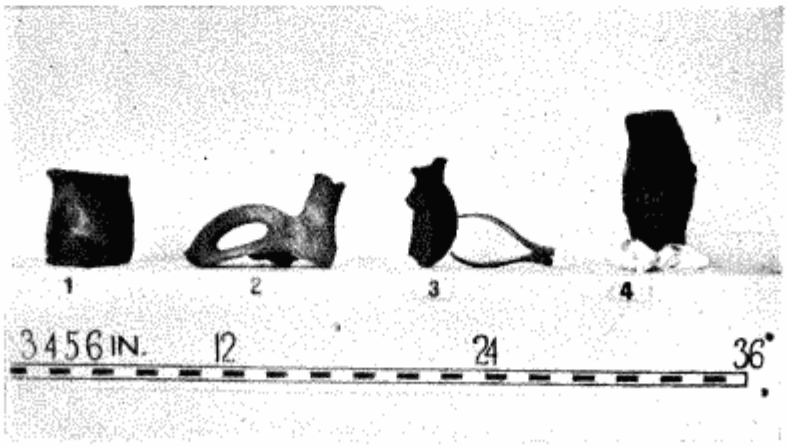
A.



B



C.



D.

Specimens of pottery found at Uri.

Conclusion.

With only a rapid and superficial survey no more than a tentative conclusion can be reached as to the historical origin of a town, that, judging from its size alone, must at one time have been the capital of Darfur. It should however be noted that Uri is situated at the junction of two very important trade routes, the *Derib el Arbaʿīn*, *via* Wadi Howar and Bir Natrun, to Egypt, and the road, still used by occasional 'Fezzan' caravans today and which must have been much more important in the past, which leads *via* Umm Buru, Furawia, Umm Geras, Fada, Gatrun, and Murzuk to Tripoli. The beads and bracelets hitherto found at Uri may have come by either of these routes. Similarly double-spiral amulets are still found in Egypt, but may equally well have come from Tripoli, since today they are only worn in Darfur by women of the Aulad Suliman and similar tribes, who came from Tripoli *via* Kanem only one generation ago. One such charm is shown on the right of Plate XVI B. The knives seem to indicate a connection with the north-west.

The tradition of attacks by Magharba armed with firearms also points to connection with the west rather than the East, and sounds to me, unless it is a reference to the coming of the Arabs from Egypt in the thirteenth tentury, like a reminiscence of the Moors who owing to their firearms were able in 1591 to overthrow the empire of Songhai, which had in the earlier part of the same century absorbed Melle, the Hausa states and Agadez. Further eastward expansion of Songhai had been checked by Idris Alōma, the powerful king of Bornu, who also possessed firearms. But in 1603 on the death of Idris his empire broke up, and it is not improbable that adventurous bands of Moors may have reached Darfur early in the seventeenth century after overthrowing Songhai.

Dali, the slave who ruled Uri and yet was not sultan, as we have seen in the second paper of this series,[16] when discussing the ruined palaces of Turra, was probably Dala Afnu, who between 1526 and 1545 governed the eastern parts of the empire of Bornu after the final

16. *S.N.R.* XX p. 91-105.

defeat of the Bulāla. The foundation of Uri town according to local tradition, which must be accepted until proved incorrect, preceded the building there of the house of Dali. The two most probable hypotheses will then be, either that Uri was the headquarters of the Kanemi administration of Darfur during the tremendous expansion of the empire of Kanem under Dunama Dabalemi 1221-1259, when it is stated in the Bornu chronicle of Imam Ahmed [17] that the dominion of Kanem extended as far east as the Nile ; or that it was at some time during their supremacy a capital of the Bulāla, who dominated Kanem between 1386 and 1472, were finally defeated by Idris Katargarmabe of Bornu (1504-1526) and appear to be the same as the kingdom of Gaoga, which was described by Leo Africanus at the beginning of the sixteenth century as ' bordering westward upon the kingdom of Borno and extending eastward to the confines of Nubia '[18], and presumably therefore included Darfur and Kordofan.

Written in 1936.

17. See Barth. *Travels in Central Africa* II p. 279, Nachtigal, *Sahara und Sudan*, II p. 401 and Palmer. *Sudanese Memoirs* I. pp. 16 etc.

18. See Pory's translation published by the Hakluyt Society. p. 834 ; also p. 128. I prefer the former hypothesis, for I can find no trace in Darfur of a tradition that it was ever subject to the Bulala, and it seems that Leo must have been mistaken in thinking that Gaoga and Nubia were contiguous. Presumably his mistake arose from the fact that Gaoga was the easternmost kingdom he visited when in the Chad Area, and Nubia was the southwesternmost kingdom he heard of when he was in Egypt.

Similar stone ruins have however recently been reported of Mr. R. C. Wakefield and Mr. J. M. Edmonds from the country between Uri and the Nile Valley (*S.N.R.* XXIII 295 ff.) and another possible solution is that the kingdom of Uri is not unconnected with the kingdom of Meroe, which came to an end in the fourth century of the Christian era. Further study may show that some of the features of Uri can best be explained as being derived indirectly, if not directly, from Meroe.

OYSTERS, PEARLS AND PEARLING IN SUDAN WATERS

By G. R. Millward

I. Historical Outline.

John Lewis Burckhardt.

In 1819 John Lewis Burckhardt, intrepid Swiss explorer of Africa and its northern seas, wrote :

" In the course of the morning we passed the tomb of a Sheikh called Berghout, with a cupola over it, built on the beach by Souakin sailors, who revere him as a protector of mariners."

Thus he described passing what is now Port Sudan. This was on July 9 ; on July 14, the dhow in which he was passenger having been across to the other side of the Red Sea and back again, he wrote :

" There is a large bay extending considerably inland, called " Mersa Dongola " (Dongonab) " with an island at its entrance : it is well known for its rich pearl fishing. The captain of our boat had once been there and brought home a considerable quantity of pearls of middling quality, which the Sherif Ghalib afterwards took from him at Djidda. He told me that the bottom of the sea in the bay was full of pearl oysters, and that they may easily be fished, as the water is not very deep. It is not however frequented at present for pearl fishing, partly because the treacherous character of the tribe who inhabit the harbour is much dreaded, but chiefly because the ship-owners are fearful of its being said that they have found treasures of pearls, which would immediately attract the attention of the government at Djidda."

Well may it be that this reference to the pearling potentialities of Dongonab attracted the attention of Henri de Monfried and other adventurers, to whom the attractions of a roving life were enhanced by the chance of " turning a penny ". Whether the penny was legitimate or not depended on the point of view and the often obscure legal aspect.

The Sudan Government.

The first official record in Port Sudan of anyone attempting to establish a properly constituted pearl fishery is that in July 1905 Dr. W. A. Herdman, professer of Zoology in the University of Liverpool, submitted a report at the request of the Sudan Government. It was based upon the investigations of Dr. Cyril Crossland, who had made a detailed examination over a very large area—including Dongonab and the Shubuk Channel of Suakin. It recommended that the Pearl Fisheries should be protected and exploited. A summary of Dr. Crossland's activities is given later on in these notes.

Monopoly of Suakin Merchants,

When Dr. Crossland's Government-sponsored fishery was closed in 1921, (leaving 800 bags of shell which were auctioned and bought by Sheikh Mohd. El Berbery), sole fishing rights of the bay of Dongonab were granted by the Sudan Government to two well known Suakin merchants, El Sayed Omar El Safi and Sheikh Said Baasher, who later admitted Sheikh Mohd. Salih Bazara as a third partner. They paid £E. 2,000 to the Government for a two year's monopoly. During this period the partners collected plentiful quantities of shell, but very few pearls. They managed to cover expenses however, and put down the lack of profit to their lack of experience in pearling. They say that there were no experts available at that time.

Reading between the lines, one may reasonably conjecture that an 'expert' in pearling is a man skilled in ensuring that as many as possible of the pearls fished are handed over to their legitimate owner. Add to this, knowledge and experience in oyster fishing, integrity, and so forth, and it is hardly to be expected that such experts are easily come by.

It is interesting to speculators to realize that if the three sheikhs' total expenses, including monopoly charges, were £E. 3000, about one hundred tons of shell at the then price must have been fished. That quantity of shell at present prices would have brought in £E. 18,000 or somewhere near it.

Depredations of Dhows.

Between the closure of the monopoly and 1931 the Sudan pearl fisheries were apparently forgotten by all except the raises of dhows of any Arabian locality who thought it worth while to engage in pearling. Judging by the proportion of undersized shell in present consignments that arrive in Flamingo Bay (Onguye), a few miles north of Port Sudan, conditions in the fisheries must indeed have been favourable to allow of survival to maturity of the large numbers that obviously escape the depredatory methods of the Arab fishers. Presumably in those days, as now, they filched any and every shell that came to hand without regard to size or worth.

Monsieur de la Rivière.

In 1931 however, a M. de la Rivière, who resided in Addis Ababa, was given a recommendation from the British Minister there to the Sudan Government that he should be allowed to fish for sponges, pearls, and shell, in the seas bordering the Sudan. He ultimately obtained his permit, and also sought and obtained similar concessions for the territorial waters of French Somaliland, Eritrea, British Somaliland, the Indian Ocean, and the Gulf of Aden—quite an area.

He purchased and equipped the auxiliary motor schooner ' Altar ' of which he wrote, " .....is commanded by my friend Captain of Sloop of War of the late Imperial Russian Navy, A.I. Benklevsky, refugee in Abyssinia for seven years..... the second in command another refugee named Tribat settled at Djibouti since the war ". The four professional divers were engaged in France, three being Russian refugees, and the fourth a Greek from the Dodecanese. Altogether, the international and romantic character of the scheme is calculated to excite our interest and imagination, and it is a pity that the records leave us in the air as to subsequent developments. As far as the Sudan was concerned they were apparently nil, for the written permit is still in the Commissioner's office, Port Sudan, awaiting collection by M. de la Rivière.

M. Cristo Corfus.

Half-hearted projects have materialized from time to time,

especially during the last few years, when restrictions in supply have sent the shell prices soaring. Until 1944 however there was no further organized attempt to exploit the riches of Dongonab, when M. Cristo Corfus, a Greek diver originally in the service of the Sudan Railways, hopefully promoted a pearling venture. He expected to find beds rich in shell far beyond the depths that could be reached by the native divers. Not only should the shell at those depths be larger, but also the larger the shell the more likely to contain pearls.

In the summer of 1944 he had surmounted all difficulties regarding craft, linesmen, pumpmen, diving units and gear, stores, rations and so forth, and was equipped for a tour of some months at Dongonab, with transport for five tons of shells by sea. According to M. Corfus, when he dived in the area said to be rich in shell he found comparatively few, certainly not the oyster El Dorado he had been led to expect. He was left in doubt as to whether he had been misdirected, or whether the shell crop had failed, either through some change in local conditions or through overfishing by indiscriminate methods.

However, the older generation of Port Sudan merchants find it difficult to accept the possibility of failure of oyster beds that have been so productive for so many years.

* * *

II. Pearls and Shell

It is often supposed that pearls are the main objective when divers endure the considerable risks and arduous task of retrieving pearl oysters from shark-and barracouda-frequented seas, with always the temptation to dive ever deeper for the larger oysters. Indeed, evidence in the form of piles of discarded shell, such as are to be seen on the island off Agig and elsewhere, tend to prove this supposition would have been correct if appplied to the early days of pearling. The commercial value of mother-of-pearl in those days was either not fully realized, or could not be fully exploited from Sudan waters, maybe because the venues of trade were such that the transport of bulky shell paid no dividend, particularly from such comparatively

remote spots as Dongonab. Possibly buttons were not in such demand during the last century or so, or perhaps the potential value of mother-of-pearl for this purpose was not then realized. However this may be, it emerges that by 1900 the picture had changed, and the value of the large amount of shell that had to be procured per pearl was realized as a real asset. Its attraction as an asset was not inspiring in the way that dreams of large hauls of perfect pearls was inspiring, but it had the solid tangible merit of underwriting part of the large element of risk in pearling projects. There would be another less desirable repercussion, for it is reasonable to suppose that the demand for shell would have an unfortunate effect on the fisheries—weight, in bulk, of assorted sized oysters was now in the criterion; immature shells would no longer be immune, because they were too small to harbour pearls.

* * *

III. Enemies of Pearl Oysters.

One of the first considerations of a highly organized pearling venture is to protect the embryo oysters and to restrain their movements. Judging from an appraisal of the expectation of life of a young oyster by Dr. Crossland, who conducted the Dongonab fishery between 1905 and 1921, it is surprising that any survived at all. The female oyster contains perhaps a million eggs, which are discharged at intervals as puffs of milky water; on mingling with the sperm discharged by the male oysters in the vicinity, the eggs are fertilized and development begins. Also the peril. It seems that the vulnerable embryo oysters drift about at the mercy of the currents and fish population, until after some days, if still unswallowed, they develop a shell, and sink. Here their chance of survival depends on their luck in making a happy landing. If they sink on mud or shifting sand they are smothered or cut to pieces; live coral destroys them; only those that meet with clean stone in sheltered yet circulating water can live. When quite young the oyster can move like a snail, but when once fixed properly it does not move again. Until they are a year old they may be attacked by fish with a special crushing apparatus, which devour

them shell and all. Even then they are not safe, for the big sting rays prey upon them. These are described by Dr. Crossland as " gigantic flat fish square in shape, ten feet or more across, with a tail like a driving whip and armed with serrated poisonous spines. To tread on one, I am told, is death ". (If this is so, the present writer had a narrow escape near the reef off Port Sudan, when he nearly trod on one that had camouflaged itself, after the manner of the species, by undulating its peripheral fin until the clouds of sand thus raised had descended all over it, rendering it invisible on the sandy bottom).

But for the next ten or twenty years the oyster is comparatively safe, and apparently need only fear the intrusion of a snail-like shell fish, which, according to an important discovery made by Dr. Crossland, gets inside the shell and into the flesh of the oyster. He also discovered methods of dealing with this parasite. Later on in life and up to the venerable age of ninety the oyster becomes attractive, or vulnerable, to a type of boring mollusc (*eithodomus*), sponges (*clione*), worms (*folydora*) and even young oysters, which count themselves lucky if they land beneath the paternal oyster shell, and make inroads on its means of sustenance. In short, only one in a thousand can hope to survive all these hazards.

* * *

IV. Dr. Crossland's Technique.

Dr. Crossland's concern was to create artificial conditions favourable to the collection and preservation of the ' spat ', as young oysters are called. With untiring perseverance and exhaustive trial and error he evolved successful ' collectors ' which consisted of tarred, slatted boxes ten feet by three. Free passage for the currents was essential. Each box held about two hundred half-inch boards with two inch mesh wire netting over the top to keep off would-be intruders. By means of these collectors it was hoped that expectation of life would increase ' from hundreds to millions '. At the time the procedure was for the collector boxes to be sunk in the vicinity of breeding oysters, usually in eight to ten metres of water, each box with its marker

buoy. After six months the tiny oysters which had settled were picked off and strewn on frames, often referred to as 'angareebs'. They were similar to the familiar angareeb in shape and construction, but had wire netting instead of rope, and the frames were of bamboo. These were sunk in 'gardens' in about two metres of water, which were surrounded by 'walls' of fine mesh netting to keep out the pests already described, chiefly the 'cockyan' snail. After one year, the angareebs, complete with livestock, were moved to a similarly protected but deeper garden—three to four metres of water—where they stayed for another year. The oysters then experienced their fourth and final move, when the angareebs were again lifted, and the approximately three-year-olds were detached from the netting and placed in eight to ten metres of water in selected areas. There they were at liberty to take up residence at suitable sites, and there they stayed until ripe for collection, probably six to eight years.

* * *

V. Conditions at Dongonab During Dr. Crossland's Time

Returning to conditions in 1905, one of Dr. Crossland's particular concerns seems to have been to prevent small shell being taken by avaricious fishermen. He tried again and again to impose a standard —minimum of about five inches across—under which shell might not be lifted. Eventually he seems to have met with some success, and was able to insist on the registration of sambouks and their houris, and regular inspection of their hauls. A fine of ten full sized shell was imposed for each undersized one found. An ordinance was drafted to cover this and other matters affecting pearl fishing in the Sudan, but there is no record of its implementation. Nowadays it requires but a cursory inspection of the piles of shell already mentioned on the foreshore at Onguye to be convinced of the soundness of his policy. The proportion of shell under two inches is evidence enough that wanton methods are despoiling the fisheries to the ultimate disadvantage of the fishermen, and also the disadvantage of the Sudan, in that the potential wealth of the country is being exploited unwisely.

An interesting sidelight on conditions at Dongonab during Dr. Crossland's time is given by Mr. V. Voutsianos, who was present from 1919 to 1921 representing Messrs Caterello Bros, contractors for the supply of provisions and general needs of the 1,500 persons employed at the fishery. He says that the utmost secrecy was maintained with regard to experiments made with the object of discovering exactly what agency caused an oyster to produce pearls, with the aim, of course, of wholesale employment of that agent, deliberately, to produce pearls in every oyster. On one occasion, says Mr. Voutsianos, a certain Bimbashi visited the fishery, without having obtained the necessary permits. He was given exactly one hour to clear out. From six in the evening to three next morning Dr. Crossland and his assistant Mr. H. B. Johnstone, (who represented all Africa in the Rome Conference of Marine Biologists in 1934-5), stayed in their Dongonab laboratory; forbidden ground for anyone else, including other British personnel.

It is possible that not only secrets but pearls were being guarded in the laboratory, though it is true that pearls are seldom mentioned in the Doctor's filed reports.

Only one allusion is made, in a letter discussing methods of grading and transport, without, as far as a reader can see, any inclination to the view that their value could materially influence the financial set-up of the fishery. It may be that there is a top secret file somewhere that deals with pearls, for considering the number of oysters taken up, which ran into millions, it is certain that pearls there must have been, in quantity. Perhaps it is in the quality that we would discover the key to the mystery. Burckhardt's allusion to "pearls of middling quality" may provide a clue. An impression is certainly gained by casual inspection of pearls of queer shapes, sizes and colours brought in from time to time, that Dongonab pearls are far from perfect, but this may be misleading, for perfect pearls are rarely displayed; indeed their origin and ultimate destination appear to be matters in which only the pearl connoisseurs are conversant among themselves.

* * *

VI. Reasons for Abandonment of Government Scheme

Reading through the documents which record this major enterprise of the Sudan Government, the dominating figure of Dr. Crossland emerges as a man whose interests were primarily scientific. Secondly they seem to have been the same. For him, the blandishments of obvious byways leading to quick returns had no power. He was practical, certainly; there is ample evidence of the soundness of his technical ideas; he was not of the absent minded professor type at all, but he had a one-purpose mind. There is something sublimely relentless in the way he pursued his investigations from step to logical step; the passage of time and the expenditure of formidable sums of money deterred him not one whit. It is a safe bet that this exalted trait caused a good many aches in the heads of those responsible for financing the venture. His aim was to obtain for men the requisite control to achieve deliberately and with certainty what had hitherto been done in a haphazard fashion by nature, and all other considerations took a back seat. Mr. Voutsianos thinks that he was just beaten to this objective by a Japanese, and that this was a major factor in the ultimate closure of the fishery. There is no official support of this theory, however. It is at any rate probable that the 1914-1918 war had an adverse influence on the development of the situation. The picture might have been very different in this war, with shell at six times the price. It is impossible to repress a hope that it *was* the war and not a successful Japanese rival, who forstalled the Doctor by maybe a matter of a few weeks only. Dr. Crossland died in Copenhagen in 1944. His personality still lives among the brittle papers and faded ink of the records of early days in the Sudan. One would think that the information he recorded would enable a future scheme to be floated at a fraction of the immense sums that were then poured into the sea.

* * *

A Note on a Traditional Method of Bargaining for Pearls.

A traditional means of conducting negotiations, particularly associated with pearls, would interest a pdsychologist. The two

parties concerned clasp hands over a table; the hands are covered with a cloth, and a third man acts as go-between, receiving the whispered offers of the one man, crossing over and in turn whispering them in the ear of the other. Evidently the generally accepted axiom that an astute business man can read an opponent's mind is carried a step further into the sense of touch. The game ends either in the parting of the hands if agreement is not reached, or in their clasping in a firm handshake if the deal is on. Between these extremes, according to those who indulge in this method of bargaining, there are various shades of indication. The intermediary may whisper a figure that is thought to be ridiculously low, in which case the recipient hand will withdraw. The offerer may allow it to slip almost away, but if he is prepared to go higher he will allow a faint resistance to appear at the finger tips. A novice might give the game away at this stage by retaining the hand too soon, thus imparting the information that he is eager to deal even on enhanced terms, or by a premature or nervous clasp of the other man's hand as it pulls away on receipt of his counter offer. Moreover, a hand that tends to perspire towards the end of the game will infallibly arouse suspicion on the other side of the table, resulting maybe in a postponement of the deal, to give the other party an opportunity of further exploration of the state of the market. Maybe, there is a factor—a rich American, who is prepared to pay any money for a pearl which will match another for a pair of earrings and so forth. Obviously it will be in the interest of the owner of such an item to deal direct, and if his suspicions that there is such a factor are aroused by a perspiring handclasp, he will want to investigate further before concluding the deal.

In the East this system of conducting affairs may be used for any business, but in the pearl market it is understood to be in particular favour.

ACKNOWLEDGEMENT.

Acknowledgement is made to the Commissioner, Port Sudan, for giving access to archives, and to Ali Eff. Ibrahim Hamo and Sheikh Mohamed El Berbery for checking and confirming points in doubt.

SNAKES IN GENEINA

By W. M. Colley

Introduction

The number of species covered by this note is eleven with a total of sixty specimens. Two of these species have yet to be identified; three are dangerously poisonous to man. Although only one specimen of *Naja haje* has been taken, it is very likely that this snake is much commoner than is imagined, for natives report it as being quite frequently encountered in the jebels. This list is by no means final, for snakes answering to the description of *Python regius* and *Bitis arietans* have been reported by R.A.F. personnel and the local inhabitants, so it is to be hoped that specimens of these will be obtained in the near future.

It is unfortunate that the total number of specimens is so small, as otherwise it would have been interesting to relate the numbers obtained each month with the prevailing weather conditions. As it is the numbers are too small to give information of much value, but they seem to show a decided increase during the rains, which is to be expected. These snakes were all taken in the neighbourhood of Geneina, many in and around the quarters of the R.A.F. personnel attached to the local aerodrome.

The Boas

Family, *Boidae*; sub-family, *Boinae*.

Eryx thebaicus, the Theban Sand Boa. Local name: *abu gan*.

Date	Time	Length in inches	Tail-total ratio	Ventrals	Caudals	Dorsals	Remarks.
9.6.45	2200	23	1/10	181	25	45	Coiled round stick when being captured.
4.10.45	0800	19	1/12	185	22	47	Coiled up and attempted to bite.
30.10.45	0930	10	1/10	181	22	44	Remains of food in stomach but unidentifiable.
24.11.45	0800	20.25	1/13	189	20	48	—

A small fat-bodied snake with no neck and a short stumpy tail. The colour of the specimens was yellow on the back marked with large, irregular chocolate spots. The belly was a uniform cream. Food is said to be small rodents and lizards, which are killed by constriction. It is greatly feared by the natives, who no doubt confuse it with *Echis carinatus*, which is very common in the same area. I have heard of the death of an old woman attributed to this boa, but no details were available.

The Colubrids

Family, *Colubridae*; series, *Aglypha*, the solid teethed colubrids. *Boodon lineatus*, the Brown or Lined House Snake. Local names: *burul*, *umm darag*.

Date	Time	Length in inches	Tail-total ratio	Ventrals	Caudals	Dorsals	Remarks.
16.5.45	0945	22	1/5	200	73	27	Male.
16.5.45	0945	23.5	1/6	211	54	27	Female: found beside the foregoing specimen.
24.6.45	2030	20.25	1/8	240	52	29	Stomach contained the tail of a snake.
31.7.45	—	16.5	1/7	223	60	24	
4.8.45	1500	14	1/6	230	70	26	
11.8.45	1145	31.5	1/8	243	54	25	
30.11.45	1900	13	1/7	219	59	28	
10.12.45	1800	11	1/6	220	58	26	
4.4.46	1400	11.5	1/8	254	53	27	
4.4.46	1830	12	1/6	226	74	27	

A flat, blunt-headed snake with a well defined neck and a rather short tail. The anal is single and the subcaudals are paired. The eye has a brown vertical elliptic pupil. The colouring of the back varies from grey-green to grey-black, the belly being a greyish white. All specimens showed pale lines on each side of the head. It is normally found inside buildings or in rubbish heaps in their vicinity, but the

specimen dated 11.8.45 was taken in open grassy country. It is usually regarded by the natives as being quite harmless, though occasionally it is confused with *Atractaspis microlepidota*.

Dasypeltis scabra, the Egg Eater.

Only one specimen has been found. It was obtained from a bush, where it was apparently resting at 1000 hours. The colouring was greyish-brown with yellowish-brown and dark brown markings on the back. On the head were two inverted V-shaped marks; the belly was white. Length 22.25 inches, tail-total ratio 1/8; the ventrals numbered 237, the subcaudals 51 pairs and the dorsals 22. This snake appears to be rather a rarity, as none of the natives recognized it or could give information about it.

Series: *Opisthoglypha*, the back-fanged colubrids.

Malpolon moilensis, the Moila Snake.

One specimen only: it was found at 1500 hours inside a building in cold weather. Length 20.5 inches with the tail-total ratio 1/6; the ventrals numbered 174, the subcaudals 52 pairs and the dorsals 17. The anal was paired. The back was pale brown with blackish spots; the sides were paler and had reddish spots instead of black and the belly was cream. Despite the very distinctive appearance of this snake no vernacular name was obtainable.

Psammophis subtaeniatus, the Striped Sand Snake. Local name: *umm zerrag*.

Date	Time	Length in inches	Tail-total ratio	Ventrals	Caudals	Dorsals	Remarks.
7.4.45	—	40	1/3	168	91	17	—
15.6.45	—	11.5	1/3	174	113	17	—
4.8.45	1000	30	1/3	167	92	17	—
28.8.45	1500	16.25	1/3	160	100	17	Found coiled round leg of chair inside house; picked up by native who was bitten by it.

Date	Time	Length in inches	Tail-total ratio	Ventrals	Caudals	Dorsals	Remarks.
31.8.45	1500	13	1/3	172	110	17	—
5.9.45	1600	18.5+	—	170	—	17	Tail missing.
23.9.45	1130	14	1/3	171	110	17	Found inside building.
19.10.45	1000	21	1/4	173	104	17	—
20.10.45	1030	12.75	1/3	160	110	17	—
2.12.45	1000	27.25	1/3	175	108	17	—
14.12.45	1700	46.5	1/3	176	86	17	Stomach contained a 10 inch rat.
21.2.46	1230	23.75	1/3	167	99	17	Obtained in bush approximately 3ft. 6 inches above ground level.
1.3.46	1230	27.75	1/3	151	109	17	Stomach contained a 6 inch skink.

This snake is very often found basking in bushes; it drops to the ground when approached. The back has the central seven rows of scales a dark brown separated from the sides by a pale brown streak. The belly is white or cream with normally a thin dark line down each side of the belly. It is considered by the natives as being mildly poisonous.

Psammophis sibilans, the Hissing Sand Snake. Local name: *umm zerrag*.

Date	Time	Length in inches	Tail-total ratio	Ventrals	Caudals	Dorsals	Remarks.
16.5.45	1000	23.25+	—	165	25+	17	Tail broken off.
16.5.45	1000	51.25	1/3	167	100	13*	Found with the foregoing: very furious but did not attack.
18.5.45	1530	51.5	1/3	170	108	17	Found inside a building.
10.7.45	1600	44	1/3	163	100	17	Contained a 12 inch lizard and an 8 inch skink.
26.7.45	1500	29.5	—	170	—	17	Tail missing from vent, found coiled up dead on a path.
13.11.45	1515	21.5	1/3	171	105	17	Found inside a house coiled round the handle of a tennis racquet on the wall.

*Too low a count for *sibilans*; possibly another species of the genus. ED.

The back and sides were olive-brown with a narrow vertebral line, scales faintly edged with black. The belly was cream with occasionally a faint black line down each side of the belly ; this was present only on the specimens dated 16.5.45, and 26.7.45. This snake is held in great respect by the natives, who hold its bite as being lethal ; this belief may be accounted for by the large size to which it may grow. A fresh cast of one of these snakes measured 6 feet 2 inches with a ventral count of 159, subcaudals 99 pairs and dorsals 17 ; the snake itself was seen to disappear into an ant-hill from which it could not be removed.

The Cobras

Family : *Elapidae*.

Naja haje, the Egyptian Cobra. Local names : *nhur, abu daraga*.

Only one specimen of this snake was taken, and only one other observed in the area. Ventrals numbered 222, subcaudals 63, seven of these being entire and the rest paired. Dorsals at the neck 22 and at mid-body 21. The sixth upper labial was the largest and deepest. There were three suboculars between the eye and the upper labials. The total length was 5 feet 6 inches with a tail-total ratio of 1/5.

The colouring of the head and neck was black, that of the back a mixture of dark purple-black with portions of pinkish-purple. The rostral and first upper labial were marked with white, as was the symphysial and first lower labial.

It was obtained at 0900 hours in a small cement-lined pit ; it made no attempt to attack beyond erecting its hood once and spitting. This specimen is probably the one which was reported a few months before by various people as living in a hole 100 yards from the house. If this is the case it is strange that it had not been seen oftener.

It is considered lethal by the natives, and their reports put death as occurring within as short a time as five minutes to as long as fourteen hours, though the average report put it at five hours. If the venom entered the eye it was generally held that blindness resulted. Food was stated to be eggs, lizards and small mammals.

The Vipers

Family : *Viperidae*

Echis carinatus, the Carpet or Saw-scaled Viper. Local name : *umm shedigat*.

Date	Time	Length in inches	Tail-total ratio	Ventrals	Caudals	Dorsals	Remarks.
8.7.45	1400	25.5	1/9	168	37	26	Raised head, rasping scales, but did not move.
1.8.45	1400	29.25	1/9	172	35	27	Sluggish.
28.8.45	1530	20.25	1/8	160	32	28	Moved slowly to one side and struck at stick; stomach contained unidentifiable gritty material.
1.9.45	1600	16	1/7	172	37	28	—
21.9.45	1500	29.5	1/10	183	32	27	Stomach contents unidentifiable.
21.9.45	1515	13.25	1/11	188	33	29	Moved rapidly striking at stick.
21.9.45	1515	14.75	1/10	179	29	28	Sluggish.
1.10.45	1600	17.5	1/10	184	32	29	Very active but placid.
1.10.45	1600	14.75	1/10	174	31	28	Stomach contents five earwigs and one spider.
12.10.45	1500	18	1/12	182	31	28	Stomach contents two earwigs and one spider.
20.10.45	1045	6.5	1/9	180	30	27	—
30.10.45	1145	13	1/10	181	34	29	—
10.11.45	2100	32	1/11	179	31	27	Five inch mouse in mouth and seven inch mouse in stomach with two locusts.
14.11.45	1500	19.25	1/7	180	33	28	Five inch mouse in mouth and spider in stomach. Escaped down hole but driven out.
19.11.45	1130	18	1/14	182	32	29	Very active specimen which attempted to attack.
9.2.46	1035	11	1/12	180	33	27	—
9.2.46	1045	20	1/10	178	31	26	Stomach contents : 4 inch skink, locust and the fur of a mammal.

A small, fat-bodied snake with a stumpy tail, flat, triangular head and a very defined neck. The anal is single and the subcaudals are single. The head is covered with small keeled scales similar to the dorsals. The back is usually a pale greyish-brown marked with dark brown, chocolate and white. The belly is whitish and marked with brown spots.

It is the commonest snake near Geneina, and some places are literally infested with it. Despite its numbers very few cases of snake-bite are heard of. I heard of one; a man was bitten, and is said to have died within five hours. I have come across a youth who claimed he had been bitten by this species, but as it occurred in the dark it cannot be assumed that he was undoubtedly correct. His leg was swollen as far as the knee, and, although he suffered general discomfort, he recovered within seven days. The only treatment applied was some folk remedy, of which I could not obtain any details.

Atractaspis microlepidota, the Black Burrowing Viper. Local name: *abu laqqaz*.

Date	Time	Length in inches	Tail-total ratio	Ventrals	Caudals	Dorsals	Remarks.
17.6.45	2200	12.75	1/13	238	31	25	—
1.8.45	1100	13	1/17	220	33	29	—
17.9.45	1000	12	1/12	217	28	29	—
14.3.46	2200	8.5	1/10	231	23	28	—

A uniform black snake, with an ill-defined neck and a short, stumpy tail. The subcaudals are single and the head is covered with shields. All specimens have been taken inside buildings, and all had empty stomachs. The specimen dated 14.3.46 was handled by various people, but it was very placid and made no attempt to bite.*

It is regarded by the natives as being a deadly snake and is held in great respect.

*The handler was lucky. The snake has two folk names significant of its dangerousness, *abu ashara daqiqa* and *shail qafana*—"father of ten minutes" and the "shroud bearer". ED.

UNIDENTIFIED SPECIES NO. 1.

Date	Time	Length in inches	Tail-total ratio	Ventrals	Caudals	Dorsals	Remarks.
7.8.45	2230	26.5	1/6	216	64	21	Contained chameleon. Found inside house. Coiled itself up when captured.
11.12.45	0800	33.75	1/7	214	59	22	Contained nine inch chameleon; captured when crossing sandy road.
22.1.46	1800	25.25	1/6	216	71	21	Found inside a small pit when casting its skin.

A flat, blunt-headed snake with a well-defined neck and a short tail. The head was covered with large shields, the anal was paired and the subcaudals were paired. The eye had a black round pupil edged with brown. The back and sides were dark grey with a central row of black spots. The belly was pinkish with very faint isolated brown spots. It was said to be poisonous by the natives, but no further details were obtained.

UNIDENTIFIED SPECIES NO. 2.

Local name: *azrag*.

This specimen was obtained at 2200 hours on 14.2.46 on a sandy track in open grassy country. The ventrals numbered 242, the subcaudals 48 pairs and the dorsals 29. The anal was single. The head which was covered with large shields was long and flat with a bluntish snout and the neck not appreciable. The teeth were very prominent just in front of the eye. The back was a pale olive green fading into a paler green on the sides; the belly was a dirty white. The head was olive green. The eye was broad with a vertically elliptic black pupil rimmed with gold. Total length 22 inches, tail-total ratio, 1 8. It was said by the natives to be very rare and to feed on insects and small mammals. It was said to be poisonous and to leave its teeth in the bite.

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BIRD MIGRATION AT EL FASHER 1944

By J. F. Madden

The late Admiral H. Lynes in his paper on the ' Birds of Northern and Central Darfur ' (*Ibis* 1924 and 1925) gave some account of the migration observed by him during his stay in the province. This note deals only with El Fasher during 1944, a year in which the town lake filled late and began to dry up rapidly. In early August it had partially filled, and at once attracted large numbers of Plover—Spur Winged, Egyptian and Yellow Wattled—and Stone Curlews, which took up residence on the small islands still left uncovered by the water. On August 27th, when the lake filled up, most of these vanished temporarily, but re-appeared as the water level dropped. Four Garganey, in immature plumage, arrived on August 18th and two days later their numbers increased to about 20, together with some White Faced Tree Duck (' Whistling Teal ') and Egyptian Geese. On August 17th a Wood Ibis appeared and stayed for a day or two, and on the 24th, somewhat unexpectedly, one Pelican was sailing about on a stretch of open water. The next day it had vanished, and did not return. On August 26th the first Tern arrived—a White Winged Black Tern in immature plumage: there were two on the 30th and during September they were to be seen every day, sometimes a dozen at a time, hawking about over the water and dipping frequently to the surface. I had never seen Terns before on Fasher lake, and another new bird, an African Green Backed Heron (*Butorides*) appeared on August 30th. One or two of this species could generally be found in the bushes on the edge of the lake till the end of September.

Coots in immature plumage were swimming about on October 6th and were still there a month later; I saw no mature birds. Pintail did not appear till October 27th, and then only a few, and on the 31st, with the lake already beginning to dry up, another Wood Ibis stayed for a day or two and then passed on.

Throughout the rains Abdim's Storks, Cattle Egrets, and Sacred

Ibis were breeding in large numbers in suitable trees, with a few Black Headed Herons. The first Abdim's arrived about May 10th: the Egrets and Ibis were later, and did not come in numbers till the first week in June.

Waders appeared on the lake as soon as there was enough water; on August 6th there were Stilts and a Common Sandpiper, on the 14th Ruff and Green Sandpiper, and a Greenshank appeared on the 20th. One very distinctive Ruff with completely white head and neck stayed for a few days. The full flooding of the lake covered the mud flats which the waders usually frequented, but by the middle of September the water level had dropped, and the Ruffs re-appeared, with Green and Wood Sandpipers, Dunlin, Little Stint, Black Tailed Godwit and a few Snipe. The Godwits remained a full month, and on October 20th a Curlew appeared and stayed for a time, but by the end of October the lake was drying fast, and the Waders were reduced to a few Sandpipers and Plovers and flocks of Stilts.

I was out of El Fasher during most of the spring migration of land birds, but, as so often seems to happen in the Sudan, it was not so noticeable as the later autumn movements. Early in May several Great Spotted Cuckoos, a Spotted Fly-catcher and some Swallows were seen, and one Wheatear as late as May 24th. Abdim's Storks, Egrets and Ibis were numerous by June 2nd: Pallid Warblers, which are common winter visitors, were to be seen till mid-June, and the coming of the rains led to the migration of African species. On June 23rd numerous White Throated Bee Eaters (*Merops albicollis*) were moving S.W., on the 27th Grey Hornbills in small parties passed over to the north, and on July 7th about 100 Black Kites went over to the east, altogether rather a curious mixture of directions. On July 14th and for several days afterwards there was a Harrier Hawk (*Gymnogenys typicus*) in the trees by the lake, and more Grey Hornbills moved north after rain on the 15th. I was surprised to see and hear a number of European Swifts on June 27th—it was impossible to say just which way they were going, presumably southwards; though it was very early for the autumn migration to begin; and I saw no

further movement of this species till August 30th, when small parties were hawking about and calling shrilly.

The main autumn migration began early in September. Spotted Flycatchers and small Warblers appeared on the 5th and 6th, and on the 8th there was a Red Beaked Shrike and numerous Red Tailed Shrikes (*Otomela c. isabellinus*), and several immature Great Spotted Cuckoos passed through on the 12th. Yellow Wagtails, Wheatears (Common and Isabelline) and Fiscal Shrikes (*F. nubicus*) were numerous on the 15th, and a hen Redstart and a Nightjar appeared on the 18th. During the last 10 days of September Yellow Wagtails, Wheatears and Flycatchers were numerous: there were three Snipe and a Pratincole on the lake, and several Golden Orioles appeared on passage. On October 2nd Black Throated Chats began to arrive, with more Redstarts and two Rusty Bush Larks (*Pinacorys erythropygia*): on the 12th there were Redstarts, a female Rock Thrush, and an immature Golden Oriole. Lesser Whitethroats came in numbers during the second half of October: on the 20th there were Nightjars, Commor Swifts and a Curlew, and on the 27th White Wagtails began to arrive in force, and there were one or two Pallid Harriers. A few Abdim's Storks remained at the end of the month, and I left Fasher myself on leave (November 4th) before the last of them had gone. At that time also numerous small Hirundines, like Sand Martins, which I could not definitely identify, were still hawking over the water of the lake, but most of the autumn migration had come to an end.

SOME INTERESTING BIRDS FROM THE SOUTHERN SUDAN

By F. O. Cave

In 1938 and 1939 I published in *Sudan Notes and Records* some details of birds not previously recorded in the Sudan. In December 1938 Mr. J. D. Macdonald, from the British Museum, paid a visit to the southern Sudan, and spent some four months collecting there ; and after he had returned to England, I was still able to continue my own collecting so far as time would allow. I had intended, when I went home on leave in 1939, to work out my collections, and to give such assistance as I could to Mr. Macdonald in working out his. Unfortunately the outbreak of war put an end to all these ideas : I was recalled to the Sudan, and Mr. Macdonald went off to work under the Admiralty. Fortunately, however, he had been able to do a little with the collections before the outbreak of war and made some very interesting finds. Some of these were published in ornithological journals, but some were not published at all. I am therefore making brief notes here of some of these finds, in order to assist those in the Sudan, who are interested in the bird life of the country. Mr. Macdonald has now returned to the British Museum, and has resumed his work on our collections, and it is to be hoped that he will be able, before long, to forward some more of his findings for publication in this journal.

The birds given below are listed in their systematic order according to the *Systema Avium Aethiopicarum*.

1. *Francolinus africanus stantoni*, Cave. (Grey-wing Francolin).

El Bimbashi G. M. Stanton shot this francolin whilst out with me in the Atoporopos Hills, east of Kapoeta, in 1940. It proved to be a most interesting find, although we were only able to procure the one specimen. *Francolinus africanus* has not previously been recorded from the Sudan. It is a handsome bird with a necklace of black feathers. I described this specimen as a new race in *Bull. B.O.C.* LX. 1940 p. 96, and named it in honour of Bimbashi G.M. Stanton.

2. *Francolinus clappertoni cavei*, Macdonald. (Sudan Clapperton's Francolin).

Mr. J D Macdonald first obtained this francolin in the plains to the south-west of Boma Plateau in February 1939 Subsequently I was able to obtain a few more specimens from the same locality in May 1939. Mr. Macdonald described these as a new race in *Bull. B.O.C.* LX. 1940 p. 57, and did me the honour of naming it after me.

3. *Mirafra hypermetra kidepoensis*, Macdonald. (Red-winged Bush Lark).

Mr. J. D. Macdonald discovered this lark in the plains of the Kidepo valley to the south of the Didinga Hills. He described it as a new race in *Bull. B.O.C.* LX. 1940 p. 59.

4. *Mirafra hypermetra kathangorensis*, Cave. (Red-winged Bush Lark).

I obtained this lark in the grassy plains near Kathangore in 1940, and later I found specimens in the plains on the road to Loelli I described it as a new race in *Bull. B.O.C* LX. 1940 p. 96

5. *Tmetothylacus tenellus* (Cab.). (Golden Pipit).

I obtained a specimen of this Golden Pipit on the road to Boma in July 1939. It is a really beautiful bird, and has not previously been recorded from the Sudan; indeed the Sudan is a very long way from its known locality, which has been described as 'British Somaliland and the Ogaden country, south through Kenya Colony to Kilimanjaro and the Pangani River'.

6. *Chloropeta similis*, Richmond. (Mountain Yellow Flycatcher).

In *Bull. B.O.C.* LX. 1940 p. 82 Mr. J. D. Macdonald has recorded a note on the correct status of this species. Formerly *C. similis* was regarded as a race of *C. natalensis*, and my specimens from Imatong Mountains, which were a first record for the Sudan, were classified as *C. natalensis schubotzi*, Reichw., which anyhow was doubtfully separable from *C. n. similis*, Richmond.

Mr. Macdonald considered that *C. similis* was a high level bird at over 6-7000 ft., and that it was replaced at lower altitudes by

C. natalensis. These conclusions were supported by observations of Mr. Moreau, Dr. van Someren, and myself.

Mr. Macdonald, therefore, in recording his own observations and opinions has come to the conclusion that *C. similis* and *C. natalensis* must be regarded as specifically distinct.

Therefore, as far as the Sudan is concerned, the high level birds are *Chloropeta similis*, Richmond, and those at the lower altitudes are *Chloropeta natalensis massaica*. Fisch. and Reichw.

7. *Geokichla piaggiae hadii*, Macdonald. (Orange Thrush).

This genus was first discovered in the Sudan by Mr. J. D. Macdonald in January 1939 in the Imatong Mountains. A little later he and I each obtained a specimen in the forests at the top of the Dongotana Mountains, and in December 1939 I secured another five specimens from the top of the Imatong Mountains.

On the strength of this series Mr. Macdonald described this as a new race in *Bull. B.O.C.* LX. 1940 p. 98, and named it after Abdel Hadi Effendi, the skinner who was lent to him by the Sudan Government, and who obtained the first specimen. These thrushes are extremely shy forest birds.

8. *Monticola rufocinerea rufocinerea* (Rupp.). (Little Rock-Thrush).

This is a new record for the Sudan; and I obtained the first specimen in the Imatong Mountains in November 1938 near Kitibol.

9. *Cossypha caffra iolema*, Reichw. (Robin-Chat).

This is a new record for the Sudan, and I obtained it as the same time and place as *Monticola r. rufocinerea*. This *Cossypha* is an East African bird from Mt. Elgon southwards, and also from the south-western parts of Uganda.

10. *Sheppardia aequatorialis acholiensis*, Macdonald.

The genus *Sheppardia* has not previously been recorded from the Sudan. I obtained one specimen in the Imatong Mountains,

from near Kitibol, in November 1938, and have failed to find any others since. All *Sheppardia* are known to be very shy forest birds. As there was only one specimen from the Sudan it was difficult to come to any definite conclusions, but eventually Mr. Macdonald decided to review the whole genus, and this he has done in *The Ibis* of 1940, pp. 663-671.

During the course of this review he described my bird as a new race and named it *S. a. acholiensis*.

11. *Pogonocichla stellata guttifer* (Reich. and Neum.). (Kenya White-starred Bush-Robin).

Mr. J. D. Macdonald first obtained these birds in the Sudan in January 1939 in the forests at the top of the Imatong Mountains. The genus has not previously been recorded from the Sudan. Mr. Macdonald obtained a good series of this very striking forest bird, and in December 1939 I also obtained a good series from the top of the Imatong Mountains.

12. *Bradypterus cinnamomeus cavei*. Macdonald. (Cinnamon Swamp-Warbler).

In *Sudan Notes and Records* Vol. XXI. Part I. I recorded *Bradypterus cinnamomeus* (Rupp.) as having been obtained by me in the Imatong Mountains, and as being a new record for the Sudan. Since then I have obtained other specimens, and Mr. Macdonald also obtained a good series, also from the Imatong Mountains, and as a result he has described these specimens as a new race and has done me the honour of naming it after me. His description appears in *Bull. B.O.C.* LX. 1939 p. 9.

13. *Apalis pulchra*, Sharpe.

In December 1939 I obtained one specimen of this species from near River Dabba, which is not far from Kipia at the top of the Imatong Mountains. The species has not previously been recorded from the Sudan.

THE FOSSIL-BEARING CLAY AT ERKOWIT

By J. D. Tothill

Introduction

At Erkowit the soil in the broad parts of the valleys consists of a recent deposit of sandy soil overlying a bed of clay that rests unconformably on crystalline rock. The sandy soil may be very thin near the hills, but increases to one or two metres in thickness in wider parts of the valleys, and is seen to good advantage on the golf course. The clay is in places 20 feet thick, and is seen to advantage in the exposed usually steep-sided banks of the main *khors* and particularly the *khor* that drains the golf course area and joins the *khor* Harasab at the site of the main vegetable gardens. The underlying rock is exposed at innumerable points in the dry stream-beds.

During the last twenty years or so the sandy covering soil has been subjected to active gulley erosion, due chiefly to overgrazing, and the clay has been exposed at a great many points. The dating for the beginning of erosion rests amongst other things upon a photograph taken by Mr. Springfield twenty years ago, showing no gulley at the outlet of the main *meidan* or meadow, where there is now a deep gulley about 300 yards long. These exposures have enabled the clay bed to be examined at many points. In June 1941 the writer noticed that there were a large number of semi-fossil shells embedded in this clay and made a collection. Messrs. D. J. Lewis and J. M. Merryweather have since made further collections, and the material has now been examined and the following identifications made.

Land Snails.

Xerophila sp. (determined by M. Connolly).
Cerastus abyssinica Pfr. (determined by M. Connolly).

Pond Snails.

Planorbis herbini Bgt.
Bulinus trancatus Aud.
Limnaea caillaudi. Bourg.

AQUATIC SNAIL.

Melanoides tuberculata Müll.

OCCURRENCE AND DISTRIBUTION OF THE SHELLS.

The above species occur in considerable abundance at all levels throughout the clay bed, but the shells of pond snails are abundant, of the two land species fairly common, and of the wholly aquatic *Melanoides* somewhat rare.

INFERENCES TO BE DRAWN.

These facts of occurrence and distribution permit some inferences to be drawn as to the conditions under which the clay was deposited.

The presence of *Melanoides* indicates that the clay where this species occurs was deposited under permanent fresh water. The absence of its ecological associates *Cleopatra, Corbicula* and *Unionidae* indicate that the bottom of the permanent water area was sandy and suggests a meandering stream in a water meadow.

The abundance at all levels of the pond snails indicates that the clay areas were water meadows for the most part covered with fresh water all the year round in which pond vegetation such as *Potomogeton, Typha* and aquatic grasses grew abundantly and impeded drainage.

The fact that two land snails are fairly common at all levels seems to suggest that both were abundant on the hills and occurred on the fringing vegetation of the water meadows.

One of these species is now common in Mediterranean countries such as Palestine and Malta ; the other, the strongly striated *Cerastus*, occurs today as a living species in Arabia and at the 6-7000 ft. level in Abyssinia.

The general occurrence of the shells of these two land snails indicates that at the time of deposition of the clay the climate was comparable to that of Malta and Palestine of today.

It seems permissible therefore to deduce from the distribution of the fossil gastropods in the clay bed that at the time of deposition

of this bed the climate was as moist as is that of Palestine and Malta, and that the hills of Erkowit were therefore clothed in fairly dense forest; that the valleys in the Erkowit plateau at the wider points were open mountain water meadows on which thrived the food plants of pond snails; and that at the lowest point flowed a permanent meander stream with a sandy bottom in which lived the fresh water wholly aquatic species *Melanoides*.

Discussion on age of deposit.

The deposit cannot yet be dated but some speculation is permissible.

As the clay rests unconformably upon the crystalline basement complex rock of the area it is probable that it followed upon a period of desiccation during which the previous soil deposit was eroded from the valleys of the plateau.

The clay was deposited in a period immediately prior to the recent period, in which the sandy covering soil was, and is still being, deposited.

These things suggest that the clay was deposited in the final wet period of Pleistocene times, corresponding to the Makalian wet period of East Africa; to Picard's pluvial C of Palestine, when the neolithic village of Ghassul flourished in what has since become desert; and to the *Limicolaria* wet episode of Khartoum and the Gezira.

While in general it may be true that a pluvial period is one of valley cutting, in which little aggradation takes place, yet in the wet tropical areas of Uganda and in the Usambara Hills of Tanganyika, there are many examples of valleys with drainage choked with vegetation, in which clay is being deposited in ponded parts of permanent streams. These, from the record of the snail population, are the conditions under which the Erkowit clay seems to have been deposited.

A single specimen of the sea shell *Nerita* or *Neritina* sp., drilled for wearing as an ornament, was found but its position in the clay is unknown.[1] Bones of catfish and various microlithic implements made of obsidian are being eroded from the top of the clay on the right bank of the stream a hundred yards above the clump of adult date palms across the khor from the government vegetable gardens; these seem to be relics of people who used microlithic implements and pottery, and lived in a village on the edge of the water meadow. An archaeological dig at this site will probably enable the clay to be dated with some degree of accuracy.

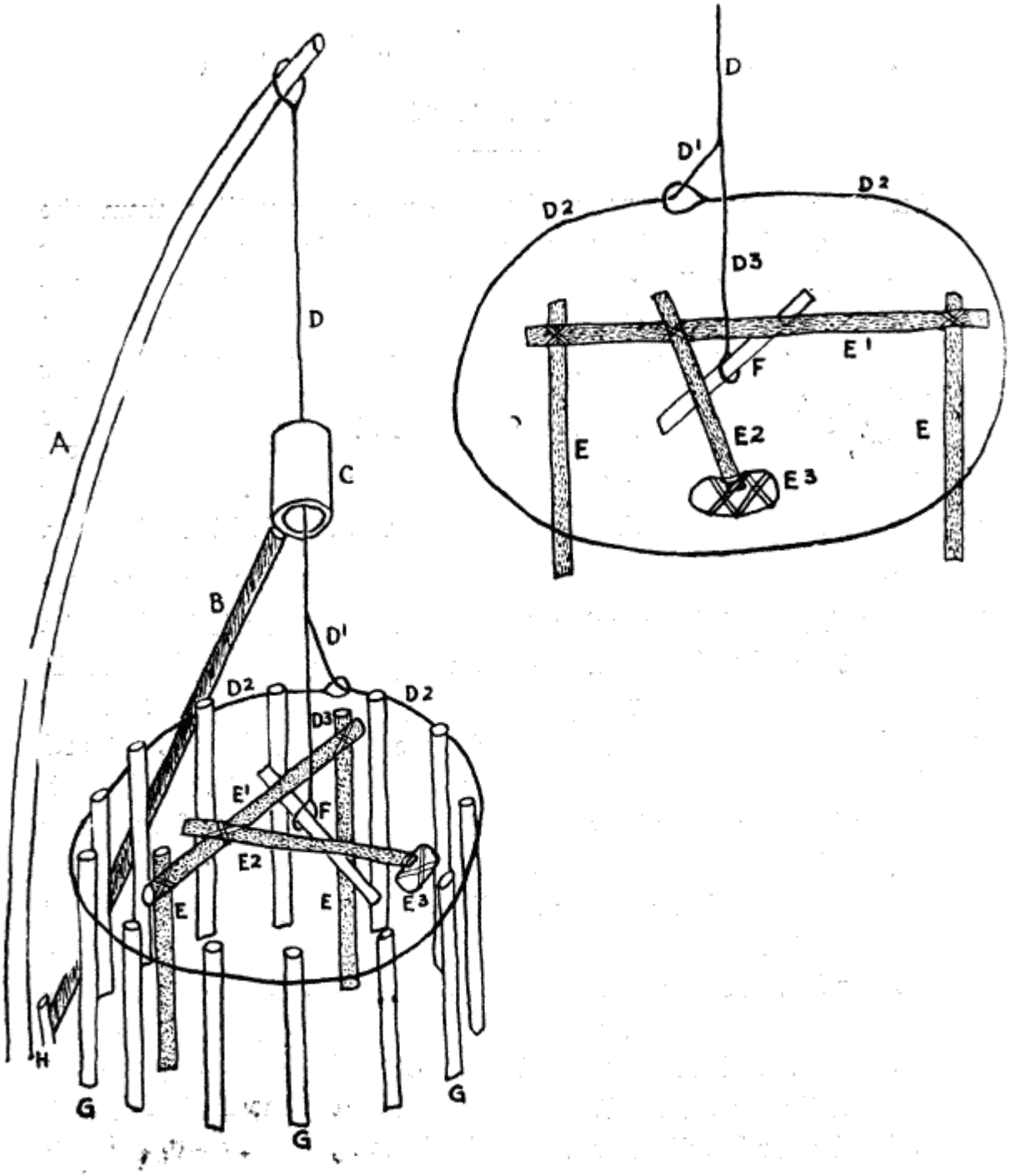
1. No doubt it came from layer 3A in the profile of Khor Harasab given on p. 99 of the *Report of the Soil Conservation Committee, Sudan Government*, and was imported by the people who have left many sherds of pottery and microlithic implements in that layer. ED.

A GAME TRAP IN THE UPPER NILE PROVINCE

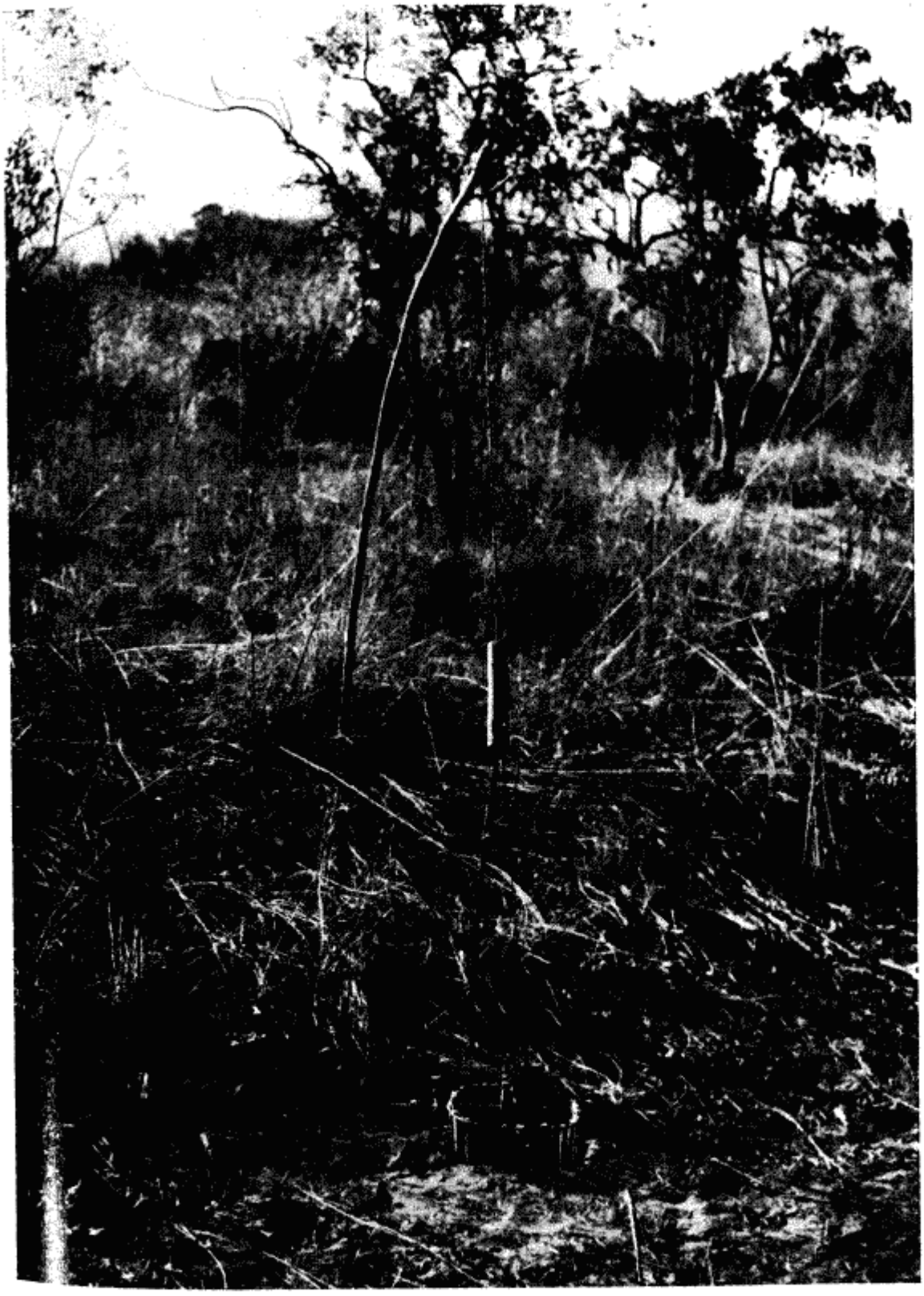
By N. L. Corkill

On 25th December 1941, the writer was travelling from the southern Fung in an attempt to reach Daga Post, and somewhere between 60 and 80 miles south of Ora in the country of—presumably —either the Koma or Maban, saw by the side of the newly cleared road, the trap here illustrated. It appeared to be intended for rather small game ; the Fung personnel with the party said it was for catching a wild cat, and although the detail of the device was strange to them they knew the type, which they called *murta faraneba*. The neatness of its disposition suggested the practised hand of a habitual trapper.

A is a stake planted firmly in the ground and held bent in tension by the cord D and its continuation D3, which is itself held by its attachment to the light stick F ; this again is delicately held in position by being drawn up by D3 into apposition with the resisting undersides of the cross-bar E1 of the fixed stout scaffold E, E1, E, and the slightly moveable bait-bar E2, carrying the bait E3. This last, on being seized, or moved by a paw, if disturbed sufficiently, permits of the dislodgement of F, where-upon the bent stake A springs up and back out of tension, at the same time drawing up, by means of the main cord D, the slip-noose cord D2, which thus nooses the cat round the neck or leg. At the same time the block C, falls into apposition with the line leading from say the noosed leg, and prevents the cat biting the line and freeing itself. The stockade GGG supports the noose in position ready for it to act as a snare the moment A springs out of tension and pulls it up. B and H are subsidiary supports for holding up the block C when the trap is set. The scaffolding is set just below ground level in a shallow pit, presumably to ensure that the cat put its head or leg well within the noose, and at the same time perhaps to ensure that the rather striking structure will not be too conspicuous.



A :*Bent stake under tension*
B :*Stick to hold up block* C.
D, D', D², D³: *Snare line.*
E, E', E²: *Scaffold for release mechanism.*
E³: *Bait on movable* E².
F · *Release mechanism on disturbance of* E
G: *Sticks to hold snare in position.*
H : *Stick to stabilise* B.



A GAME TRAP FROM THE UPPER NILE PROVINCE.

CATCHING WHITE ANTS IN JEBEL MARRA

By Constance Huddleston

Recently we camped in grass tukls under the shadow of Jebel Marra near Suni. The first morning, whilst dressing, I noticed some fast drumming in 2 2 time and mentioned at breakfast that it seemed rather early in the day to celebrate. I was told that the Fur were in fact collecting a breakfast of white ants by imitating the sound of rain, which induced the ants to come out of the ground.

Two mornings later I heard the same sound and hurried with my dressing in order to locate the drummer. I was lucky enough, with the help of a local guide, to find him quite close drumming away on a small hide covered drum. His companions were a woman and three girls, aged possibly 14, 12 and 7. They had with them an earthenware pot of water and some green leaves—not unlike our English laurel leaves. They were on a piece of ground that had been terraced for cultivation, where they had made, in a radius of four yards, 8 or 9 holes about six inches square and about four inches deep. They had covered each hole with a stone, which they had sealed down with wet earth, except for a small area, where they had constructed a funnel about two inches in diameter and about three inches high, pointing upwards. This was made of mud and lined with leaves, the top being lightly covered by a couple of leaves. The mouths of these funnels they continuously sprinkled with water. On my arrival I could see in the mouth of each funnel a number of winged ants fluttering and struggling, whilst a few worker ants clambered about the leafy walls. Shortly after my arrival the man stopped drumming and unsealed one of the holes by removing the stone. The chamber uncovered was a Black Hole of Calcutta of winged ants struggling one on top of the other to get a foothold and climb out. These the man took out by the handful, and put them in a corner of the woman's *tob*, whilst the children crowded round and gleaned any escaping ants, which they crammed into their mouths, wings and all. The man, noticing my astonished face, laughed saying 'Only women eat them that way—they are cooked for the men'.

ZANNEIA

By D. F. Hawley

There is a legend believed in by the Baggara Arabs of the White Nile and the people of Mek Adam of Tegale, which appears to be a first cousin of the Zerzura legend, and which, though more localized, is almost as interesting and romantic as the Arabs' tales of that mysterious and elusive oasis. It is the story of Zanneia.

Zanneia is said to be a very large *hafir* situated between Dar El Ahamda and the kingdom of Tegale. Its water never dries up the whole year round, and is remarkably fresh and clear at all seasons; and a *khor* runs in from the west filling it in the rains. One enormous *zan* tree dominates the place, giving the *hafir* its name, and the banks are shady with *sunt* and *inderab* trees and with large *kitr* bushes. Water lilies, (*siteib* and *umm banagiga*) float on the water's surface, and the place is a sanctuary for birds. There are, however, no permanent inhabitants, and although several people have claimed to have seen it once, no one has ever seen it a second time. Attempts have been made by those who have seen it, to lead others back there. but they have all been unsuccessful.

Dar El Ahamda in the south western part of Kosti District is chiefly remarkable for its dry flat wastes ; but this area can be very productive provided that there is water for the people to drink, and *harig* cultivation has proved successful there. Before the Arabs came to this part of the Sudan it was known as ' El Baja ' and inhabited by Anag, who developed the country by digging many *hafirs* and wells. Their grain was so plentiful and their *hafirs* so deep, that the Ahmada sing of them, as they thresh their own grain :—

Ye sons of Tikeim[1],
Who came in multitudes,
Your slave girl's name was 'Nur'.
Your *fulas* were so deep that crocodiles[2] dwelt in them,
And your houses were well roofed.
So tall were your grain stores that they could be seen
From Tegale.'

Since the reoccupation the Government has redug some of these old Anag *hafirs*, to encourage the cultivators to reopen this fertile area. But there are still wide expanses of country covered with thick *kitr* bush, and it is amongst this *kitr*, somewhere between Sahlat Umm Agarib and Jebel Abu Dom that Zanneia is said to lie. Although the *hafir* is reputedly an ancient one, dug by the Anag, interest in rediscovering it has only become keen, since the advent of the present government.

The first man who claimed to have seen it was Idris Hamid, a Hamadi, who as a hunter used to travel widely, and it was on one of his hunting trips that he saw it. On his return to the Dar he took a party out to seek for it again, but they met with no success. He maintained that he and his horse had drunk from it, although it was winter time. This was in the nazirate of Gabr El Dar Gabril, brother of the present, *ʿomda* in about 1919.

Among others who claim to have seen it too are Sh. Abdulla Adam Abu Sin, the present sheikh of Tebeldia. Before the government's round up of slaves and arms in Kosti District in 1927 and 1928, he was a well-known hunter and it was then that he saw Zanneia.

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1. Ya Awlad Tikeim. يا اولاد تكيم
El ma gaū ragadū radeim ال ما جاوا رقدوا رديم
Bān khādiman samūha 'Nūr' بان خادما سموها نور
Ban fūltan timsah hakūr بان فولتا تمساح هكور
Bān bētan samḫāt rufūfha بان بيتا سمحات رفوفها
Bān gūrnan Tegale teshufha. بان جورنا تقلي تشفها

2. The Anag are said to have brought small crocodiles from the Nile, and to have bred them in their *hafirs*.

Again about 1936 an elephant came as far north as Udeid El Hammad, and the people, desiring to hunt it, came to Dar Agil to obtain horses. It was said that the elephant was drinking from Zanneia and Fadl El Sid Saleh with another man came across the *hafir* in their pursuit of it.

The elephant was not killed, but both hunters and their horses drank from Zanneia. Attempts were made by Fadl El Sid and a search party to return to the *hafir*, but they were doomed to failure.

In 1942 a Seleimi, Mohamed Ahmed Abu Haniya, of the Nas Atiyah lost his she-camel and went off in search of it, following its tracks. He searched for it as far as Tegale without finding it, but on his return journey he came across his camel fat and well-watered in the supposedly waterless area between the Nuba Mountains and the inhabited Ahamda country. Shortly after finding the she-camel he came to Zanneia. He marked the whole way back to the main highway, and then set off homewards with his camel. But, before he had time to reach home and retrace his tracks with others, a bush fire started in the area and destroyed his careful marks. This incident occurred in the summer.

So in spite of attempts to solve the mystery of Zanneia, the secret still evades us. I have myself flown over that part of the country and did not see it. People have come to believe that some evil will befall anyone who sees it, as most of those who have seen it are now dead. Abdulla Adam Abu Sin and Mohammed Ahmed Abu Haniya are the only survivors, and the former has lost one eye owing to a shooting accident.

HASAN SULIMAN, KASHIF OF NUBIA

By Marcel Jungfleisch

The *Kashif* El Hasan was the son of Suliman and possibly the grandson of Ibrahim (the 'Baram' of Norden[1]) of the Bosnian family of Kūssa, originally established as governors of Nubia by Sultan Selīm in the 16th century, and since ruling as heriditary chiefs.

In the 18th century the valley of the Nile between the first and second cataracts was completely closed, and the caravans from Darfur were side-tracked along the desert road to the west. Norden was himself prevented from penetrating far beyond the northern fringe.

The French expedition despatched in pursuit of the Mamelukes southwards does not seem to have had time to make contact with the Nubian *mulūk*, whose practice was to retire into the desert at such times as they were not strong enough to offer resistance. About 1810 they repeated this manoeuvre and withdrew into the eastern desert at the time of the flight southwards of the Mamelukes, who, having been unable to hold Qasr Ibrim, were pursued by the Egyptians as far as Dongola (1811-12).

The three sons of the *Kashif* Suliman : El Hasan, Hussein and Mohamed (the two last allied with their eldest brother) restablished themselves at Ed Derr from 1813, then at Ishkid about 1816, but this time as subjects of Mohammed ʿAli Pasha as *Wali* of the Sublime Porte. About 1818 El Hasan, by then an old man, said to have been over 70 years of age, fell into disgrace, and his brother Hussein, who was 25 years younger, assumed the governorship of Nubia with the assistance of his two sons Daʿud and Khalil. In 1820, about the time of the second Egyptian expedition, Ibrahim Pasha after a few months finally removed them from office.

As to the various currencies in circulation in Nubia at the time I

1. *Travels in Egypt and Nubia*, 1757.

have come across Spanish piastres (*riyāl abu madfa*), some unspecified gold pieces, and from 1811 Egyptian bronze money. From 1814 there appear Egyptian silver piastres struck from 1223 to 1227 H. and in 1229 H.

Authors consulted : G. W. J. Bankes, G. B. Belzoni, W. G. Browne, J. L. Burckhardt, E. de Cadalvène, F. Cailliaud, L. Costaz, G. Douin, J. Hamilton, F. Hennniker, C.L. Irby and J. Mangles, T. Legh, H. Light, H. L. H. von Pückler-Muskau, R. Richardson, J. J. Rifaud, W. P. E. S. Rüppell, C. N. S. Sonini de Manoncour, etc.

OBITUARY

Prince Omar Toussoun

Prince Omar Toussoun, a prolific writer on Egypt and the Sudan, died in 1944.

A grandson of Mohammed Sa'id Pasha, Viceroy of Egypt, he was born in Alexandria in 1872 and was educated in the Khedivial household and afterwards in Switzerland, France and England. He wrote most of his work in Arabic, but he both wrote and spoke English, French and Turkish with facility. In the Sudan he had an abiding interest, and was a fervent advocate of its retrocession to Egypt. Disliking British foreign policy in the valley of the Nile the Prince was nevertheless a helpful and cordial collaborator with all students, Sudanese and British, alike, who availed themselves of his fund of historical information.

To assist him in the compilation of his studies the Prince employed a staff of assistants, who delved for materials from many sources. He never sold his books, but gave them freely to his friends and correspondents. Some of his published works are already scarce.

Among his writings those of more immediate interest to the Sudan are:

Mémoire sur les anciennes branches du Nil. Le Caire. *Mém. Inst. Egypt* 4, 1922-23; Mémoire sur l'histoire du Nil. Le Caire, 1925; مصر والسودان (Misr wa es Sudan). Alexandria, 1927; Mémoire sur la question du Soudan. Alexandria, 1929; مذكرة عن مسالة السودان بين مصر وانجلترا (Mudhakkara 'an masalat es Sudan baina Misr wa Ingiltarra). Alexandria, 1929; La fin des Mamlouks. Le Caire. *Bull. Inst. Egypte* 15, 193; بطولة الاورطة السودانية في حرب الكسيك (Butulat el urtat es sudaniya fi harb el Maksik). Alexandria, 1933; المسالة السودانية (El Masalat es sudaniya). Alexandria, 1936; Memorandum on the question of the Sudan. Alexandria, 1936; تاريخ مديرية خط الاستواء المصرية (Tarikh mudiriya khatt el istiywa el misriya). 3 vol. Alexandria, 1937; مقتبسات من تاريخ مديرية خط الاستواء (Muqtabasat min tarikh mudiriyat khatt el istiwa) Cairo. مجلة الجيش المصري *Majallat el jaish el masri*, 1939-40 *passim*.

G. O. Whitehead

Mr. G. O. Whitehead, a frequent contributor to *Sudan Notes and Records*, died in June, 1941, at the early age of 47. George Whitehead was educated at Malvern College and at Lincoln College, Oxford, where he came into residence as an exhibitioner in 1913. Ill health, which was a constant handicap to him throughout his life, prevented him from serving in the war of 1914-8. After taking his degree he taught at Wellington College and at the Strand School for some years, but in 1926 he was obliged to give up his work and to take a long holiday. A sea voyage and complete change of surroundings were advised. So he paid a visit to his brother, Dr. Noel Whitehead, then Government Bacteriologist at Khartoum. His health greatly improved in the Sudan, and the interest he began to take in the country and its peoples made him eager to extend his visit so that he could see something of the south. Although it had been intended that he should be in Khartoum for only one winter he was able to visit the south through the kindness of Bishop Gwynne and the Church Missionary Society, through whom he was attached to one of the C.M.S. stations in the Bari-speaking country, at Loka. In this capacity he did two tours of the southern Sudan. In 1931 he returned to England for good, and became an assistant master at Dover College, a post he held till his death.

George Whitehead was an example of the best that English schools and the older universities can produce: tolerant, sensitive, religious, with good taste and judgement, and with a kindly and catholic interest in whatever place and society he found himself. This is not the occasion to speak of his European interests, which covered a wide field, though I cannot refrain from mentioning his interest in modern languages, especially French, and his talent as a teacher of them; it is of his enthusiasm for the Sudan that I must say a few words. Whitehead had a deep and wide interest in everything Sudanese and especially, although he knew Arabic and a greal deal about the history and culture of the northern Sudan, for everything Upper Nile and Equatorial I have spent many happy hours with him in the library of the Royal



G. O. WHITEHEAD
1894 - 1941

Geographical Society going through old travel journals in many languages to read of the courage and trials, the ambitions and sacrifices, meanness and generosity, of the pioneers who opened up the southern Sudan, and of their impressions of the savage peoples they encountered on their travels. We had planned to write a book together on these early explorers.

The breadth of Whitehead's Sudanese interests is apparent in the bibliography given below. The papers he published in *Sudan Notes and Records* cover Archaeology, History, Anthropology, and Travel. They are representative of his wide knowledge of the country, but contain only a small portion of the notes he had collected from the writings of early explorers and had made from his own observations. His own observations were chiefly made among the Bari and Bari-speaking tribes of the southern Sudan, and on these peoples he became 'our leading authority', as Prof. and Mrs Seligman say in their Foreword to the *Pagan Tribes of the Nilotic Sudan*, in which book the two chapters on the Bari are very largely based on Whitehead's researches. I must mention also his sister-in-law Christina Whitehead's romantic tale *Youth on the Prow*, which describes a boy's adventures in the southern Sudan in the heroic age of Petherick, Baker, Speke, and Grant. It is dedicated to G.O.W. 'without whose aid this book could never have been written'. Anyone who knew Whitehead well can see how much this delightful story owes colour and detail to him.

If Whitehead had lived he would have made many further and valuable additions to our knowledge of the Sudan. He bequeathed his Sudan books and manuscripts to me. It is to be hoped that we will find among his manuscripts notes sufficiently worked up to be published in *Sudan Notes and Records*.

E.E.E-P.

Dr. A. N. Tucker writes:

I met George Whitehead in Loka, in 1929, where we were detailed by the Government to work on the preparation of a Bari grammar. For some months he placed his knowledge and his time at my disposal. Finally, when it was decided that I should work with Father Spagnolo instead, whose own Bari studies were nearing completion, Whitehead

generously turned over to us all the results of his own researches. After I had left the Sudan he continued to help Father Spagnolo, who refers to him as follows in the preface to his *Bari Grammar* :-

'A special tribute must here be paid to my friend Mr. Whitehead, who, after Dr. Tucker had left, very kindly read through the manuscript of the grammar and, with his knowledge of Western Bari, was able to offer valuable criticism. He also rendered me inestimable service by placing at my disposal all he knew that could increase the value of the appendices of this book.'

Since leaving the Sudan, George Whitehead and I continued to meet and correspond on Bari and other language matters, and he endeared himself to my family by teaching them Bari children's games. He had a deep nostalgia for Africa.

My early days at Loka, when I was new to the southern Sudan and its ways, I shall always remember with pleasure and gratitude for his help and companionship were invaluable in matters beyond the merely linguistic. His tall figure and his deep voice with its slow careful Bari were held in great affection by staff and boys alike.

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Major Stanley Smyth Flower (1871-1946)

One of the more urgent, if less spectacular, tasks facing the infant Condominium government of the Sudan was the protection of the country's wild life seriously ravaged by sixty years of indiscriminate destruction. In 1900 the game preservation department was created and Stanley Flower was appointed its honorary director.

He had come to his new duties relevantly equipped. Heredity helped him, for he was the son of Sir William Flower, director of the Natural History Museum of London. Technically he had served the right apprenticeship. Several years as a junior officer in India and the Staits Settlements had attracted him to the study of field zoology. His appointment as scientific adviser to the government of Siam gave him time and opportunity to continue his researches on the reptiles and batrachians of the Malay peninsula.

In 1898 he was made director of the zoological gardens at Giza, Cairo and was later director of the zoological service of Egypt, a post which he held until his retirement in 1924. During this period he made the Giza establishment one of the finest of its kind in the world. Among his services to Egypt was the waging of a successful campaign to save from extinction the cattle egret (*Bubulcus ibis*), an efficient devourer of insect pests, which at one time threatened the life of the Egyptian cotton crop The law of 1912 for the protection of insectivorous birds was the tangible result of his ardour. He planned the Giza zoological museum, and made notable contributions to the zoological literature of Egypt.

In 1900 he accompanied the first expedition undertaken by the new government of the Sudan to clear the vegetable obstructions, which blocked the channel of the Bahr el Jebel. His zoological report of the expedition was published in the proceedings of the Zoological Society of London in the same year As honorary director of the

Sudan game preservation department he organized the service, selected Arthur L Butler to be its first game warden and made annual journeys in the Sudan, supervising also the smaller zoological collections at Merowe and Singa, and developing with infinite care the export of collections to Europe and America. Readers of Rudyard Kipling may be interested to know that the carriage to Cairo of the surviving hounds from the Gihon Hunt, immortalized in ' Actions and Reactions' (1909), was entrusted to Flower.

In the first world war he commanded the Camel Transport Corps in the campaign in Sinai and Palestine He was vice-president of the Zoological Society of London, 1927-9 and a member of many learned societies.

REVIEW

مهدى الله (**Mahdi Allah**) By Taufiq Ahmed El Bakri. *Cairo* *'Isa El Bubi El Khalabi & Co.* (1944). pp. 128. P.T. 20.

This is a slight book, one of a series devoted to 'the heroes of Islam.' As the author's purpose is to treat entirely of the religious aspect of Mohammed Ahmed El Mahdi, he is necessarily limited in his references to the political events of the Mahdia. But the Mahdi of the *Manshurat* and the *Ratib* is well presented to the Moslem public, and the ascetic side of his life is competently analysed.

The Mahdi, essentially a reformer in his doctrine, enunciated principles that were in opposition to the established teaching of the orthodox Moslem schools of thought. His doctrine, based as it was on logic and reason, might well make a convincing and reassuring appeal to liberal minds, if fully and systematically explained to the Moslem public.

The book under notice fails in this mission, for the author is necessarily dependent on already printed sources of information. He has not had access to the original documents in the possession of El Sayed Sir Abd El Rahman El Mahdi Pasha, who would place Islamic students ever in his debt, were he to permit them access to these important papers.

M.S.

CORRESPONDENCE

To the Editor,
Sudan Notes and Records.
Dear Sir,

In your Volume XXII part 2 there is an interesting letter from Arthur E. Robinson, in which he draws attention to a journey through the Butana made in 1837 by Giovanni who, as dragoman to Prince Pueckler Muskau, reported some statues in a grotto at Jebel Libeiri, a site about 5 hours journey NE. of J. Mandara.

J. Mundara, as it is now officially spelt, is in latitude 15° 00′ N. and longitude 34° 25′ E., and there is a hill north by east of it, some ten miles away, which is now called J. el Ubeiriq. On the first edition (1904) of the 1:250,000 series of maps the hill is called J. el Ibeiri, but it appears in its correct form on the edition of 1928. There seems no doubt that these two hills must be the ones referred to by Giovanni. They are isolated hills in an otherwise featureless plain.

In December 1945, in the course of extensive wanderings in the Butana, I visited both these hills. J. el Ubeiriq stands 140 feet above the plain, and is as nearly hemispherical in shape as it is possible for any hill to be. Neither on the top nor on the slopes was there any solid rock to be seen; the whole surface consisted of fragmentary andesite. There is certainly nothing remotely akin to a grotto. At J. Mundara, on the other hand, there is what might quite well be described as a grotto as the foot of the NNE. buttress. The hill is 175 feet above the plain, and also consists of andesites, but with soda syenites intrusive into them. There is a small waterhole at the foot of the NNE. bluff, in an open cleft with perpendicular sides; it was practically dry on December 6th. Although I looked carefully I saw no signs of any carving or rock drawing. A casual walk round the hill revealed neither pottery nor stone implements, nor was there any on a very inviting little flat area near the top

On the east side is the tomb of Sheikh 'Abd es Sadiq in the form of a rectangular stone wall with a thatched roof A pilgrim to the site, whom I questioned on the spot, informed me, after some mumbled higher mathematical calculations, that Sheikh 'Abd es Sadiq died 470 years ago, which would have been about 1490.

No permanent water supply has been located there, though there are a number of waterholes in the low rock outcrops just to the NE. of the main hill. There are a large number of hafirs in the vicinity, but they are all small owing to the extreme flatness of the ground, and they cannot hold water for very long.

In January 1914 Kaimakam H. J. Hearn Bey visited the hill, and wrote as follows in his route report :-

'There are waterholes on the jebel ; one at the foot of a low cliff just on the north side of the highest point, one on the top of the eastern peak, and one at the foot of a low cliff to the SW. of the highest point All were dry, as also were the numerous artificial tanks. These could be seen from the top of the Jebel radiating out in every direction like like the spokes of a wheel. There are many graves, apparently Mohammedan, on the north side of the jebel at the foot and, on the east side, a fomb of Sheikh 'Abd es Sadiq, said to be particularly sacred. There are some stone enclosures but nothing old apparently.'

I should be interested to know what the authentic date of Sheikh 'Abd es Sadiq's death is.

Survey Department
Khartoum.
Feb. 23, 1946.

Yours faithfully
R. C. WAKEFIELD.

NOTE 1. Abdelwahab Eff. Ahmed, who was surveying J. Mundara recently, was asked to collect sherds that might provide clues to past human occupation of the vicinity of the hill. He found no traces of occupation on the hill, but brought in three sherds from the foot of the hill on the west side. It is impossible to date them exactly, but they may belong to the Fung period.

NOTE 2. With regard to the identification of the site of Fakenda said by Werne to be a great ruin and the reported seat of As-Sunia, a queen of the Halenga, about which Mr. Robinson also asked in his letter, Mr. A. C. Beaton, D.C. Kassala in 1944, states that Fakenda (Arabic : Fakihinda) is a sub-section of the Halenga tribe at Kassala, which in the past has produced many fikis and 'ulema. *Inda* means 'place', and 'Fakihinda' is said to mean the 'family of the fikis' comparable to Sheikhinda, another section of the tribe, which means the family of the sheikh'. Nothing is said to be known at Kassala now about As-Sunia.

A. J. A.

THE EDITOR,
SUDAN NOTES AND RECORDS.
DEAR SIR,

Many readers who do not know German will feel grateful to you for publishing the abridged translations from Petermann (*S N R*, Vol XXIV pp 145-179). I was particularly interested in some passages from Johann Kleincznick's travels, on which I beg to express my views, in the hope of eliciting comments from others as well.

After seven days' march from Meshra, he reached the River *Djur*. 'At this point the Djur receives a tributary, the Bahr Bongo . . .' This river, I think, is the Bussere. Do other travellers or map-makers call it by that name? (See p. 158).

Then on the same page: 'On the ninth day (from Meshra) it is necessary to cross another tributary of the Djur, the Bahr Kozanga, so called after the tribe living to the west of it.' To which statement is appended this footnote (8): 'This seems to be identical with the Bahr Onao of Poncet's map. A.P.' (I regret being unable to consult the map in question)

Personally I have no hesitation in identifying this river with the Kpango, commonly called Pongo, rightly called also, *e.g.* by Schweinfurth, *Djee* (phonetically *Ji*), the Golo name. As far as the statement about the 'tribe living to the west of it' is concerned, something seems wrong. In fact Kleincznick himself mentions only the 'Qullah and Qolo' (evidently the same tribe, viz. the Golo) and 'Andoqo' (doubtless the Ndogo). The spelling of the above names may appear strange but, besides being partly due to Arabic influence, several of our earlier missionaries write, Ndoko or Endoko, owing to the hard pronunciation of the *g*. My opinion is supported by Schweinfurth's map and statement: 'On earlier maps the river was marked as the Kozanga, but this I found to be merely the designation of a small mountainous ridge that extended for several leagues along the left bank of the river to the south-west . . .' (Translation by E. E. Frewer, 1873, p. 344).

But what about the name Kozanga itself? At one time I thought it might be a mispelling of Kuango (the Jur version of Kpango-Pongo), but this is refuted by Schweinfurth's definite statement. And, since I started studying the languages of the Raga area, the idea struck me that it may be the same name as Kossinga, the well known locality half-way between Raga and the crossing of the Sopo River, to the west, on the Raga-Nyamell road. This name is pronounced by local tribes either Kosiŋa or Gosiŋa, and even Gosaŋa, and probably mean 'the mountain' (*kwa*, *ko* or *gue*) of '*siŋa*' or '*saŋa*' (*Pterocarpus lucens*, see Broun and Massey, No. 343).[1] Could not the same name have been given by those tribes to other hills, thickly covered by the same kind of tree? That would be quite natural, but the people whom I asked on the subject at Khor Shammam—and they are the likeliest to know about it—said that they did not know about any such hills far away from their country; and they certainly did not seem to know much about any country other than their own.

Wau. Yours etc.,
22.3.46. FR. S. SANTANDREA.

1. I had no little difficulty in identifying *Pterocarpus lucens* as the *siŋa* or *saŋa* of the Raga-east languages, owing to the unreliability of native names quoted in *Flora of the Sudan*. The Bahr el Ghazal native names need a thorough revision. Here are the native equivalents for *Pterocarpus lucens*: Kresh *yaba*, Bongo *terinâ*, Zande *karangba*, Jur *alana*, Belanda-Bor *lando*, Dinka *dhikdhik*, Ndogo (and Belanda-Bviri) mb(v)olo, Raga-east *siŋa* or *saŋa*. The Ndogo-Bviri equivalent for *Detarium microcarpum* (Broun and Massey No. 276) is *mbgolo*. S. S.

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