

# The Uganda Journal

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AND SCIENTIFIC SOCIETY

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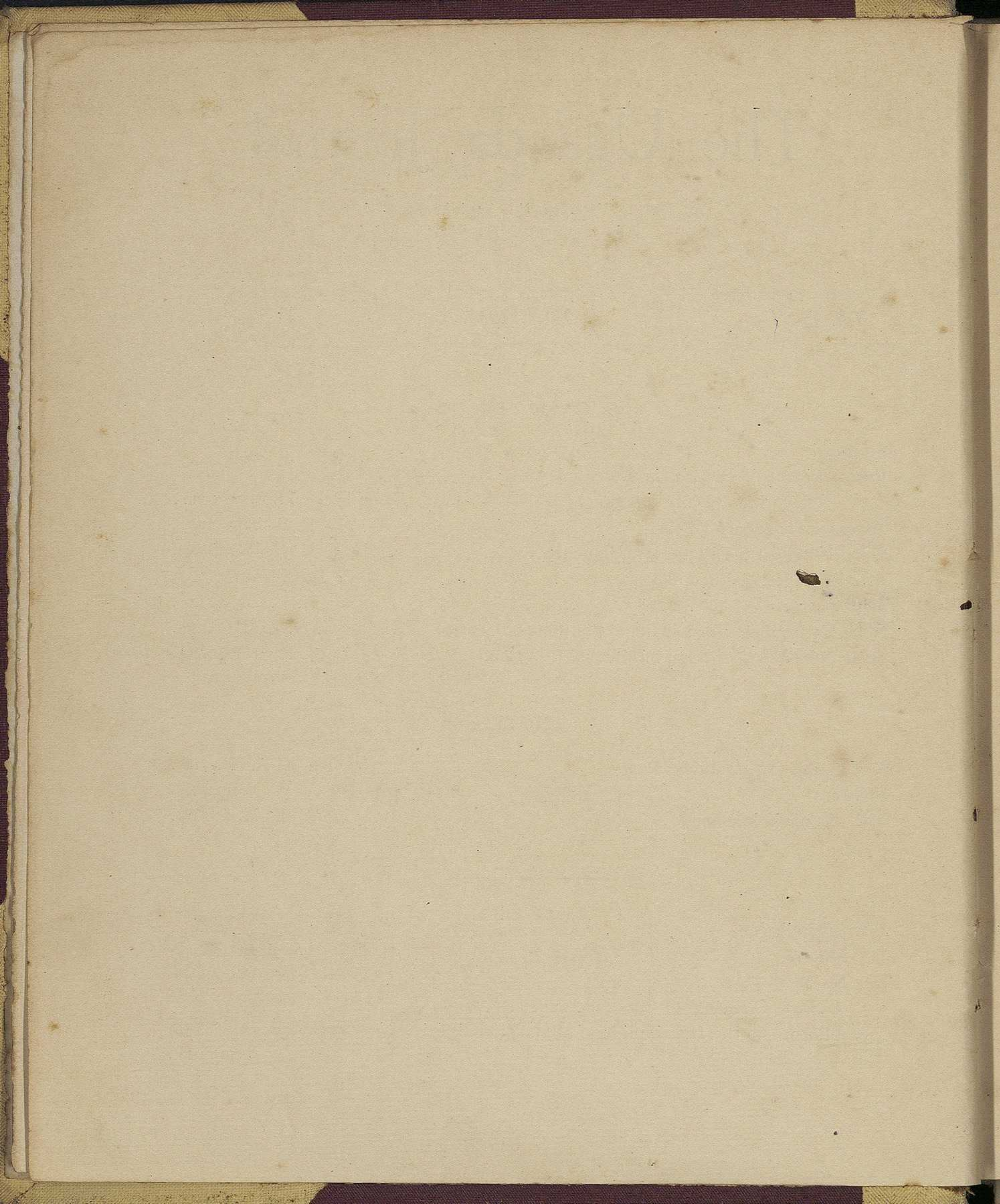
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# THE UGANDA LITERARY AND SCIENTIFIC SOCIETY.

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## NOTICE.

There are no restrictions as to membership of the Uganda Literary and Scientific Society. Membership is open to all races and to Institutions and Clubs. No entrance fee is imposed. The annual subscription, which is payable in advance on 1st July of each year, is Shs. 10 for single membership and Shs. 15 for double members. The double membership is introduced for the convenience of families and entitles two members of a family to all the rights and privileges of a full member except that they receive only one copy of each number of the Journal.

Additional copies of the Journal may be obtained from the Hon. Secretary and Treasurer, price Shs. 2/50 per copy. A limited number of bound copies of Volume 1 and a few single copies of each of the first two numbers can be obtained, either from the Hon. Secretary and Treasurer or the Uganda Bookshop, price Shs 10 for the bound Volume 1 and Shs 3 for single copies. Arrangements have been made with the Uganda Printing and Publishing Company, Ltd., Kampala, to bind the volumes of the Journal at a cost of Shs. 2/50 per volume. All subscriptions and contributions to the Journal should be addressed to the Hon. Secretary and Treasurer, P.O., Kampala. No guarantee is given to return any MSS. submitted. Articles should be typed on one side of the sheet only and should not contain matter likely to cause political or religious controversy. Those submitted by Government Officials must comply with Colonial Office Regulations; they should either be submitted *u. f. s.* the Head of Department concerned or they should be addressed to the Editor, with a request that he will obtain the necessary permission for publication.

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# THE UGANDA LITERARY AND SCIENTIFIC SOCIETY.

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*N. B.—The Society's Postal Address is P. O., Kampala; and its Bankers the National Bank of India, Ltd., Kampala.*

## EDITORIAL

With the publication of this number of the Journal the reconstituted Uganda Literary and Scientific Society enters upon its second year. The Committee had hoped that a membership of 300 would be achieved in the first year, and it is most gratifying to record that the membership at the close of this year has exceeded 320. As a result of this support the reconstituted Society enters its second year financially sound and in a position to carry on confidently. It is particularly pleasing that the response has not been confined to Uganda but has been widespread, and that among our members we include many distinguished societies and learned bodies. There are indications of increased support also from the Asiatic and African sections of the local community and it is hoped that all who have Uganda's interests at heart will eventually join the Society. With a membership of 300 only, it would be necessary for reasons of expense to reduce the size of the Journal to fifty pages. It will be found however that this number is no smaller than its predecessors but this size can be maintained only if our membership increases to a minimum of 500. Members and intending members need have no fear that there will be any deterioration in the standard set up by the first two numbers, for material of the most varied and interesting nature is being constantly received. This, however, does not mean that potential contributors should hesitate to submit their work forthwith, for it is felt that to maintain the popularity of the Journal it is essential to keep it on a broad basis. It is very desirable that the Editor should have plenty of material at his disposal — sufficient at any time for him to plan ahead for at least two numbers.

An important proposal has recently been advanced, which should interest all members, namely, that the title of the Society should be changed to "The Uganda Society". This matter will be discussed at the Annual General Meeting which will be held either towards the end of July or early in August. As probably more than half of the members will not have an opportunity of attending the meeting it is felt that the matter should be decided by ballot and a slip on which to record a vote is sent to each member with this Journal. The count of the votes will take place on the 15th Sept., and all slips should be sent to the Honorary Secretary, P. O. Box 71, Kampala, by that date. For the information of members the following arguments have been advanced for and against the proposal:—

- For:—
1. That the present title is not only clumsy but that it does not accurately and fully describe the aims and objects of the Society.
  2. That the title "Uganda Society" would allow the Society a much wider scope in its activities, the nature and extent of which, however, would continue to be subject to the sanction or veto of the general body of members.
  3. That the present name is apt to be confused with that of another institution — the "Uganda Literary, Debating and Social Club"—

which came into being during the period when this Society was not actively functioning and which still exists.

4. That the present title may discourage people who are interested in Uganda but not particularly interested in "Literature" or "Science."

- Against :—
1. That the present title adequately describes the aims and objects of the Society.
  2. That the title "Uganda Society" is too vague and might make permissible ventures which are not in the best interests of the Society.
  3. That although the present title may have some similarity to that of another institution there is no evidence that there is any substantial confusion of identity.
  4. That it would be a mistake to make the Society too "popular" and that the present title indicates that the Society is learned, respectable and responsible.

It is felt that no editorial comment is required and that members are themselves best able to decide by what name the Society should be known.

On 22nd May we were honoured by a lecture by H. E. the Governor on "A Trip to the Maldivé Islands", which was illustrated by a cinematograph film. During the quarter Capt. Pitman also gave a lecture at Entebbe on "Snakes." It is hoped to arrange another lecture in the near future by Sir Albert Cook.

Owing to the uncertainty of other forthcoming events it has not yet been possible to fix a date for the proposed Arts and Crafts Exhibition but it is hoped to be able to make an announcement shortly.

We have been requested by the Royal Anthropological Society to exchange the Journal with their publication "Man", and by the Imperial Institute to exchange the Journal for the Quarterly Bulletin of the Institute. We have acceded to both these requests and members may obtain either publication on temporary loan on application to the Honorary Secretary.



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# Ernest Linant de Bellefonds

## and Stanley's Letter to the "Daily Telegraph."

By H. B. THOMAS, O.B.E.

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Sir Harry Johnston tells the story, [*The Uganda Protectorate*, 1902, vol. 1. p. 222].

"In 1875 Stanley...reached Uganda to be received by the same Mutesa who had received Speke...At this opportune moment there arrived in Uganda one of Gordon's messengers...Linant de Bellefonds, a Belgian, who in reality had come to see whether Uganda was worth the conquering, and whether it was too tough a job to tackle. Stanley resolved to write his famous letter to the *Daily Telegraph* inviting English missionaries to proceed to the evangelisation of Uganda. He had no means of sending this letter back to Europe save by way of the Nile, and Linant de Bellefonds volunteered to take it. As the unfortunate Belgian was travelling down the Nile through the Bari country in the vicinity of Gondokoro, his expedition was attacked by the Bari, who had suffered recently great wrongs at the hands of the Nubian slave-traders. Linant de Bellefonds was murdered by the Bari, and his corpse was thrown on the bank, to lie there rotting under the sun. A Government expedition sent to inquire into the cause of this attack and to punish the Bari recovered Linant de Bellefonds' body and removed therefrom the long knee-boots which he was wearing at the time of his death. In one of the boots—he had tucked it between boot and leg at the time of the attack—was found Stanley's famous letter to the missionaries. This was sent on to Gordon Pasha at Khartum and forwarded by him to the *Daily Telegraph* with an explanation of the circumstances under which it had been found. The letter, when published, met with an immediate response. Before many months were over, the first party of Anglican missionaries of the Church Missionary Society had started for...Uganda....Truly Stanley's letter, the blood-stained sheet of paper found in the boot of the murdered de Bellefonds, was big with fateful results for the Kingdom of Uganda."

In this form the story of Linant's death and of the recovery of the letter is repeated by Bishop Tucker (*Eighteen Years in Uganda and East Africa*, 1908, vol. 1) and has since become almost an article of faith in Anglican mission literature. The incident provided a subject for one of the more dramatic scenes of the Uganda Mission's Jubilee Pageant at Mengo in 1927 and the resulting film was exhibited in England in the following year.

Unfortunately Johnston's story is inaccurate in nearly every particular.

The father of Ernest Linant de Bellefonds was Adolphe Linant, a pioneer of White Nile exploration, who had, in 1827, penetrated to a distance of nearly one hundred and fifty miles south of Khartum. As Linant Pasha he was a central figure of Egyptian irrigational engineering during the middle of the nineteenth century, dying at the age of 83 in 1883 or 4. He was a Frenchman, not a Belgian. One of his sons, Auguste, was secretary and interpreter to Gordon on his first expedition to Equatoria. He survived but a few months, dying at Gondokoro on 17th September 1874.

Eager for adventure in central Africa and undeterred by his brother's fate Ernest arrived at Gondokoro in November 1874 and was engaged by Gordon, who decided that he would make a suitable envoy to visit King Mutesa. His departure was delayed by sickness but he at length started southwards from the Egyptian station at Fatiko(1) on 25th February 1875, arriving at Rubaga on 11th April where, next day, during an audience with Mutesa, he met Stanley—to their mutual surprise. For 3 or 4 days at the end of May he made a short excursion into Kyagwe and visited a mountain at the source of Lwajali River which seems to show that he may have climbed Mukono Hill. Hearing that Mutesa's palace had been burnt he returned to Rubaga and, at length obtaining permission to depart, left on 15th June. On 5th July when crossing the River Kafu he was attacked by many thousands of Banyoro, but after an all-day struggle he managed to shake them off and arrived back at Fatiko on 22nd July.

The details of Linant's journey are not widely known for they do not seem to be available in English. The principal source of information is in the Bulletin Trimestriel de la Société Khédivale de Géographie du Caire. Ser. I, 1876-77 (pp. 1 to 104) where will be found "Itinéraire et Notes de E. Linant de Bellefonds. Voyage de service fait entre le poste militaire de Fatiko et la capitale de M'tesa roi d'Uganda (avec carte) Février-Juin 1875". This is followed by a letter written by Linant to his father dated 23rd August 1875, together with Gordon's letter of condolence to Linant Pasha upon his son's death dated 27th August. The map, constructed by Schweinfurth from Linant's sketches, is excellent. The bare itinerary of Linant's return march to Fatiko can be followed from his Tables of Meteorological Observations, a MS. copy of which is in the possession of the Royal Geographical Society. Stanley gives a full account of their meeting at Mutesa's in "*Through the Dark Continent*".

After resting for some weeks in the fort at Fatiko, Linant set out northwards and crossing the Nile near Dufile took the route along the western bank of the river. Somewhere near the foot of the Fola cataracts he came upon a party sent by Gordon to fetch ropes—presumably some of the ship's stores

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(1) Constructed by Sir Samuel Baker in 1872. The remains, situated about 16 miles north of the present station of Gulu, are still plainly visible.



which had already been carried forward—of which Gordon was now in need. Thus it was a considerable party which marched into Gordon's camp on 22nd August 1875.

For the past month Gordon<sup>(1)</sup> had been having a harassing time endeavouring to pass the *Khedive*, the larger of the two steamers allotted to Lake Albert, through the various rapids lying between Lado and Dufile. More than half the distance had been achieved and he was now trying to coax the steamer past the Yerborah Rapids near which, on the western bank, he had constructed a station which he called Moogie. A mile further up stream he had settled himself in a temporary station and it was here that he was found by Linant. The river channel up which Gordon planned that the *Khedive* should pass followed the far (east) bank and now to add to his difficulties the Bari on that far side of the river were proving hostile. On 24th August Gordon, armed with an umbrella, crossed to the east bank with Linant and some soldiers and tried to get into peaceful touch with the Bari but they were attacked continuously.

On the 25th Gordon records that Linant remained in camp writing letters. That night Linant offered to cross the river next day to teach the Bari a lesson and accordingly at 8 a.m. on 26th August he set out with 2 native officers, 36 soldiers and three irregulars. About noon Gordon saw the troops with Linant in his red shirt quite at home on the opposite hill. At 4.30 p.m. Gordon was taking an afternoon walk when he saw a soldier without his rifle on the far bank and he learnt that disaster had overtaken the party. Apparently they had let themselves be surrounded. Linant was killed with two spear wounds and of the rest only four in all escaped. Writing to Linant Pasha next day Gordon states that he had been able to look for his son's body and had buried it with due honours.

Linant must have been a very pleasant fellow and seems to have been a universal favourite. Gordon, who was never backward in criticism of his staff, was impressed with the way he had been matured by his journey to Uganda. He was planning that Linant should lead the advance to Lake Albert and felt his loss keenly.

To turn now to London. On the 15th October 1875 the *Daily Telegraph* published a letter from Stanley dated Kagehyi, 1st March 1875, that is just prior to the commencement of his circumnavigation of Lake Victoria, and on the 18th October appeared a further letter dated Kagehyi, 15th May 1875, that is upon Stanley's return from the circuit of the lake. Both letters had reached Bagamoyo through the agency of a half-breed Arab trader and had been forwarded to England by way of Zanzibar. In the latter letter Stanley refers to other letters which he had handed to Linant in Uganda, which letters had not then been received.

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(1) The principal authority for the events of the next few days is Birkbeck Hill's *Colonel Gordon in Central Africa*.

On 27th October the *Times* printed a telegram dated Suez, 26th.

"Despatches of the 14th and 20th of Aug. received yesterday report that Lieut. (sic) Gordon was in Appudo with the steamer...Linant saw Stanley who had traversed Lake Victoria from S to N alone at M'tesa's.... Subsequent despatches report the death of Linant in a fight with the Kabba Rega people. Lake Victoria is very large and full of islands."

Presumably Stanley's letters reached Egypt at the same time, for on 9th November the *Daily Telegraph* announced the receipt in London of the missing despatches the publication of which was being withheld until the *New York Herald* (which was jointly financing Stanley's expedition with the *Daily Telegraph*) had received the news. The announcement continued,

"We may add, from news forwarded by a special correspondent in Khartoum, that the circumstances attending the lamentable death of M. de Bellefonds render the arrival of these letters most remarkable.....De Bellefonds' party bearing Stanley's despatches had nearly reached Colonel Gordon's station when he was attacked by the Bari, and massacred along with thirty-six followers. Only four soldiers escaped, and it appears that the stained and torn letters which are now safely in our possession were flung aside, and found afterwards by a detachment of Colonel Gordon's forces..... We cannot but draw attention to the singular good fortune which has thus brought home for the benefit of science one valuable despatch entrusted to a negro trader in the wilds of Usukuma, and another pillaged and flung aside in the jungle by Bari robbers."

Stanley's letter dated Rubaga 14th April 1875 duly appeared in the *Daily Telegraph* of 15th November 1875 and in a leading article the editor describes, in a manner which continues to display the hand of journalistic embellishment, the way in which the letter had been received.

"Whether one of the survivors kept possession of the pages or whether they were flung aside in the forest and afterwards found by the detachment sent out by Gordon, is not even now certain; but the tattered condition of the covers upon one of which the Italian postmaster at Siout(1) evidently astonished by the soiled and blood-stained envelope, has inscribed a memorandum to the effect that it had come to hand in that state—leads to the belief that these letters actually lay for days in the African jungle, where they had been thrown away by the ignorant and superstitious savages."

That same evening a new session of the Royal Geographical Society was opened and the President, Sir Henry Rawlinson, naturally dealt at length with Stanley's discoveries. He was also able to read a digest of a telegram of Col. Gordon of August 20th which had been communicated by Sir Bartle Frere from Egypt.

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(1) i.e. Assiut.

"At this date we are in the province of Appudo.....Some soldiers from the south have unexpectedly arrived.....The Governor of Fatiko(1) has written me a letter in which he informs me that Kabarega has been intriguing with the Dongolowa irregulars... M. Linant has arrived with his soldiers in good health (1)".

The safe arrival of Linant in this telegram probably refers to his arrival at Fatiko and messengers announcing his arrival apparently came through from Fatiko to Moogie in advance of Linant himself. The possibility cannot even be ruled out that Linant sent Stanley's letters forward by these messengers, instead of sitting down with them for the several weeks which he remained at Fatiko; for it will be realised that Gordon maintained regular communications between his stations.

Sir Henry Rawlinson added that news of somewhat later date had since been received to the effect that M. Linant, the bearer of Stanley's important letter had been killed in an attack by the Bari when near Col. Gordon's station and that Sir Bartle Frere in a letter just received stated that Nubar Pasha had told him that another telegram had been received which confirmed the report of young Linant's death.

Thus, when the very limited public knowledge of persons and places in central Africa is considered, it will be appreciated that it was in no way remarkable that the actual sequence of events should be confused and that some weight was attached to the rather flamboyant comments of the Editor of the *Daily Telegraph*. Nevertheless, it was soon understood that Linant had rejoined Gordon before his death, for Sir Henry Rawlinson was able to tell the true story of his death to the Royal Geographical Society on 29th November and it is correctly repeated by Mr. E. Hutchinson, the lay secretary of the Church Missionary Society, in his *The Victoria Nyanza, a Field for Missionary Enterprise*, which was published in January 1876 as propaganda for the proposed missionary expedition to Uganda. Nowhere in current literature does the story of the retrieval of the letter from the unfortunate Linant's body seem to have found a place.

But any possibility that Stanley's letters may have been on Linant's person at the time of his death is disposed of by a letter from Gordon himself. This letter will be found in an unobtrusive corner of the *Times* of 17th May 1876. On the following day the *Daily Telegraph* printed the same letter but—sad to relate—the Editor's courage seems to have failed him when he was called upon to discredit his own earlier and much more dramatic surmises, for the sentence which lays the story at rest has by him been omitted.

It is a very interesting letter and the *Times* version is given in full, those portions which are missing from the *Daily Telegraph* being printed in italics.

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(1) Nuehr Aga. The same, presumably, who was in command of the Egyptian troops at Rubaga in the following year; see J. M. Gray, *Mutesa of Uganda*. (*Uganda Journal*, Jan. 1934).

“Mr H. M. STANLEY. Mr. Edward Marston(1) writes to us from 188 Fleet Street :-

In *the anxiety which is felt on account of* the long continued silence of Mr. H. M. Stanley perhaps the following scrap of information may be of public interest. I have received a letter from Colonel Gordon, dated Labore, March 9 which encloses an open envelope bearing this inscription :- ‘From Uganda, Central Africa. Henry M. Stanley Esq: care of E. Marston Esq., 188 Fleet Street London, England.’ The whole of the above inscription is, I am quite certain, in Stanley’s own handwriting. On the upper right-hand corner is written in pencil evidently by some *unaccustomed*(2) hand the words—To Sir Cunall g (*probably* meaning Colonel Gordon). Colonel Gordon writing on the 9th March says :- ‘Yesterday the post came in from my most southern station, Mrooli. This station is five days from M’tesa. Among the letters was this envelope (above described) and in the envelope was a pencil scrawl in English purporting to be from M’tesa the substance of which ill-written and ill-expressed note was a proposal to fight Roba Riga(3) of Ungoro and a wish to go to Bombay. Its date was February 6, 1876. At that date I was close to Mrooli, but could hear nothing of Stanley or his party. However I suppose either Stanley or some of his party are at M’tesa, for otherwise who could have written the letter? not that it could have been written by Mr. Stanley—I have sent up to M’tesa the *Daily Telegraph*(4) sent to my care, and a lot of other papers, but since Linant came down in August last I have heard nothing of Stanley. *The letters I sent home, and which were forwarded by me to a Mr. Moore never fell into the jungle as described.* Linant arrived safely and was with me three days before his death. I cannot understand why Stanley does not write to me, *though he uses me as his postman*; it is too late now, but otherwise it would be well to tell him that *as far as my standing in his way in exploration*, I would gladly help him; as it is I have been obliged to send a somewhat inexperienced man(5) in charge of two life-boats to explore Lake Albert. The steamer, 38 tons, is nearly completed, but it will never be of much use, as it can only carry two days fuel (wood). You will see I say, “It is too late now to write to Stanley,” I hope to get away from this country *soon*. Stanley will run great risks in the vicinity of the Egyptian posts for the natives have not a nice discrimination. *I will only add in conclusion, the suggestion that possibly the word ‘Bombay’ may refer to Stanley’s old follower and not to the city of Bombay.*(6).”

(1) Of the firm of Messrs. Sampson Low, Marston, Searle and Rivington, who were Stanley’s publishers.

(2) *D. T.* says uneducated

(3) *D. T.* says Kabba Rega

(4) *D. T.* says *Daily Telegraphs*

(5) Romolo Gessi

(6) J. M. Gray, *Mutesa of Buganda* (Uganda Journal Jan. 1934) shows that Mutesa referred to the possibility of intervention by the Government of Bombay.

Two interesting points arise in conclusion. Who was 'a Mr. Moore' to whom Gordon forwarded Stanley's letters? I have not succeeded in tracing anyone of that name—in Khartum for instance—who might be the *Daily Telegraph's* agent or correspondent.(1) Perhaps some reader of the *Journal* can establish his identity.

Further, whence did Sir Harry Johnston derive the disarmingly circumstantial details regarding Linant's top-boot, for nowhere does it seem to figure in any previous account? Or was the top-boot, perchance, merely the parthenogenous offspring of Sir Harry's fertile pen?

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(1) A certain 'L. Moore' was in temporary charge of the British Consulate at Alexandria at about this time, but there seems no reason to connect him with the transit of Stanley's letters.

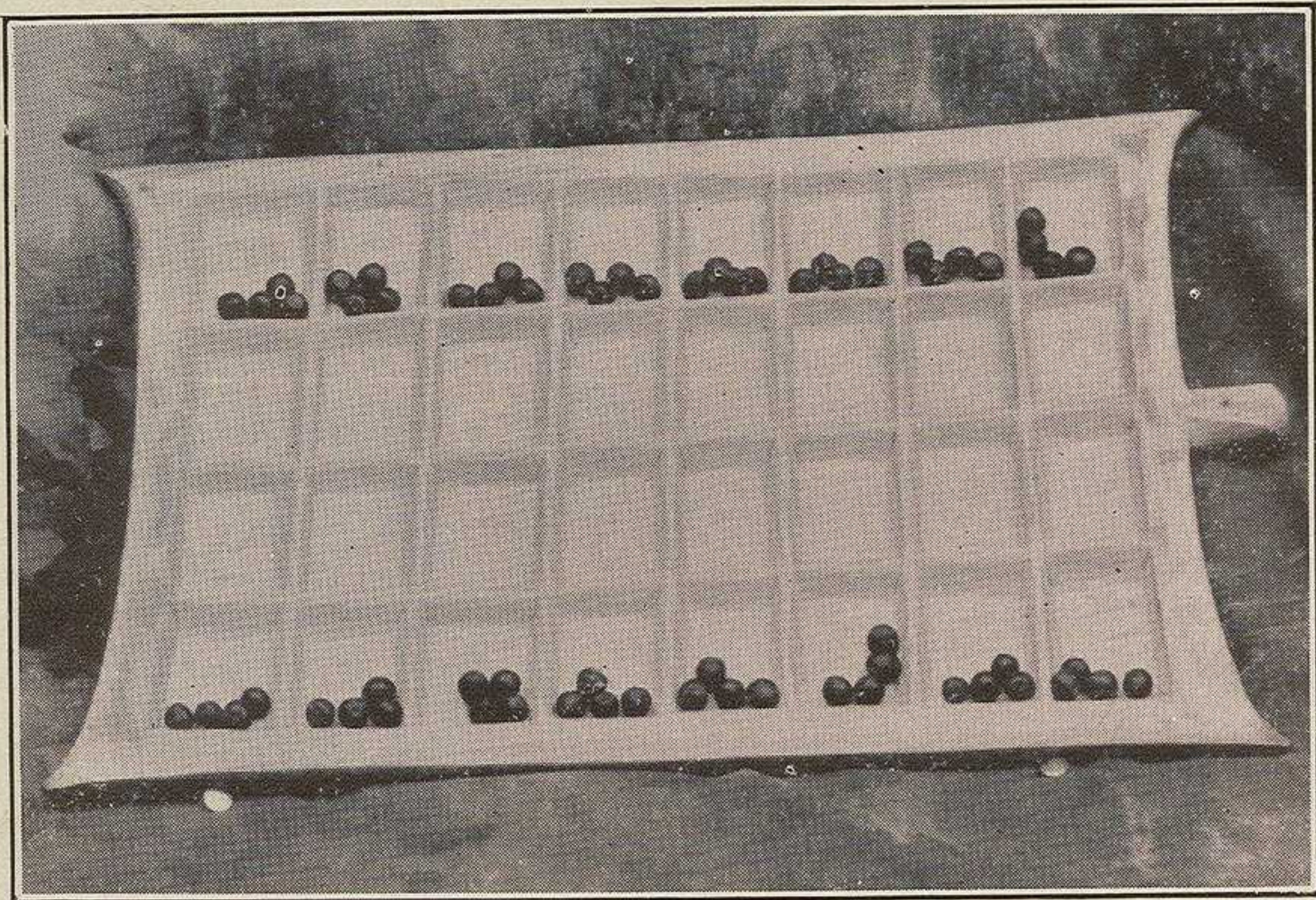
# Mweso - The Board Game

By R. S. SHACKELL.

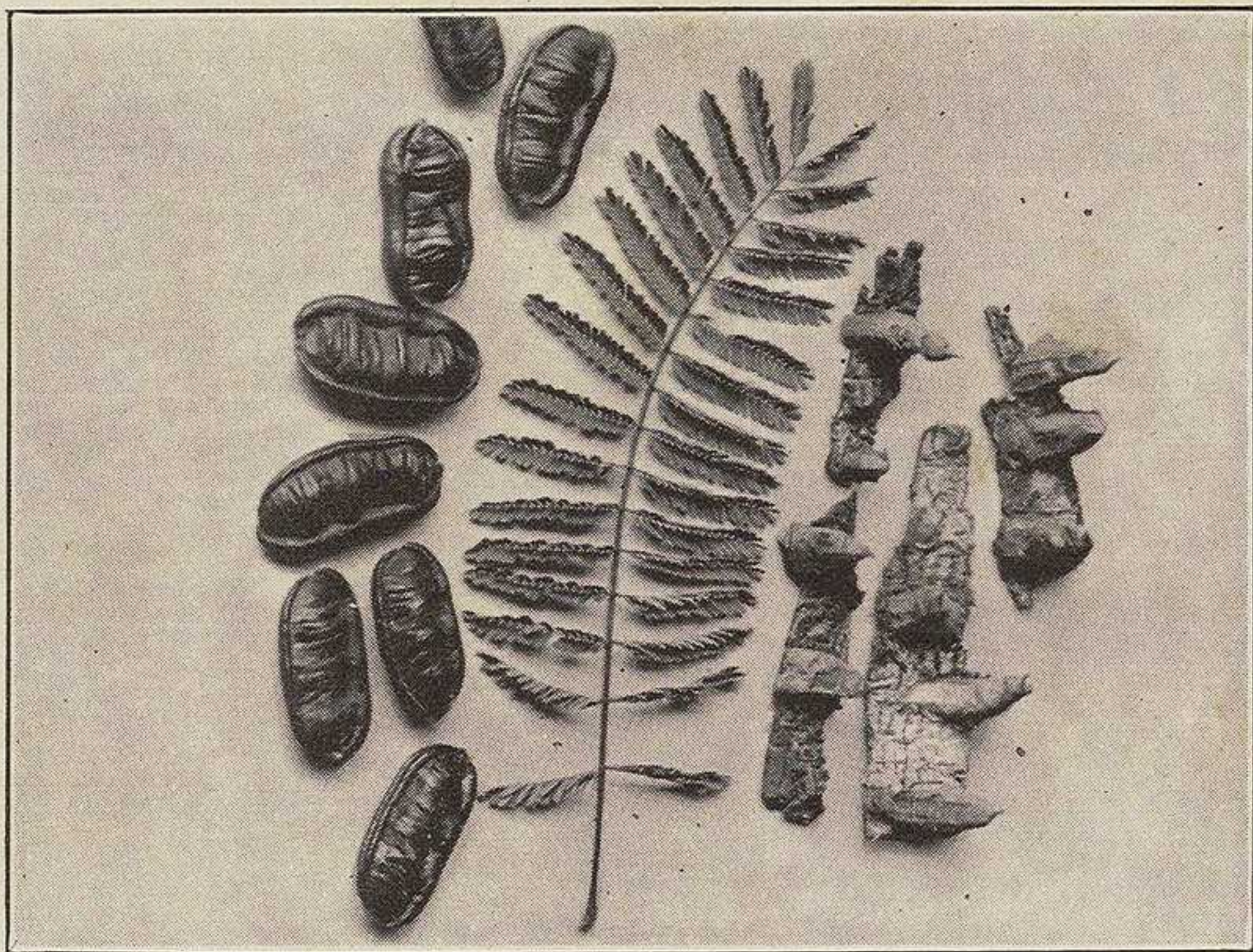
If you have been in Uganda for any length of time and have not been too unobservant, almost certainly you will have noticed at some time or another a group of Africans seated round a board about eighteen inches long and twelve wide, intent upon a game played with little brown pellets. If your curiosity has moved you to stand and watch them closely you will, I imagine, have come away without any clear idea of how the game was played but with, perhaps, a feeling of admiration for the dexterity with which the players made their "moves". But if, on the other hand, you have gone further and taken the trouble to learn the game you will surely have come, like myself, to speculate as to its origin and to wonder at the ingenuity of the untutored savage. I have seen it played up and down the West Coast of Africa and inland, on the East Coast and inland, and I have little doubt that its vogue, with minor modifications, extends throughout tropical Africa. Where it originated and when I cannot say, but as it seems possible that the Muganda, for one, will gradually acquire the White Man's predilections for whiling away his leisure moments and will arrive one day at playing whatever has by then supplanted Contract Bridge, and that *Mweso* will fall into desuetude, I think that it may be of use to set down how the game is played today, in Kampala and round about.

Photograph No. 1. shows an ordinary board obtainable for about a shilling or so. More elaborate examples exist, some with feet, but whatever degree of ornamentation or fineness of workmanship characterises a board, its fundamental plan remains unaltered. This plan, as the photograph shows, consists of a rectangle roughly in the proportion of 18 to 12, divided into thirty two equal rectangles. No particular wood seems to be favoured for the making of the board, so long as it be fairly soft and close grained; constant play soon gives it a patina all its own.

The little brown pellets which are used as "men" are of a particular kind. They are the seeds of a tree known to the Baganda as *Luiki*, and to scientists as *Mesoneurum Welwitschianum*. It is a strong woody climbing plant which will often reach to the summit of a tree thirty feet high or higher; in which case its main stem near the ground will be four inches or so in diameter covered with a corky bark having large stumpy spines shaped like the "horn" of a rhinoceros. The seeds are carried at the ends of the upper shoots of the plant in pods, usually two to a pod and fall to the



1. A Mweso Board and Men.



2. Luiki — *Mesoneurum Welwitschianum*.  
Bark, Pods and Leaf.



ground when ripe, enclosed in these pods. If a shoot of the plant grows outwards in a direction where it finds no support it may bend over until it touches the ground and then "strike" itself as a blackberry bush will. There is a specimen about three miles out of Kampala on the old Mubende road which has done this. On the West Coast of Africa the plant is well distributed from Senegal to Angola, but being of a slightly different variety is known as *Mesoneurum Benthamianum*. As soon as the seeds fall they are ready for use and beyond extraction from the pod require no preparation. They are hard and woody and last a very long time in play; only becoming useless when constant play has worn the outer covering away and exposed the kernel. Photograph No. 2. shows some bark, pods, and a leaf.

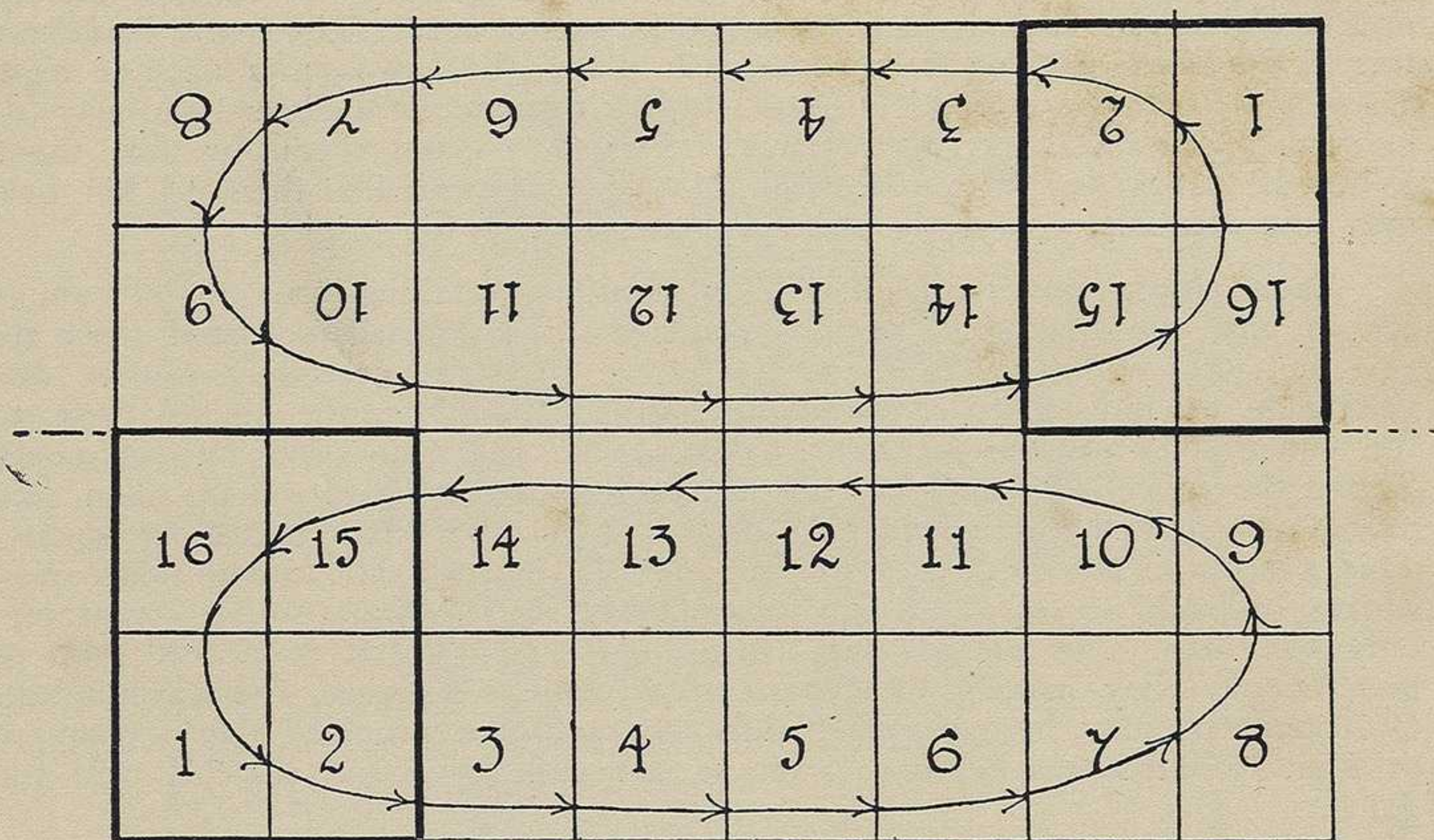
So much for the board and men. Now for the game.

Each player has 32 men. The object of the game is to capture all the opponent's men or so to reduce them that he cannot move. The centre horizontal line of the board divides it so that each player has two rows each of eight squares. He may play only his own men on his own side of the board and may not interfere with those of his opponent except to count them or take them. When he takes any men from his opponent a player adds them to his own men and thereafter plays them exactly the same as his original 32.

Each player moves in turn. A move consists in taking up as many men as are in any one square on a player's own side of the board (provided there are two or more) and dropping them one by one in each succeeding square, travelling in an anti-clockwise direction and starting from the square next to the one from which the men were taken. If the last man drops into an empty square the move is finished but if it drops into an occupied square then that square is emptied and the move continued from the next succeeding square. This process is repeated until the last man in the hand falls into an unoccupied square. It should be noted that a move cannot be started from a square containing only one man. This means that when a player is reduced to sixteen men or less, should they happen to be situated only one to a square, the game is lost. Of course he may be reduced to only ten men, but provided that one square at least contains two or more men he can still move and possibly win the game.

The way in which an opponent's men are taken is easy to demonstrate on a board but hard to describe. No men are ever taken from the board and the whole 64 remain in play from start to finish: they are merely transferred from one side of the board to the other. When, during a move, the last man from a player's hand drops into a square in the row nearest the centre line containing one or more men, and it so happens that the two squares on his opponent's side of the board immediately opposite are occupied, instead of continuing his move in the ordinary way the player takes whatever number of men are in those two opponent's squares and continues his move with them on his own side of the board. But, and this is important, he does not start from where he left off but from the square next to the one last left empty on his own side of the board.

When this has been done the player's move may or may not be finished. If the last of these captured men falls into an occupied square the player continues his move in the ordinary way, unless it should so happen that this occupied square is in the row of squares nearest the centre line and that the two squares of his opponent's half of the board opposite are occupied: in which case he again takes what men are there and proceeds to play them on his own side of the board starting from the square next to the one last left empty. It is thus possible for a player by a combination of relayed moves and moves made with men taken from his opponent to travel round his side of the board several times before falling out of play through his last man falling into an empty square. The skill of the game consists in working out the moves well ahead so that the opponent's men are taken whilst as few openings as possible are left to him.



**1. The arrows indicate the direction of play.**

There is one complication to mention: "*Okutebuka*" — "To go back". In certain circumstances it is permissible to move back, i. e. in a clockwise direction. In the diagram No. 1. it will be noticed that a thickened line has been drawn round the four squares on the left hand side of each player. If a player sees that the number of men (being two or more of course) contained in one of the squares numbered 1,2,15,16, will land him when travelling *clockwise* into one of the squares in his second row (Nos. 9,10,11,12,13,14,15,16) which is occupied and has two occupied squares of his opponent immediately opposite he may move in a clockwise direction and take the men. The men which he takes he

then proceeds to distribute one to each square in the usual way, starting from the square on the anti-clockwise side of the square last left empty, (1, 2, 15, or 16 as the case may be), unless he finds that the number of men which he has taken will, if started from the square on the clockwise side of the square left empty land him in an occupied square in his second row which faces two squares of his opponent both occupied. In this last event he takes the men and goes back to the square left empty and continues his move in an anti-clockwise direction unless the requisite conditions for moving backward again prevail. In moving in a clockwise direction a player may not move beyond the right hand end of his second row of squares (square 9), even although he may be able to relay until he comes round again to a square in the second row which is conditioned to permit him to take some opponent's men.

As mentioned above the game is won when the opponent cannot move because he has no square containing two or more men. There is, however, one coup which counts as a win. This coup is known in Luganda as "*Nkutemye*" - "I have cut your head off". If a player, *in one move* (including a relayed move) succeeds in taking his opponent's men in squares 1 and 16, and 8 and 9, he wins— "*Nkutemye!*"

It is hoped that the above running description of the game is clear, but for reference a set of rules is appended.

## 1.

*The Board.* The board is divided into 32 squares arranged in four rows of eight. The players sit at the long sides of the board so that each has two rows of eight squares before him.

## 2.

*The Men.* The game is played with 64 men, 32 for each player.

## 3.

*The object of the game.* The object of the game is to capture all the opponent's men but the game stops when the opponent's men are so reduced in number that he cannot move, or when all the men are taken from the squares at both ends of each row in one move. This last coup is known as "*Nkutemye*"—"I have cut your head off".

## 4.

*Commencement of the game.* Before the game proper starts each player distributes his men four to each square in his first row. The object of this is to ensure that each player has the correct number of men. Having checked this each player proceeds to allot his men between the sixteen squares on his own side of the board as best pleases him. There is no rule as to the number

which may be placed in any square and any square may receive any number of men or none at all. Thus a player may place his men like this:-

		3	3	3	3	3	
							17

**2. This arrangement is known as "The seventeen game,"**

or he may choose any other arrangement he likes. In his own interest he will not place men in squares in rows one and two which are opposite to each other, as this is the position in which his opponent can take them.

5.

*Choice of first move.* With the Baganda this is a matter of mutual arrangement and they do not usually bother to spin a coin or decide in any other arbitrary way. In second and subsequent games the loser always starts.

6.

*The move.* A player moves by taking all the men which are in any one square (provided there two or more) and distributing them one at a time to each successive square starting at the square next to the one vacated and moving in an anti-clockwise direction. It does not matter whether a square traversed by the hand is occupied or vacant—each square receives one man and no more. If the last man falls into a vacant square the move is finished, but if it falls in a square already occupied the move is relayed, i.e. the men in that square together with the one which has just arrived are taken up and distributed one at a time to each successive square, still moving in an anti-clockwise direction, and starting from the square on the anti-clockwise side of the square just vacated. (By anti-clockwise side of a square is meant the left hand side of a square in the second row or the right hand side of a square in the first row. If men are taken from the left hand end square of the second row the first man is dropped into the left hand end square of the first row. If taken from the right hand end square of the first row the first man is dropped into the right hand end square of the second row.)

7.

*Taking of opponent's men.* If the last man of a player's move falls into a square in the second row which is occupied and if the two squares directly in

line with it in the opponent's first and second rows are occupied the player takes whatever number of men are in those two squares and distributes them one at a time to each successive square, moving in an anti-clockwise direction, but starting from the square on the anti-clockwise side of the square on his own side of the board which he last left empty. If, when he has done this, the last man again falls into an occupied square which is opposite to two occupied squares of his opponent he takes whatever men are in those squares and distributes them in the same way, starting necessarily from the same square as previously, because that will again be the one on the anti-clockwise side of the square last left empty. He continues to repeat the operation so long as the requisite conditions prevail, i.e. his last man falls into an occupied square in line with two occupied squares of his opponent. If, however, his last man falls into an occupied square which is in line with two of his opponent's, only one of which or neither of which is occupied he just relays his move as provided under Rule 6. He continues taking and relaying until such time as his move finishes because his last man falls into an empty square.

## 8.

*Moving backwards.* Moving backwards, i.e. in a clockwise direction, is only allowed in the following circumstances :-

- (a) It is only permissible to move backwards by starting from the two squares at the left hand end of the first row or the two squares at the left hand end of the second row.
- (b) The move must immediately result in the taking of some opponent's men.

The distribution of the men taken may be started from either side of the square last left empty, but in the case of a start from the square on the clockwise side of the empty square the move must immediately result in the taking of some more opponent's men. Having taken all the men possible by moving in a clockwise direction, the player continues his move in an anti-clockwise direction by starting to distribute the last lot of captured men from the square on the anti-clockwise side of the empty square, relaying where possible, and finishing when the last man falls into an empty square. Moving backwards is known as "*Okutebuka*"—"To go back"

## 9.

*Penalties.* A player upsetting the board loses the game. There is no penalty for making a mistake in distributing men, but the mistake, if noticed, must be corrected.

## 10.

*Counting men.* As a square may contain so many men that it is impossible to see at a glance how many there are, a player may at any time count the number of men in any square on either his own or his opponent's side of the board.

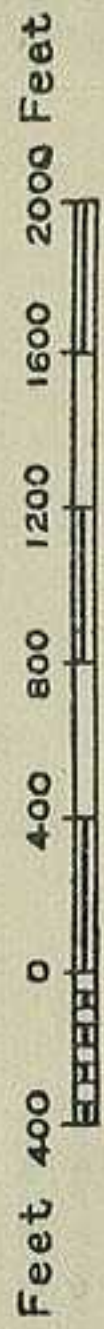
I have tried to make the above rules clear and watertight but if any reader notices a mistake I should be glad to hear from him. Also if any one is acquainted with variations of the method of play in other parts I should be very interested to know of them.

The rules sound more complicated than they really are, but even so the marvel to me is that the African has developed the game to its present pitch.

When a player is taking a long time to consider his move his opponent may remark in an off-hand tone "*Nkuyege zigulya*": which might be translated "Hurry up or the white ants will eat the board". The untutored savage!

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# PLAN OF ANCIENT TRENCHES AT BIGGO



## LEGEND

- Trenches.....
- Communication outlets & breaks in trenches
- Earth heaps.....
- Holes.....
- Broken pottery.....
- Watercourses.....
- 3900' contour.....
- 4000' ".....

N.B. All trenches have an embankment on the inner side.  
Width of trenches not to scale.



KATONGA RIVER  
— 100 yds in width —  
papyrus choked up to

DELTA OF  
KAKINGA R.

Gradual slope to Katonga R.

Mound \*  
10' high

Heap 8' in height  
EXTENSIVE VIEW SURROUNDING COUNTRY  
Large heap 8' in height

Broken pottery

Hole 15' in depth

EXTENSIVE VIEWS OF SURROUNDING COUNTRY

TRENCH "C"

TRENCH "B"

Flat-topped ridge  
TRENCH "A"

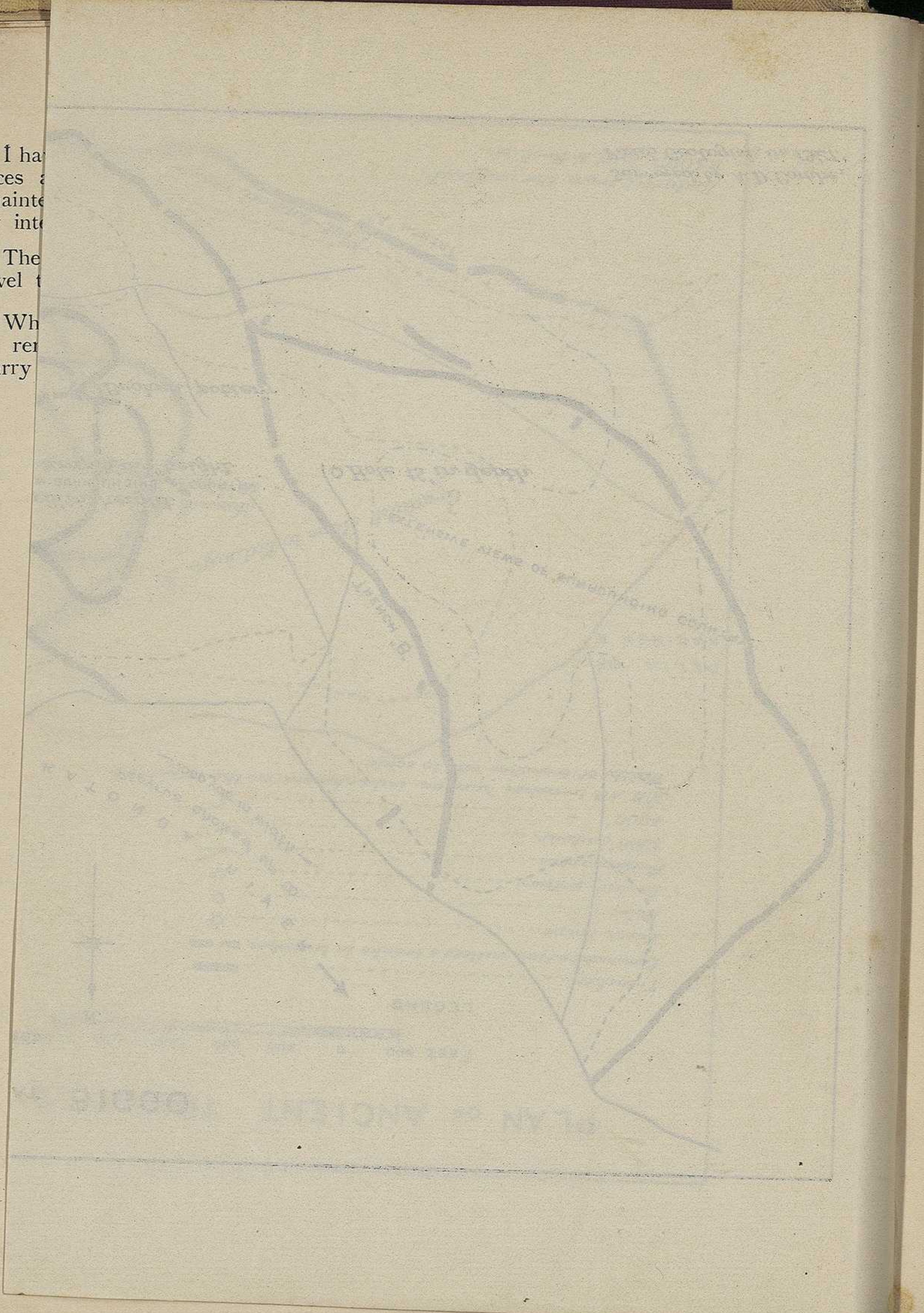
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Surveyed by A.D. Combe,  
Field Geologist, in 1921.

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# Notes on The Biggo bya Mugenyi : Some Ancient Earthworks In Northern Buddu. \*

By E. J. WAYLAND.

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1. THE BIGGO AND SOME OTHER ANCIENT EARTHWORKS.
  2. PROBABLE IRRIGATION WORKS AND SOME MIDDENS.
  3. STONE CAIRNS AND PIT DWELLINGS.
  4. ANCIENT SHAFTS.
  5. A SACRED CAVE.
  6. BIGGO AND ZIMBABWE.

This short contribution is very far from exhaustive. The subject is part of a wide field and may be attacked from several angles, but it is hardly desirable, even were it possible at the present moment, to attempt to follow all the various lines of approach in this paper, for which indeed no higher stage of completeness is aimed at than that conveyed by the first word of the title.

## 1. Biggo and Some Other Ancient Earthworks.

The following communication is extracted from the "Uganda Official Gazette" for the 15th of May, 1909:-

### *"Ancient Forts.*

The District Commissioner, Masaka, has sent in a report of the existence of what appears to have been a fortified camp in N. Buddu at a place known to the natives as *Biggo* (Forts) or *Biggo bya Mugenyi* (The Stranger's Forts.)<sup>(1)</sup> From a sketch plan which accompanied his description it would seem to be a place of considerable dimensions which undoubtedly owes its origin to people other than those akin to the present inhabitants of the Uganda Protectorate. Biggo is situated at the junction of the Kachinga and Katonga Rivers about 9 miles distant from Makole's in Mawogola and 22 from Kikoma Dungu in Buddu."

"The fortifications consist of an outer rampart and ditch extending over  $2\frac{3}{4}$  miles, with flanks resting on the Katonga Rivers (*sic*) respectively. The interior works, which are built on the summit of a low hill in the centre of the position, consist of a central work, rampart and ditch, with two adjoining works on the

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(1) The coordinates giving the approximate position of Biggo are N.  $0^{\circ}9'20''$ , E.  $31^{\circ}16'0''$ .

\* These earthworks are situated in what is now the Administrative County of Mawogola.  
—Ed.

Eastern face. The rear face is formed by the Katonga which at this point is 1,000 yards broad and unfordable."

"As might be expected from the action of the weather the ramparts are now mere mounds but of quite sufficient height, 3 to 5 or 6 feet, and solidity to show that in the past the works must have been of some strength. The ditch, which likewise shows signs of age, is on an average about 4 feet deep, the greatest depth noticed being about 10 to 12 feet in parts round the inner ring; the ramparts are in a few places non-existent having been probably washed away by rain. The various entrances can be clearly traced."

"In the centre of the inner enclosure there are two artificial mounds about 12 feet or so high, from the top of which a view can be had of most parts of the encampment, whether they were used for this purpose or are graves it is impossible to say; it is however a point to note that there is a local tradition, which however, is not accepted generally, that "Mugenyi" (the stranger) was drowned in the Katonga at Biggo; whether this is so and that his body was recovered and buried there, is a possibility to be considered."

"Two forts of considerably smaller dimensions and consisting only of a rampart and ditch built round the slopes of small hills, with no inner fortifications, can be traced on the side at Kabulasoke and Lukoma distant about 6 and 4 miles respectively due W. and E., these places which were evidently in the nature of outlying forts though close up to do not actually touch the Katonga; in view of the fact that within the last 100 years this reach of the Katonga was free of papyrus probably water communication existed between the three places.'

"The almost generally accepted tradition amongst the Baganda attributes the construction of this place to the "stranger" (Mugenyi) a personage who is supposed to have entered Uganda from the North soon after Kintu's time, roughly 600 years ago. Touching "Mugenyi's" supposed nationality, actions in Uganda, or after movements, Baganda tradition is silent. I have no doubt, personally, of his having been the man known to the people of Koki as "*Basekegu*" (stranger) and the constructor of the cairns on the Koki Hills; if this is the case the Koki tradition of his departure through their country into German East Africa must, failing others, be accepted."

"Amongst certain of the Bahima of Mawogola it is claimed that the place was built by Nalubongoya, a chief of Unyoro and founder of the Bahima nation, who, having left Unyoro with the royal cattle, erected these fortifications as a protection against attempts made by the Banyoro to recover the animals; as regards this the Baganda state that Biggo was certainly occupied by Nalubongoya, but that it was in existence long before his time. A further tradition, which however is likewise discredited by the Baganda, is that a chief of Mawogola by name "Mugenyi" erected it as protection against the raids of the people of Ankole; labour in this instance as in previous cases being paid for in cattle. Considering that Mawogola, at the period at which this is stated to have occurred, formed part of the sub-district of Bwela, there is little probability of a sub-chief having the requisite wealth to pay for labour, which, if present

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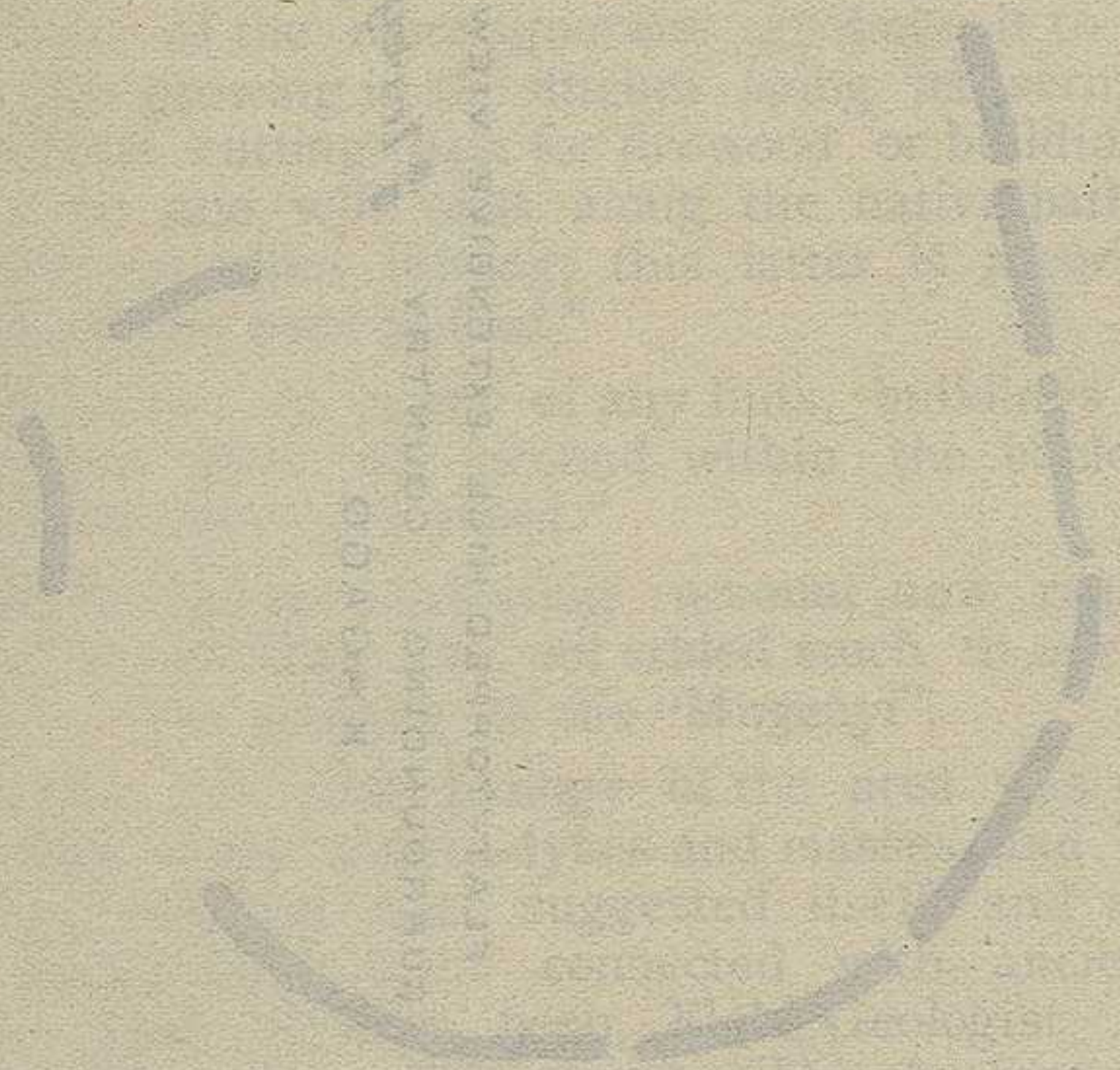
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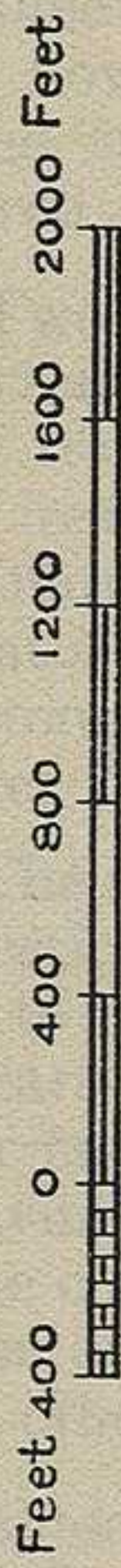
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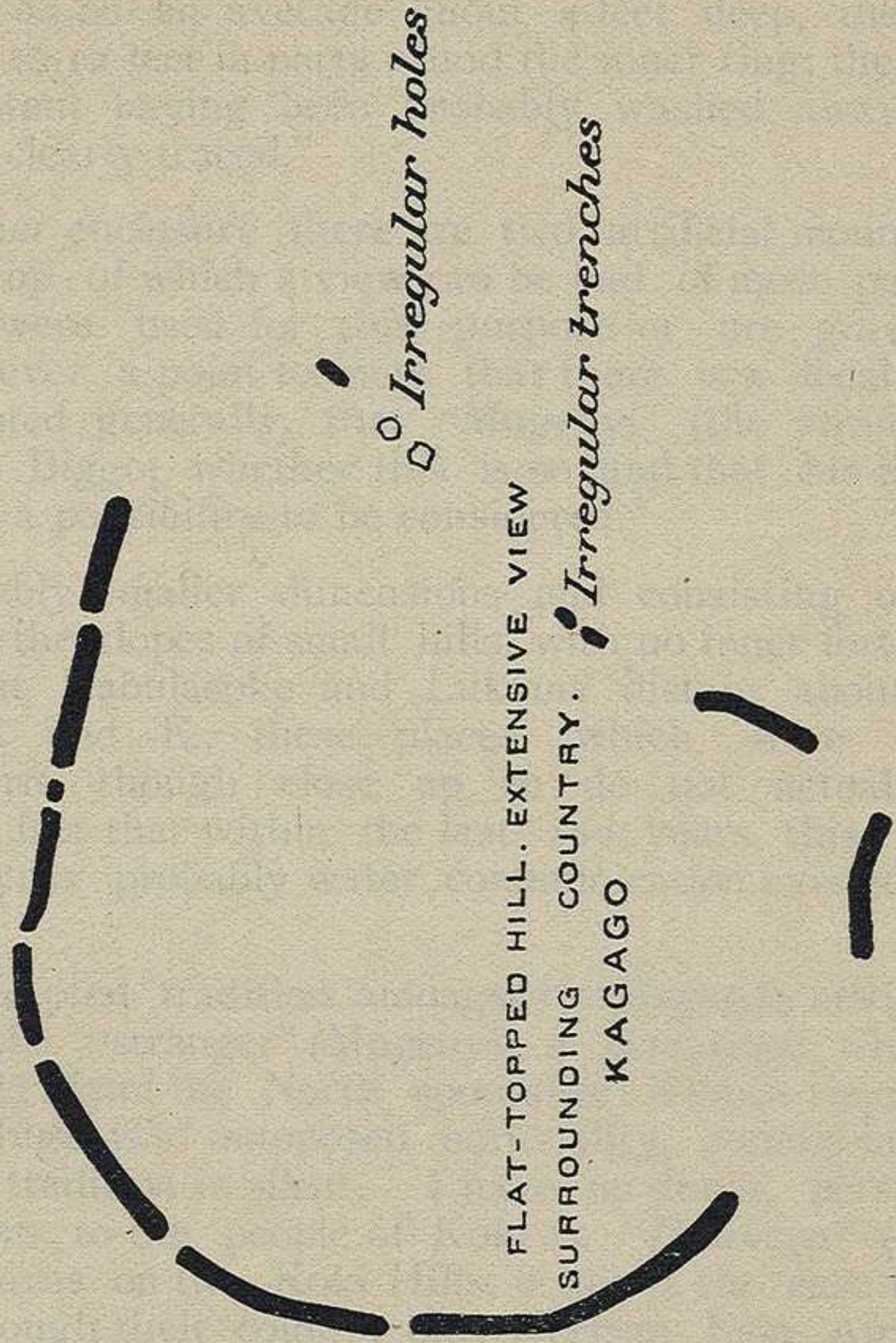


# PLAN OF ANCIENT TRENCHES ON KAGAGO HILL



## LEGEND

- Trenches - - - - -
- Communication outlets & breaks in trenches - - - - -
- N.B. Trenches have an embankment on the inner side. Width of trenches not to scale.



Reduced from the original, 1:5000.

Surveyed by A. D. Combe,  
Field Geologist, in 1921.

indications of the original size of the works are correct, must have involved the employment of some thousands of labourers over a considerable period. Further, in the wars of the past, no instances are remembered of the Baganda or Bahima having ever erected fortifications of any kind or description; though Biggo itself has frequently been made use of to shelter the defeated faction in the wars. Some 3,000 of Prince Junju's men are said to have held the place for over a year when driven from Kampala after the death of Kabaka Semakiro. In more modern times Mwanga occupied the place after his defeat by Captain Hobart at Kisaliza".

"No trace of further traditions can be found; the two last mentioned scarcely bear the stamp of probability. If therefore the first is accepted a very interesting question is raised as to who this supposed "Mugenyi" was. On this history is silent, the Baganda for a long time past have merely contented themselves with the fact of Biggo's existence and of their belief in its construction by "Mugenyi". The whys and wherefores appear to have been of little interest to them; some of the more ignorant attribute it to supernatural origin, the trees and bushes growing in the ditches being left scrupulously alone, a belief existing that any one cutting them for firewood or building purposes would die suddenly; likewise no one will pass along the native path which runs through the place after dark or when raining; this latter is a curious superstition the origin of which would be hard to find."

"There are no traces of any huts, buildings or workings of any kind in the vicinity nor does the ground within the enclosures bear the appearance of having ever been disturbed."

The foregoing interesting account now requires some revision, although a quarter of a century has not added much to our knowledge of the Biggo and nothing to the identity of the "Mugenyi".

Because the solid geology of the area was found to be that of crystalline schists, quartzites, quartz-dykes and masses and intrusive granite, the possibility of mineralisation at once suggested itself; and as it seemed also possible that Biggo might have been connected with ancient mine-workings, as Zimbabwe was said to have been, Field Geologist A. D. Combe was sent to investigate the matter. His report "The Ancient Trenches at and near Biggo," was produced in January 1922,<sup>(1)</sup> and contains the completest description of the ruins together with the best map or plan of them and of some neighbouring structures that we have.<sup>(2)</sup> The mounds were left intact, and little in the way of 'antiquities' was found except fragments of some highly interesting pottery vessels. These were circular dishes up to about four feet in diameter; their flat bases were about 6 inches thick, the waists of the rims were 3 inches thick, while at their outside edges they were about  $3\frac{1}{2}$  inches thick, and they showed crude ornamentation. No specimen is before me as I write and I will not venture further descriptions, particularly as they will be dealt with by Mr. Braunholtz of the British Museum. "No information could be gained

(1). Geological Survey Files, unpublished.

(2). Made by means of prismatic compass traverses. Combe's plans, which are sufficiently accurate for the purpose of this paper, are here published, for the first time.

from local natives or from a large number of Baganda chiefs questioned as to the probable use to which these pots were put", says Combe.

The trenches could never have functioned as water-filled moats for they run 'up hill and down dale' and have been controlled in some measure, as Combe points out, by the local topography.

Combe also dealt with the smaller earthworks on Kagago and Kasonko hills (the Kabulasoke and Lukoma ruins of the 1909 Gazette quoted above) and his plans of these are reproduced with this paper. The following is from Combe's report:

*"Object of Construction of the Ancient Remains.*

On the whole there is absolutely nothing to indicate who occupied and built the trenches and for what purpose they were constructed. What legends there are referring to the occupation and construction of the trenches are referred to in the article above mentioned published in the Official Gazette of the Uganda Pro'ectorate."

"As the remains at Ntusi(1) were evidently part and parcel of the one system the question arises as to why no entrenchments were constructed there."

"Mawagola and Bwera in past times are known to have contained large numbers of cattle, far in excess of what the country carries at the present time, and enormous quantities of the bones of cattle are scattered all over Ntusi Hill, whilst at Biggo there are practically no bones at all. Ntusi apparently was a large settlement and distributing centre, and probably the entrenchments at Biggo were constructed as forts, against the invasion of a raiding tribe or faction from the North, to protect the Ntusi encampment, for that Ntusi must have been a large encampment or settlement of a permanent character is evidenced by the ancient dams built there. And it does not seem, from an inspection and the general situation, that the trenches could have been used for anything other than forts."

"The main series at Biggo overlook practically the whole of the neighbouring portion of the Katonga River and the surrounding country, those at Kasongo the Katonga bed and a considerable portion of the Nabakazi bed, and similarly those on Kagago overlook the Katonga River and surrounding country."

"It seems probable that at the time those trenches were constructed the Katonga contained open water, as a fort with trenches ending on a dry river or even a papyrus-choked one would not be of much use."

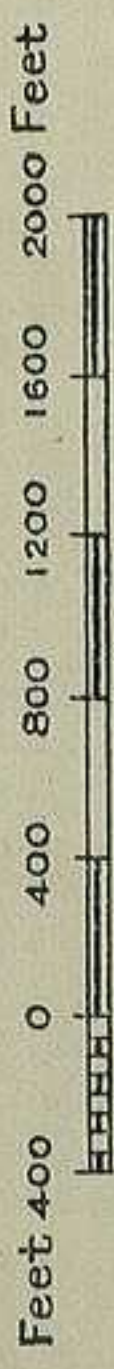
"The whole camp seems to have been abandoned before being finally completed as is evidenced by short trenches branching from the main one at Biggo and the incomplete character of the trenches on Kagago Hill. Another short trench was started near Kinoni Hill, on the opposite side of the Kakinga River to that on which Biggo is situated. This trench was started from the Katonga

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(1) See Section 2 of this paper "Probable Irrigation Works".

# PLAN OF ANCIENT TRENCHES ON KASONKO HILL.

NABAKAZI R.

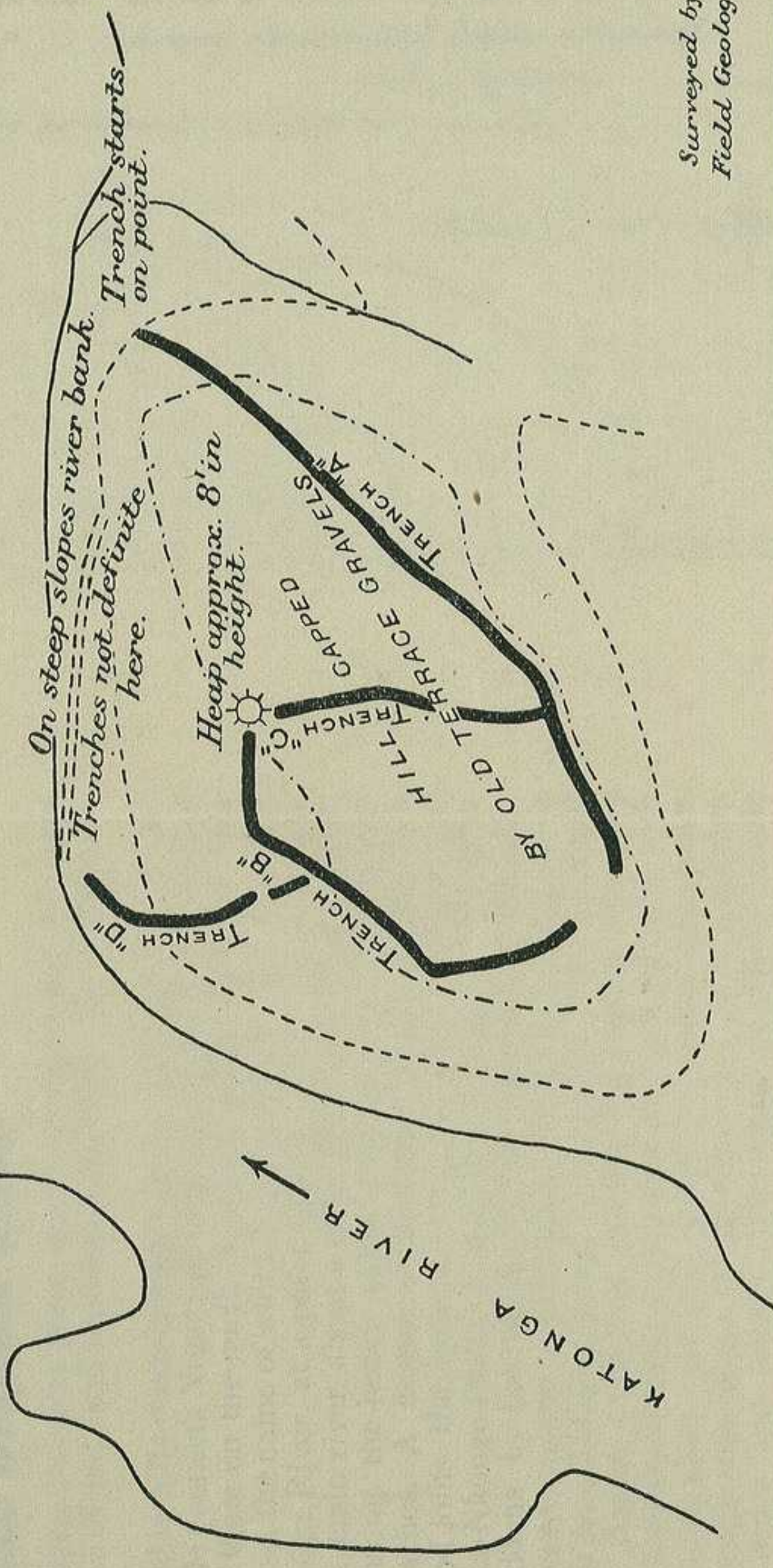


## LEGEND

- Trenches..... Indefinite trenches.....
- Communication outlets & breaks in trenches.....
- Earth heaps.....
- Watercourses.....
- 3900' contour.....
- 4000' ".....

N.B. All trenches have an embankment on the inner side.  
Width of trenches not to scale.

KATONGA RIVER →



Reduced from the original, 1:5000.

Surveyed by A.D. Combe,  
Field Geologist, in 1921.

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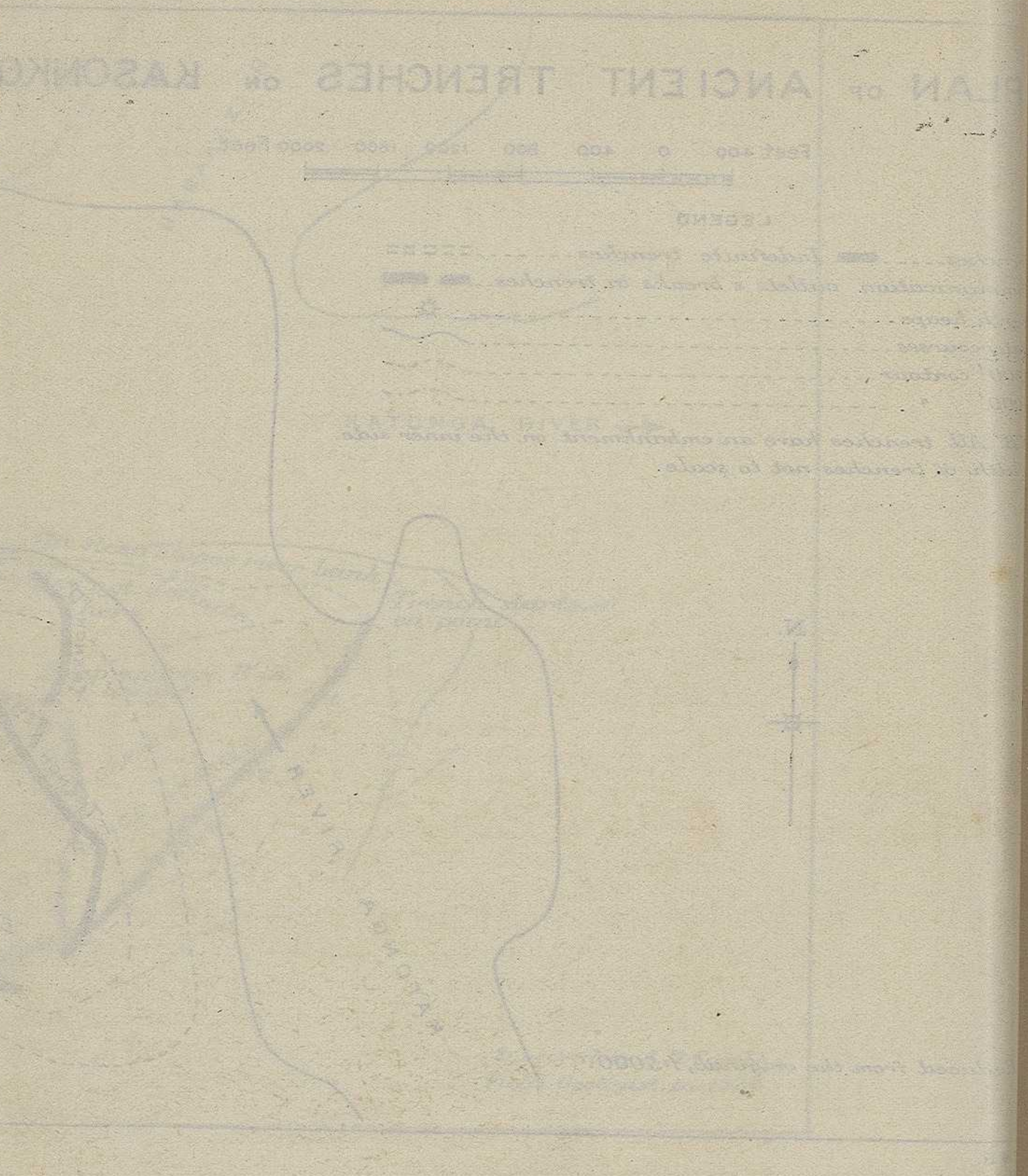
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banks and only carried for about 200 yards and apparently with the intention of swinging round and joining the Kakinga River and cutting off the area of land at the junction of the Kakinga and Katonga Rivers".

In addition to the forts there are other and smaller works in the area and of one of these Combe writes as follows :-

"On Luzigati Hill ( $31^{\circ}13'44''$ E by  $0^{\circ}4'24''$ N) an excavation eight feet in depth and eight feet in diameter was found. A large massive quartz reef about forty feet in width forms the backbone of Luzigati Hill. This hole was evidently constructed to hold water as the material from the hole and the quartz from various places on the hill was crushed and washed and found to contain no heavy minerals".

It should be added that other and similar ancient forts have been reported in Uganda and contiguous territory: one on the Kagera River at Kyaka and another in Bunyoro, found by Mr. D. N. Stafford of Dwole, Hoima. The earthworks referred to by Mr. Wright, p. 156 of Vol. 1, No. 2 of the "Uganda Journal" may be yet others. It is very desirable that some account of all known occurrences of this kind should be published in this Journal.

## 2. Probable Irrigation Works

In 1921, I visited Biggo and on the way there made a rough plan of some earthworks and other remains at Ntusi, and reported upon them as follows:-

"Ntusi in Mawogola is situated in hilly (undulating) country about  $7\frac{1}{2}$  miles S.  $20^{\circ}$  W (approx) from Biggo...A saddle connects Ntusi hill with Sagazi hill to the west of it, and from the valley between them on the north a stream takes (or at one time took) its origin. This stream course, the name of which I was unable to discover, runs northwards and joins the Katonga River at a point  $2\frac{1}{2}$  miles N.W. of the mouth of the Kagago, which enters the main river about a mile N.W. of Biggo. Neither of these feeders flows except during the heavy rains, and then, so the natives say, only along their lower reaches. A branch of the Ntusi feeder starts in a valley to the west of Sagazi and joins the feeder to the north of that hill and between the hill and the Masaka-Nkongge track. Ntusi hill is covered with bones and pottery washed out of middens by the rains. To the right of the Masaka-Nkongge track, a few hundred yards to the south of the D.C.'s rest camp, is a mound resembling a tumulus: it has, I believe, never been opened. Near the head of the valley between Ntusi and Sagazi is another tumulus-like mound about 15 to 20 feet high, it is elliptical in horizontal section, the major axis (which runs with the thalweg of the valley) measures about 50 yards, while the minor axis scales about 30 yards. A hole sunk through the centre of this proved it to be a midden composed of dusty soil, full of bones and pottery. The bones, of which I made a small collection, appear to be those of indigenous game, including zebra; no human bones or elephant bones were discovered."

"Some way down the valley, just above its junction with the valley to the west of it, are two approximately parallel bunds (earth dams) of which a sketch-

map is appended, while below this again, and in the valley to the west, are a number of smaller dams. It is possible that lower downstream terracing will be found."

"These works recall very strongly the ancient "Tanks" of Ceylon, the first of which (Abhaya Wewa) appears to have been built in 490 (Circ.) B. C. (1)"

"I am inclined to suppose that the dams at Ntusi were constructed for the purpose of impounding water from springs which have since run dry. Some ancient excavations on Kitera Hill (bearing W. 20° S., 30 miles approx.) appear to me to have been designed for a similar purpose".

"The curious elliptical bunds (top left and bottom right, approximately: on the sketch map) are very puzzling, and may be important. Ellipses seem characteristic of the Zimbabwe plans and appear in a characteristically Zimbabwean manner at Biggo."

"Pottery of several kinds is to be discovered; some of the pots are, as far as I know, quite unlike any made in Uganda to-day, and represent some fairly advanced types. One pottery bead was found, but no glass or other ornaments."

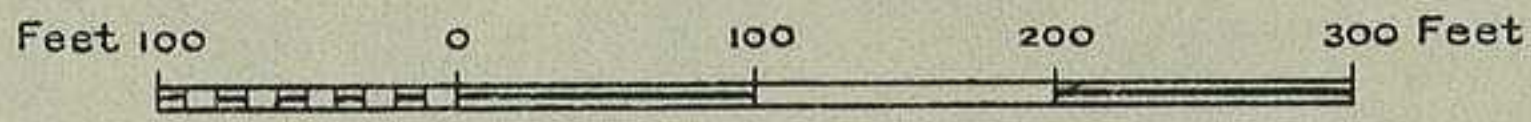
Combe visited Ntusi and amplified my description, and with regard to the bunds he added ".....the ancients who constructed them had a good knowledge of dam construction. Each of the embankments is constructed with reference to the direction of the valley and the directions and slopes of the surrounding hills".

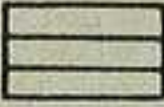
Referring to the middens Combe adds:-

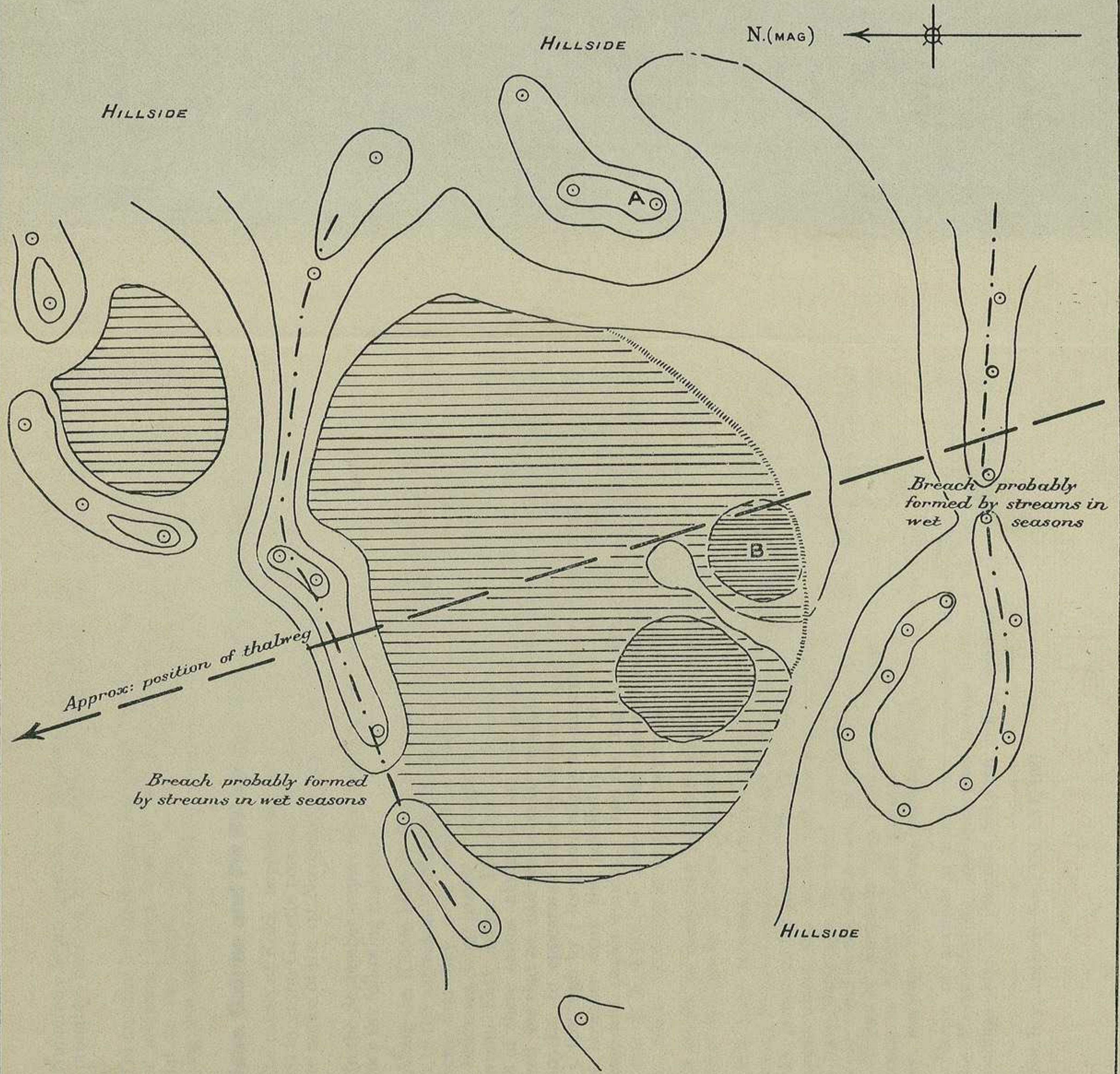
"Another large heap occurs in the head of a watercourse running to the Kagago River, about two hundred yards south of the Rest Camp. This heap is approximately 80 feet in length (major axis) and 50 feet in width (minor axis), and a hole sunk in it passed into the red lateritic soil, on which the heap was laid, at a depth of eighteen feet. The material forming the heap consists of about 50% dusty soil, and the rest rocks, broken pottery and bones. From twelve to eighteen feet in depth large quantities of charcoal were scattered through the other material and what appears to be a pottery draught pipe belonging to a native blacksmith's forge was found. Both this and the charcoal were examined closely for adhering metal, but no trace of any metal was found. It is hardly likely that the charcoal and draught pipe were used for anything other than ordinary blacksmithing purposes as there are no indications that smelting of any description was carried on, as there are no old slag heaps. The rocks found in the heap consist of pieces of all the rocks found in the district and quite a large number of types not seen at all, for instance, two pieces of a typical clay slate not known to occur anywhere in the district were found. Several samples of quartz were crushed and washed and found to contain no heavy minerals. No stone tools were found, nor do any of the rocks appear to have been worked in any way".

(1) Dr. P. E. Peris says ("Ceylon and the Portuguese", Colombo 1920):— "Thus within fifty years from the arrival of Wijayo, there was constructed the Abhaya Wewa, the first of those marvellous reservoirs which form the most amazing product of Sinhalese industry and science". The arrival of Wijayo is dated B. C. 543.

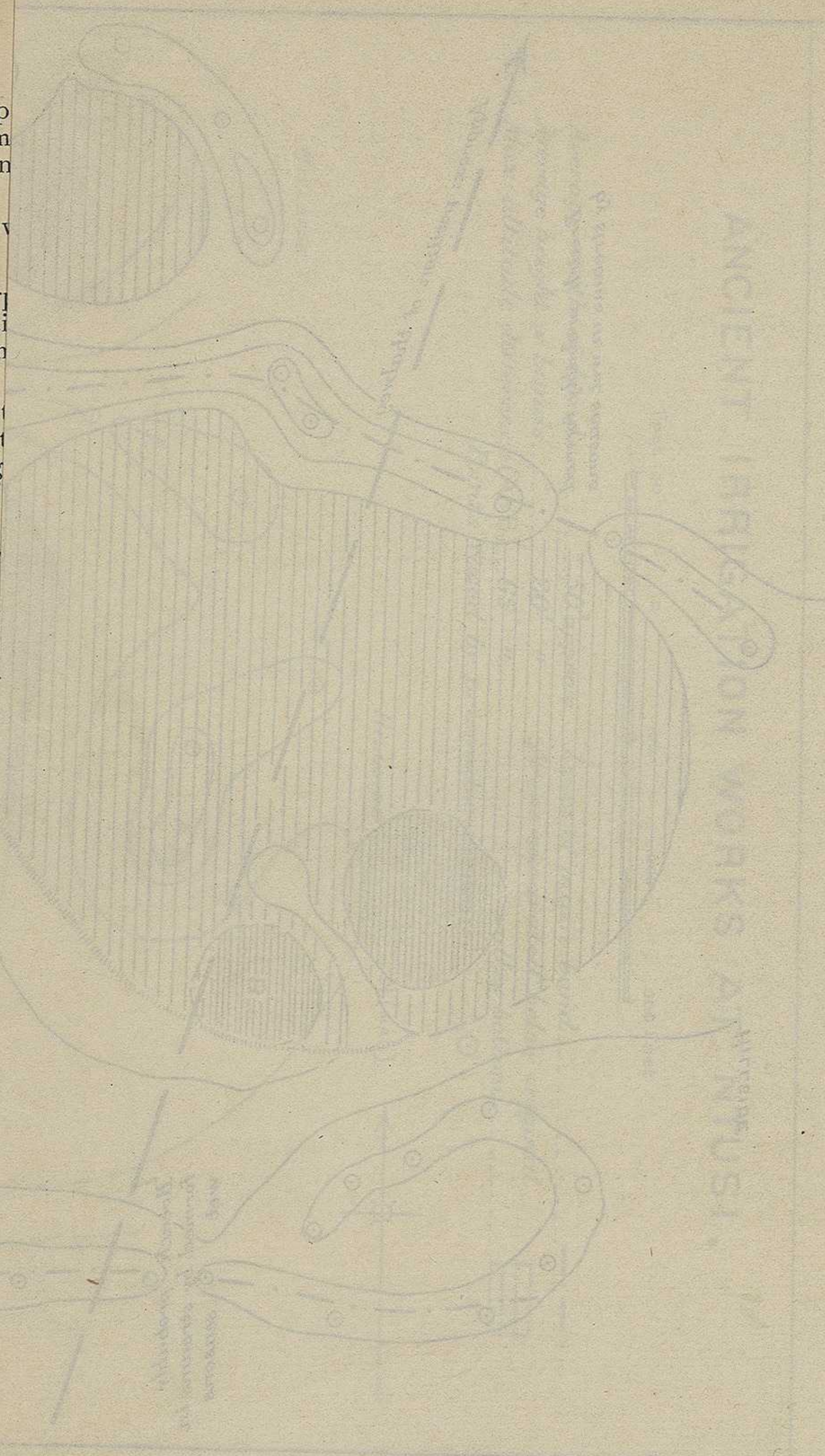
# ANCIENT IRRIGATION WORKS AT NTUSI.



Average width of bunds.....50' approx.    Lines of main bund.....- · - · -  
 Average height of bunds.....20' "        Areas excavated below original valley bottom.....  
 Max: altitude difference (A-B)....65' "        Points fixed by prismatic compass.....⊙



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ANCIENT IRISH SHIP  
ON WORKS AT  
DUBLIN

Handwritten signature or name at the bottom right corner.

"Numerous small crystals of gypsum occur in the bottom of this heap and were probably derived by the action of sulphurous waters on the numerous bones."

"On another hill approximately  $\frac{3}{4}$  mile North of Ntusi Hill are a dozen or so smaller middens. Holes sunk in these proved them to be composed of the same material as the larger ones. In one of these the head of an ox was found, indicating that some of the numerous scattered bones must be those of cattle".

### **3. Stone Cairns and Pit Dwellings and other Occupation Sites.**

The cairns of Koki, supposedly constructed by "Basekegu" have already been referred to in the Gazette notice of the 15th of May, 1909, quoted above. Another Gazette notice of the 1st November, 1908, reads as follows:-

"In the September report from Masaka, the Assistant District Commissioner mentions the following matters:-"

"Along the Kibale Hills in Koki are found a number of stone covered mounds known to the natives as "Amabale Gasekeju" or the "Travellers Rock," the tradition being that they were erected as landmarks in prehistoric times by a tribe, name unknown, who passed through Koki (coming from the North) on its way to German East Africa. The Chief of Kiswere, at which place there are some 7 or 8 of these cairns alongside the old porters' road to German East Africa, informed me that he had seen similar mounds in the Fepa country south of Lake Tanganyika. In appearance these mounds are quite insignificant, the largest being about 3 feet high by 7 long and might be mistaken for large native graves; the natives however deny the possibility of this or of their being in any way connected with pagan worship. I had one dug into, but without result, solid rock being met at a depth of 4 feet. The mounds certainly appear to be artificial and the native tradition as to their origin may possibly be correct".

"It would be interesting to know whether other officers have noticed similar mounds or landmarks in their districts".

Little need be added to this except to say that the importance of the cairns may easily be overrated in the present connection. They are by no means confined to Koki. Some can be seen, as Mr. W. C. Simmons first pointed out, on the escarpment above the native salt workings of Kibero in the Lake Albert rift, and I have described the local significance and importance of such cairns, to the native mind in the north-east of the Protectorate, in my "Preliminary Studies of the Tribes of Karamoja" (pp. 221-222) (1). Similar heaps of stones are of wide occurrence in Africa and are generally connected, in one way or another, with ancestor worship. Their usual position is in a coll between hills.

Evidence of ancient or at any rate pre-modern occupation is scattered all over the Masaka district, and from time to time I have come across remains of pit dwellings also in the colls between hills. Some of these I have measured,

(1). Proc. Roy. Anthropol. Soc., Vol. LXI, 1931.

but as the data are not available at the moment no further reference will be made to these interesting relics of a bygone practice.

On many hilltops and, as Combe remarks in his report already quoted, "on most of the hill tops in a northerly and north-easterly direction from Ntusi" are shallow circular excavations up to about 3 feet in depth and twenty yards in diameter. When first I found these curious depressions in 1919, I imagined that they must be dew ponds, but I have long regarded that view as untenable; Combe's suggestion that they are old kraal sites is much more likely.

#### 4. Ancient Shafts.

Among other puzzling works of some antiquity are certain shafts which more or less suggest forgotten mining operations. These are about 3 feet in diameter and anything between 10 and 30 feet in depth. They occur in groups on flat hill tops and have been put down through the hard *murram* (lateritic ironstone) capping. Some of them have little foot-holds excavated in the sides. Those near Butiti, in Toro, are well known and tradition has it that they are ancient iron mines, but this I regard as very doubtful. There is a group on the same hill as the deservedly well-known Kiwala Hotel, near Masaka, and within a few hundred yards of it, but not one visitor in a hundred realises this. One of these shafts is inclined. A large group, or series of groups symmetrically arranged, may be seen on Ntanda hill on the Kampala-Mityana road.(1)

These have been taken down right through the ironstone into the soft, decomposed rocks beneath. They are said by the Baganda to mark the spot where Muzizi, the earthquake god, enters and leaves subterranean realms. Hardby is a sacred grove wherein no native will fell a tree. Whether these and those by the Kiwala have any connection with Biggo or not it is hard to say, but it may be noted that the latter are, of course, in the Masaka District where more or less ancient relics of the type with which these notes deal are relatively common, and the former are in the Myanja-Katonga divide. Of the stories told about the Kiwala group some are certainly 'after-thoughts' and relate to quite modern events in the history of the country.

#### 5. A Sacred Cave.

Incredible stories are told about witchcraft in the Masaka District but I shall say nothing about them in these moderately sober pages except that some of the romanticisms relate to a sacred cave. When the late Canon Roscoe was conducting his last anthropological reseaches in Uganda he wrote to me, in 1919, concerning a cave in Mawogola wherein, so it was said, the Bahima conduct unholy rites. It seems that the exact whereabouts of this cave is a closely guarded secret, and its entrance, so the Canon learnt, is also guarded by two stone figures. These, I think, can be written off at once; and whether such a cave exists or not I cannot say. Enquiries on my part have produced nothing reliable. The great majority of natives when questioned profess complete ignorance

(1). Ntanda hill starts at about mile 38½ and extends to about mile 41, the holes are along the south-western crest.

of any such cave, others are silent, but once an old man told me he had seen the cave when he was a boy; he said there were no carved figures outside it, but that inside metal was let into the wall. He came back some miles, next day, to deny his statement completely. There is probably something behind the story though what that may be it is difficult to tell. I mention it here in case any reader may be able to throw light upon it, and because this cave, if it exists at all, must be in what might be called the Biggo area. Another mysterious cave, partly blocked up, is said to exist near Kamukalo in Koki.

In certain areas natives are very reticent about caves. When on the Goru Goru hills, in the Gulu District, I asked if there were any caves there, for these hills appear to lend themselves to caverns, and my question was met with flat denial. It is common knowledge now that large caves exist there, but the natives are, for the most part, unwilling to lead Europeans to them.

There was, I learnt in 1919, a large cave in the Sango hills of southern Buddu, and a year later I searched for it in vain. I shall long remember the futile journeys undertaken, under native guidance, to look for this hole in the rocks and the ridiculous niches that were shown to me as the cave in question. Nor am I likely to forget the occasion when, a number of years ago now, Dr. L.S. B. Leakey and I started on a special expedition to discover this cavern, if we could, and to collect some of the stone age relics that litter the quartzite hills (or did: I have since removed several tons of them). It is a story I seldom tell for, true as it is, nobody will believe it. The essence of it is this: misfortune dogged stage after stage of our advance with firm persistence—just as one of Leakey's followers (a Kikuyu) said it would—until at last, frustrated at every turn save one and with insufficient time left for the fulfilment of our purpose, we faced homeward sadly disappointed though, as we supposed, unbeaten; then, despite the jettisoned cars and lorries in the long slush trail that stretched northward from Masaka indicative, we thought, of the fate that yet awaited us, our fortunes turned amazingly, for all the good luck of the road was ours.

It took me fourteen years to find that cave, though once I had been within a few yards of one of its three entrances. Truth to tell, I did not really find it, I was led to it, and no one tried to stop me when I cleared away the screening forest and put a trial trench into the floor. The *tabu*, whatever it was, had been lifted by the advance of modern education. Any European may go there now, yet if he would return he must go warily. Beware! ye would-be picknickers. This cavern is no place for trifling encounters, for from the low vaulted gloom snakes descend silently like evil tentacles downstretching from the roof.

## 6. Biggo and Zimbabwe.

The history of Biggo is shrouded in uncertainty, but with regard to it several guesses have been made; the present writer once suggested, for example, that perhaps the Manthinle, a mysterious people spoken of by some of the coastal tribes of East Africa, and who are supposed to have occupied the country at least as far west as the Lorian swamp and to have penetrated much further at one time, might

have constructed the old fort(1); and it has even been put forward as the work of ancient Romans.(2)

For this last imaginative flight there appear to be three totally inadequate reasons : (a) the Romans were great builders of earthworks, (b) at the beginning of the Christian era two Gaulish legions revolted in Egypt, marched southward out of the country and were never heard of again, and (c) reconstruction of some of the broken pots found at Ntusi calls to mind an *ampulla*—much as a queen termite calls to mind a sausage. But for those visionaries whose intellectual counters are by preference of the “twopence coloured” type here is something quite acceptable—I extract the following, with desirable reservations, from a letter dated 5/9/20 from an official of considerable standing.

“B.....had a yarn which I believe a French Father at.....told him. This Frenchman was very interested in archaeology and told B.....that he had come across a story in the writings of some very early Jesuit priests. Jesuit priests, as you know, had travelled in all sorts of places in Africa which we imagine to have been first visited by Mungo Park, Livingstone, Speke, etc. The yarn was that a certain prince of Abyssinia, Zimba by name, centuries ago, fell out with his father and brother, who was the reigning individual, and with a large force travelled down through these parts as far as Rhodesia. After many years he returned to Abyssinia the other side of the lake via E. Africa”.

Zimba - Rhodesia - Zimbabwe; why, of course!—and, then, look at the map (3) twenty two miles South-West of Biggo and on the old track that leads through Ntusi is a spot called *Sembabulwe*. Sembabulwe—Zimbabwe; that must be it. So the key to the riddle of ancient Rhodesia has lain hidden here with us in Uganda! Besides, compare the plan of Biggo with those of the old Rhodesian ruins. True our ruins are not stone-built, yet the essentials of the plans are characteristic and the same. They are these:—

- (a). Almost entire absence of rectangular structures.
- (b). The presence of curved—frequently elliptical—enclosures.
- (c). The presence of semi-circular or semi-elliptical enclosures attached to the main enclosures in bud-like fashion.
- (d). The occasional presence of long straight walls (embankments in the case of Biggo) without quoins. These frequently join one elliptical structure to another, or some natural feature.

The conical tower of the Acropolis at Zimbabwe is distinctive, but perhaps it is to be equated with the 10-foot earth mound at Biggo. Then again the herring-bone ornamentation is well known in connection with Zimbabwe, and it occurs on some of the pottery at Ntusi. There are, too, middens with abundant

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(1). Geogr. Jour. Vol. LIX, No. 1, 1922 p. 231.

(2). Geogr. Jour. Vol. LXI, No. 4, 1923 p. 256.

(3). The map referred to is the Masaka sheet, Africa 1:250,000 South A—36



animal bones and pottery both at Zimbabwe and Ntusi, and in the neighbourhood of both of these places there are structures that may be interpreted as irrigation works.

Many times it has been argued that the Zimbabwe ruins are those of temples and other structures left by Phoenicians, Himyarites, Persians, Carthaginians and what not, that the buildings were erected in connection with the ancient gold mines of Rhodesia, and that these were the mines of King Solomon. What possibilities, therefore, seem to open out before Uganda. How striking a background they provide for a best-seller, or a Yankee film: "*Mugenyi of the Biggos—a Tale of Love and Peril in the Golden Bowels of Ekuatoria*"—a scenario on those lines. It matters not that there are no mines, old or new, in Buddu, nor that Zimbabwe is far from any gold reefs, and that those of the Victoria district, wherein these ruins lie, lack ancient workings.

I have been unable to verify the account set out in the letter quoted, nor can I discover the present whereabouts of the Reverend Father, the original informant (perhaps he is with the Great Majority), but the other day I came across the following in the "Uganda Official Gazette" for the 15th of April, 1910:-

*"Earth-Works at Biggo.*

In the Official Gazette of the 15th May last, a description is given of Earth-Works in North Buddu at a place known to the natives as Biggo (Forts) or "Biggo bya Mugenyi" (The Strangers' Forts). Further information has been supplied to the District Commissioner at Masaka by one of the White Fathers who has interested himself in the history of Equatorial Africa and it is presumed that an Abyssinian of the name Zimbo who passed through Uganda with a large force in the early part of the sixteenth century is probably the "Mugenyi" of the Baganda and constructor of the earthworks at Biggo. Zimbo eventually reached Cape Colony. This man, or his descendants under the name of Zimbos, appear in the Portuguese history of the latter half of the sixteenth century as having overrun East Africa and Mombasa Island coming up from the South, possibly on their return journey to Abyssinia. There appears to be no record in Baganda history of this epoch. Zimbo is understood to be a well-authenticated character in Abyssinian history and it is interesting to note that about this period Abyssinia claimed a sovereignty over Uganda".

That the Zimbos arrived from the south and sacked Mombasa seems well authenticated, but that their leader was the "Mugenyi" of the Biggo is, to say the least, improbable. And if he were, the view that it was he who called into being the now ruined buildings of Monomotapa would be quite untenable, for the Zimbabwes, those monuments of past endeavour the problems of whose origin and true significance have caused so many enthusiasts furiously to think and argue since the days of Adam Render, (1) can now be dated with very reasonable assurance. They had their beginnings, it seems, in the 8th or 9th century A. D., 700 years, or more, before Zimbo the Abyssinian and his raiders

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(1). It is claimed that Adam Render discovered Great Zimbabwe in 1868.

fell upon Mombasa. Not only so, but as Miss G. Caton-Thompson shows in the most masterly, complete and authoritative work ever written upon the subject, ("The Zimbabwe Culture", a book which everyone who cares for Africa should study) "examination of all the evidence, gathered from every quarter, still can produce not one single item that is not in accordance with the claims of Bantu origin". (p. 199). What authority says of Zimbabwe in this regard is unquestionably true of Biggo; but the latter cannot be dated. There appear to be no articles of foreign trade and contact to help us there, and almost no internal evidence that can yet be truly judged. It is not modern apparently, but it post-dates the Stone Age, or so it would seem, for tools of a late lithic culture were dug out with the earth when the old trenches were originally made. Judging by their state of preservation I would say the earth works can hardly be more than a few centuries old. One may speculate about their meaning and their history with but little avail; nothing but close research, aided and in a measure directed by the spade, can help us here.(1)

Biggo is far more primitive than Zimbabwe, although it is almost certainly younger; yet both are, so to say, growths from the selfsame stem. Biggo was a late abortive bud and Zimbabwe an early flower, and both are Bantu (conveniently to misuse that expression, as so many writers do) In last analysis their cultures spring from a common root.

Advancing tribes, moving southwards as always they have done in Africa, take their cultures with them. Together with their goods, their gods, their women, their crafts and industries, slowly, often without recognised intention, they migrate unconscious of an unseen inexorable urge. But often, very often it must happen that their cultures spread before them as a vanguard of irresistible progress. Progress is nine-tenths adaption, and as adaption is the keynote of survival so in other spheres with change of circumstance comes metamorphosis. Thus Biggo in Buddu is Zimbabwe in Mashonaland.

Biggo has its mys'ery no less than has Zimbabwe, and the mystery of the one is that of the other; it is not of the kind attaching to the identity of some unnamed, dashing Conqueror from the outer world; it lies, as Miss Caton-Thompson has so clearly shown, "in the still pulsating heart of Africa".

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(1). "An Ordinance to provide for the preservation of objects of Archaeological and Palaeontological Interest" was enacted in this Protectorate in January 1934. All intending field workers in Uganda archaeology and palaentology should consult it.

# Blood-brotherhood in Ankole. (Omukago)

By F. LUKYN WILLIAMS.

In making enquiries into African customs nowadays the enquirer should, if possible, avoid making merely bald statements of facts as the result of his enquiries, which, besides being tedious, are often of merely academic interest. His aim should rather be to demonstrate how far a custom has been modified by contact with European civilization so that the result of his enquiries may possibly be put to some practical use in the light of modern conditions. I fear that in this article I have not been able to carry out this ideal to the extent I should have liked. I have, however, attempted to describe *Omukago* as practised to-day, explaining its reasons and advantages, both in the old days and at the present time, and finally giving instances of its contact with Europeans.

\* \* \*

The idea of sealing friendship in blood is age-old and can be found in many lands. It is, however, probably more common in Africa than in any other part of the world, and there are few tribes who do not practise it. The actual ceremony differs only in detail. The results are the same. The sanctions of one tribe often are more stringent than those found in another. The obligations differ very little. The magical action of the blood is common to all.

\* \* \*

Before describing and discussing any custom in vogue in Ankole it is necessary to observe that there are two distinct peoples that constitute the Banyankole race as it now exists. The original Bantu cultivators, called by their Bahima overlords Bairu, or serfs, and the Bahima or cattlemen. For lack of a better term the word Bairu has been used in this article to distinguish the cultivators from the cattlemen. An extremely interesting problem is here presented of the Hamitic nomads, the Bahima, at some time in the past invading and conquering the Bantu inhabitants of Ankole who outnumber them by 14 to 1.

I do not propose to discuss here how this came about—there is sufficient material for another article. Suffice it to say that for generations the Bahima and Bairu have lived side by side without much intermarrying and yet interdependent. There is little doubt that we have in Ankole (in which connexion Toro and Bunyoro must be taken into account) an example, by no means unknown through-

out the world, of a conquering race adopting the language and customs of the conquered, while at the same time keeping themselves separate.

I mention this in passing as it will be seen that *Omukago* as practised by the two peoples is almost identical and only differs in a few details of negligible importance. It will therefore only be necessary to describe the one ceremony, pointing out at the same time where the other differs. As the Bahima consider themselves the superior race and that what they do and say is the original, while the Bairu merely imitate them, I have thought it best to describe the Bahima rite in detail.

There are three main clans in Ankole, which are in their turn subdivided into many sub-clans. These clans and sub-clans are all patrilineal and exogamous, that is to say, the children are born into the father's clan, while the men can only marry girls of another clan. Both Bahima and Bairu can be members of the same clan. No distinction is made between members. They are all considered blood relations and are thought to be descended from a common ancestor. The idea of being blood relations is especially interesting, as it is evident that the clan system now in operation in Ankole has been artificially arranged as between Bairu and Bahima at some time in the not very distant past.

Every member of the same clan treats another member as a brother no matter where he is. The relationship is as real to the Munyankole as the European relationship in a family.

When a man makes *Omukago* with another he takes upon him all the obligations that one clansman has towards another clansman, in addition to the obligations as a friend. It is obvious therefore that *Omukago* cannot be made between two persons in the same clan.

Another point which is important and naturally follows from the above is that the man, by his act of performing the rite (*Okunywana*), binds every member of his own clan to the same obligations that he is under in relation to his blood-brother (*Omunywani*) and his clan. It is therefore a rite not to be entered upon without due thought and advice from the man's elders and relatives.

If a man makes *Omukago* with another the *Omukago* lasts in theory for ever. That is to say, all the clans into which a father has made *Omukago* are passed on to the son, and he cannot in his turn make *Omukago* into any of the same clans. It is obvious that this cannot go on for ever or the clans would not be sufficient to go round and for generations back no *Omukago* would have been made as that made by ancestors would still be effective now. In practice, therefore we find that the clans with which *Omukago* has been made are forgotten after about two generations and it would be made again into the same clan after a lapse of time unless someone happened to remember an instance in the past and reminds the clan of this. Or, as one informant told me, it must be renewed and kept fresh by performing the ceremony anew.

*Omukago* cannot be made with a woman or between women. As the clan is patrilineal and its continuance is through men it is clear that all notions of the

clan's structure would be upset if it was allowed. The woman in any case sooner or later marries, and while still being a member of her own clan she is like one dead to it, as her duty is to bear children for her husband's clan. The obligations of *Omukago* however, do not bind a man's mother and the members of her clan. No one would, however, ever do any harm against them.

In theory a man may not marry into the clan of his blood brother (*Omunywani*). This, like marrying into his own clan, would be the equivalent of incest and is never done. In practice however this rule is now relaxed and a man may marry into his *omunywani's* clan provided the girl was not in any way related to the immediate family of the *omunywani*. For instance, he could not marry his blood-brother's sister or daughter. If a man married into his blood-brother's clan amongst the Bairu he would first of all pay a cow to his blood-brother.

Although the whole clan is involved when a man makes *Omukago* the final decision as to the expediency is always left to the father of the man. Among the Bahima the first move is customarily made by the father who tells his son that he should make *Omukago* with such a one. If the son were to refuse for any reason he would usually be disinherited by the father. The more enlightened Bahima, however, are nowadays tending to follow the custom of the Bairu wherein the son may make arrangements with another to make *Omukago* and tell his father that he wishes to do so. The clan would be consulted and if there is no objection arrangements would be made. Among the Bairu the first move may also come from the father who expresses his wishes in the matter, though this is not so invariable as among the Bahima.

If the initiative is taken by the man himself and he wishes to make *Omukago* with his friend the one who first asked has to visit the parents of the other to be approved. These visits would continue for a week before the ceremony could take place; the ceremony being performed in the same house.

On the night before the ceremony beer and two loads of food are brought to the house. Feasting and dancing take place at which the father and mother living in the house attend. This would continue most of the night. Recitations (*Okwevuga*) historical or bovine, a favourite pastime among the Banyankole, would be indulged in. The one who asked to make *Omukago* is the sole outsider at the house. No friends or relations accompany him.

The two participants in the ceremony of *Omukago* must sleep together on the same bed. They must be woken up at dawn by the sister of the one in whose house they are. If he has no sister the nearest relative acts as "sister". The mother might even perform the duties. There must be no talking on awakening until the ceremony takes place; this will be in the house, on a new mat especially provided. A friend is provided by the one in whose house they are and he acts as master of ceremonies. The father and mother and possibly one or two other members of the father's clan would be present, but none of the outsider's clan. If a friend is not available the father can do the duties.

*The Actual Ceremony.*

1. The participants sit on a mat opposite each other, so close that their legs overlap.
2. In their right hands are a sprout of *enzhubwe* grass, with one, two or three blades shooting from the main stem and a sprout of the *omurinzi* tree (Uganda coral: *Erithryna Tomentosa*). In the case of the Bairu, in addition, a sprout of the *omutoma* tree (*Ficus eryobotrioides* [Mora] ) is held.
3. The friend makes a small cut, usually on the right of the navel, on each man. This is done with the sharp arrow head (*ekir sho*) of the arrow used for shooting into the vein of a cow when it is bled for purposes of food. The Bairu use a small razor.
4. The ends of the *omurinzi* sprout and *enzhubwe* grass are dipped in the blood on the incision and returned to the hand. In the case of the Bairu the *omutoma* sprout only is dipped.
5. A little milk is poured on the blood in the hand. The Bairu put on a little *buro* flour and then pour water on it.
6. Each man then holds the other's hand with his left, and they both together swallow the blood and milk, or blood and *buro* and water, (*Okunywana*), at the same time leaving the sprouts on the hand.
7. The one in whose house they are then draws the knife on the head of the other with the right hand saying:—  
Munywani wawe akutega eishokye.  
"Your blood-brother shaves your hair."
8. He then says, while shewing the action of drawing out a spear:—  
Munywani wawe akukura eichumu.  
"Your blood-brother pulls out the spear."
9. The knife is then passed round the other's body with the right hand and changed over to the left, thus circling his body.
10. The motions are gone through of cutting the nails of the other's hand at the same time these words are said:—  
Munywani wawe akuchwa ebyara.  
"Your blood-brother cuts your nails."
11. The feet are touched while saying:—  
Munywani wawe akuiha eihwa.  
"Your blood-brother takes out a thorn."
12. The knife is then handed to the other participant who goes through the same ceremonial.
13. Then takes place what is called *okutongyerera*. This is said first of all by the one who began the ceremony and then by the other. During the whole recital he strops the knife up and down on the palm of his left hand.

The words are something like this:

"I am a...(the name of the clan). I am related to...(etc.). If one comes with thirst, or my cattle suffer from thirst or lack of salt give it, and help, but if not your best cow will die." He adds:

Katukura nyagwara mushaizha ohurura.

"May the blood bring vengeance when a man answers the alarm"—(i. e. if it is necessary for the blood-brother to cry out in his distress the blood will work vengeance.)

14. They then both stand up and hold on together to the centre pole (*enyomyo yorugambiro*) of the house, which actually is situated near the door, saying to each other, "If you illtreat me the blood will break the *yorugambiro*". The significance here is that on the death of a man the *yorugambiro* is cut in his house and the house allowed to fall down.

15. Each then holds on to the other as if they were wrestling: to shew that they will never oppose each other.

Each blood-brother makes a present of a cow to the other. In the case of the Bairu the present would vary according to the wealth of the man. It might be a goat.

The sister takes the mat as her present.

Among the Bairu the one in the house would also send a present to the sister of the one who came to the house.

The grass and sprouts which have been used are put on the smoke fires (*ekomi*) kept constantly burning at night in all kraals. The knife would be wrapped up and kept in the wall of the house.

The Bairu keep the grass and sprouts under the bed and sleep on them, that is, they would be placed under the grass of which the bed is composed, which might be on the ground or a frame-work. The knife is placed under the bed in some parts of the country, but is usually removed at night in case of accidents. In many parts of the country the knife is not kept. The sister might take the knife until her mat is given her.

\* \* \*

The obligations involved in the making of blood-brotherhood are those of a true friend. When one is in any kind of trouble it is the duty of the other to help him. If he comes to his *omunywani* in reduced circumstances and asks for a cow he could not be refused. He is expected to give him lodging when required, or any of his clan, to look after his family or his cattle when needed.

In most tribes *Omukago* would guarantee that one's wife was not ravished by one's *omunywani*. In Ankole however this does not apply as it is customary when one's brother visits the house to place one's wife at his disposal, in fact he has the right to her use.

This custom will no doubt die out, as will that of the host politely accommodating any guest in his house with the use of his wife, as prevails at present. The more enlightened are beginning to feel that they would prefer to keep their wives to themselves. However, the right is there which an *omunywani* would be able to exercise.

In pre-administration days *Omukago* was useful in time of raids as there would always be someone near at hand to help. If one's *omunywani* was killed it was one's duty to hunt out and kill the murderer. If on the other hand a member of his clan was accidentally killed blood money would not be demanded. Nowadays sentimentalism seems to play a large part in making *Omukago*. A man fond of another and wishing to seal his friendship does so in this way. There are however very real advantages to-day. If a man was looking for one's *omunywani* to seize him for any purpose one would warn him of what was afoot. This used to be done when a chief had given orders to arrest him, and undoubtedly is done to-day and accounts for some mysterious disappearances of certain wanted individuals.

But in these days of advanced progress when Africa is being opened up the practice of *Omukago* is undoubtedly considerable, and more extensive than of old. The advantage to the traveller, the trader, the visitor, of having blood-brothers in different parts is obvious. He has a home that he can go to when he takes his cattle to sell down-country, when he goes to find his tax by working as a porter outside his home country, when he takes his goats or salt or tobacco or grain to trade.

Two *abanywani* would be able to insult each other jokingly, even in public, and would think nothing of it, a thing which could not be done by other people.

A Muhima cannot make *Omukago* with another Muhima before first making it with a Muiru of a clan other than that into which he wishes to make it with the Muhima.

*Omukago* can apparently be made with outside tribes and even with Europeans. By those who proceed to Buganda, Toro, Ruanda or Rukiga it is constantly made. A Muhima will not make it usually with a Muganda, though it has been done, and even the Bairu do not like to do so. It is said that the Muganda either breaks the bond or breaks the spirit of it by forcing the relationship on a man and demanding cattle or money in an impolite manner. No matter, however, if a man is rich or poor or in what tribe, with the above exception, the bond can be made.

If the vow made at the *okunywana* is broken and a man turns a deaf ear to a *Munywani* in distress the injured Muhima will take *enzhubwe* grass and a *murinzi* shoot and hang it on the doorway of the hut of the one who broke the vow at the same time in the morning as the *Omukago* was made. If the man is frightened of being speared he can hang it on the entrance to the kraal, saying at the same time: Nachebeka enzhu ya nanka (I have brought death to the house of so and so). Sometimes the grass and shoot are laid on the edge of the mud trough (*obwato*) near the water hole from which the cattle drink, with the words:



Nachebeka obwato bwa nanka.

(I have brought death to the water trough of so and so).

When the occupant of the house or kraal sees the grass he would not milk his cattle until the spell was removed. If he was to milk them and began to drink the milk it is said that as soon as the milk gets into his mouth, his mouth would enlarge until he bursts. If the grass is seen on the *obwato* no one who is accustomed to water his cattle there would do so for fear of the cattle dying.

The only antidote to this spell seems to be that the *munywani* who knows he has failed should give a cow to his *munywani*, who then removes the grass and *murinzi* shoot. He must also completely wash away the spell by holding a herb called *enyawera*, *enzhubwe* grass, a pretty pink flower called *ensheko yensi*, and *murinzi* shoots, and wave them in the air. This is called *okuhaserira*.

Among the Bairu the *enzhubwe* grass and the *murinzi* shoot would be thrown into the doorway of the house. When the owner sees it he cannot step over it, but remains in his house and does not eat. He shouts to his friends to bring his *munywani* and take it away. If he does not come it is said that his stomach will swell until he bursts.

The only antidote in his case appears to be for the *munywani* to get what he asked for. He will then touch the stomach of his blood-brother with the words "*Mukago*—be cured at once."

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I cannot discover that a *Mufumu* or medicine man was ever consulted by the Bairu before making *Omukago* to see if the pact would be advantageous. But among the Bahima it undoubtedly was done and is done still and a young calf three days old is paid him for his pains. The Bahima have the saying: *Owanywana abuza* (Who makes blood-brotherhood asks).

Neither am I in a position to discuss the magical aspect of the action of the blood. At no time during the ceremony of *Omukago* is the blood itself addressed as is often the case in other countries. Public opinion is a deterrent to a man from breaking his pact. "It is not done," and so cases are not very frequent. But there is no doubt that the blood is thought to work against the offender automatically in a magical way and its power can be dispersed by the waving of certain sacred plants, or by being addressed in person. The blood is what brings the curse. It acts against the man's well. "It will become red against them".

It is always interesting to see how far contact with Missions modifies or alters customs. Anything that savours of witchcraft or superstition is strenuously discouraged. Witchcraft as such is not countenanced by Government. There seems to be no abatement however of the use of *Omukago* among the Banyankole, in fact I am told there is more now than of old. A Christian will make it and there is little doubt that the thought at the back of his mind is that if he offends against his blood-brother the blood will make magical retribution.

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It has been said elsewhere that blood-brotherhood is merely the making of a legal contract. As, in Ankole, all members of a clan are considered blood relations, and as a man may marry into the clan as stated above, this statement would seem to be borne out here. From observations, however, it would seem that the advantage is very often rather one-sided, e.g., when *Omukago* is made with people living in other countries.

The idea of *Omukago* is extended also to other friendships. This was instanced one day in front of me when the man I was with bought food cheaply from friends he had met previously in that part of the district, remarking: Okulenga kutamba omukago gukutamba. (If you go over the hill to help someone blood-brotherhood will help you)

In any form of great friendships the word *Omukago* can be used.

\* \* \*

It only remains to refer to the instances of *Omukago* with Europeans.

The Banyankole only instance three cases. One was made with H. M. Stanley when he passed through Ankole with Emin Pasha after relieving him in 1889, one with Capt. (Lord) Lugard in 1891 and one with one, who shall be nameless, in the early days of administration in Ankole. All these three are most interesting by reason of the varying results and of the way the Banyankole looked at them.

Stanley's account is given on pages 548-9 of his "In Darkest Africa."

He describes the boy with whom he made blood-brotherhood as "Uchunku, the Prince Royal of Ankole", and that he made it at "Viaruha". This place is what is known as Byaruha in Ruampara, and the prince was Buchunku of the Abahinda clan, the royal clan to which Ntare belonged. Buchunku later was one of the signatories of the Ankole Agreement in 1901.

Apparently Stanley had sent to Ntare when he first entered Ankole from Kitagwanda asking to make blood-brotherhood with him, with the idea that it would ensure a free passage for his party through Ankole. Ntare sent a member of his own clan. Only one of the little party is alive to-day and he was too afraid to come near enough to see really what happened. A present of two head of cattle was given by Buchunku, who in his turn received pieces of cloth and beads. The old man informed me that one and a half rolls of cloth were given and that he himself got a very good black cloth.

The blood-letting was done by a boy of Stanley's. It is noticeable that no blood was drunk. Stanley expresses pleasure that "the ceremony was thus relieved of the repulsiveness which accompanies it." Incisions were made in the left arms, butter was mixed with the blood and smeared on the foreheads. According to Stanley the boy Buchunku expressed his pleasure when it was over. No wonder—he had never seen a white man before and it must have been an ordeal. Stanley now says that he is a son of Ankori and can range at will in Ntare's country with free access to every plantation. He wanted this, and went through the ceremony for it. There is no doubt however that the ceremony was not binding and that

the Banyankole never looked on it as binding. They were prepared to make Omukago in the ordinary way, as Ntare was as afraid of Stanley as Stanley of him. Each was an unknown quantity to the other. The needs of the moment were no doubt satisfied with the ceremony as performed, but the Banyankole distrusted a man who never completed the ceremony and would not have been surprised to see him return later to devastate their country.

There is a saying current now which possibly originated from this event:

Okanywana ogwaha nkokora ogutahama?

(Did you make blood-brotherhood on the elbow which is not permanent?) Or:—

Okanywana ogwaha murundi ogutahama?

(Did you make blood-brotherhood on the leg which is not permanent?)

Incidentally if one member of the pact fails the other and nothing happens to him and he does not die, then it is at once thought that the ceremony was not carried out properly.

The second European to make blood-brotherhood was Capt. Lugard who carried it out in the correct way at Nyabushozi with Bireri, an uncle of Ntare's. On the strength of it he made a treaty with Ntare which was afterwards submitted to England. Lord Lugard is remembered as having kept his pact in *Omukago*.

The third European is remembered, also, as having not carried out his obligations and of having broken his vows. In fairness to him it must be said that his difficult duties as the representative of Government probably necessitated any action he took which was not considered by the Banyankole consistent with his vows.

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# Mahogany

A NOTE COMPILED FROM VARIOUS SOURCES BY N. V. BRASNETT

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The word mahogany is derived from the native name used in the Antilles Islands (1) for a tree that grows throughout the West Indies and on a part of the mainland of Central America. The timber of this tree was used, between 1521 and 1540, by Cortez for the construction of ships in which to undertake further voyages of discovery after his conquest of Mexico (2). It is probable that it was also used in the building of some of the galleons which comprised the Spanish Armada. Certainly it is on record that an eighty-gun ship, the *Gibraltar*, originally "captured from the Spaniards by Sir Walter George Rodney in his victory over Don Juan de Langara off Cape Vincent in 1780" and broken up in Pembroke dockyard, was constructed entirely of mahogany. The timber was all sound when the ship was demolished and was used to make tables for issue to the navy (3).

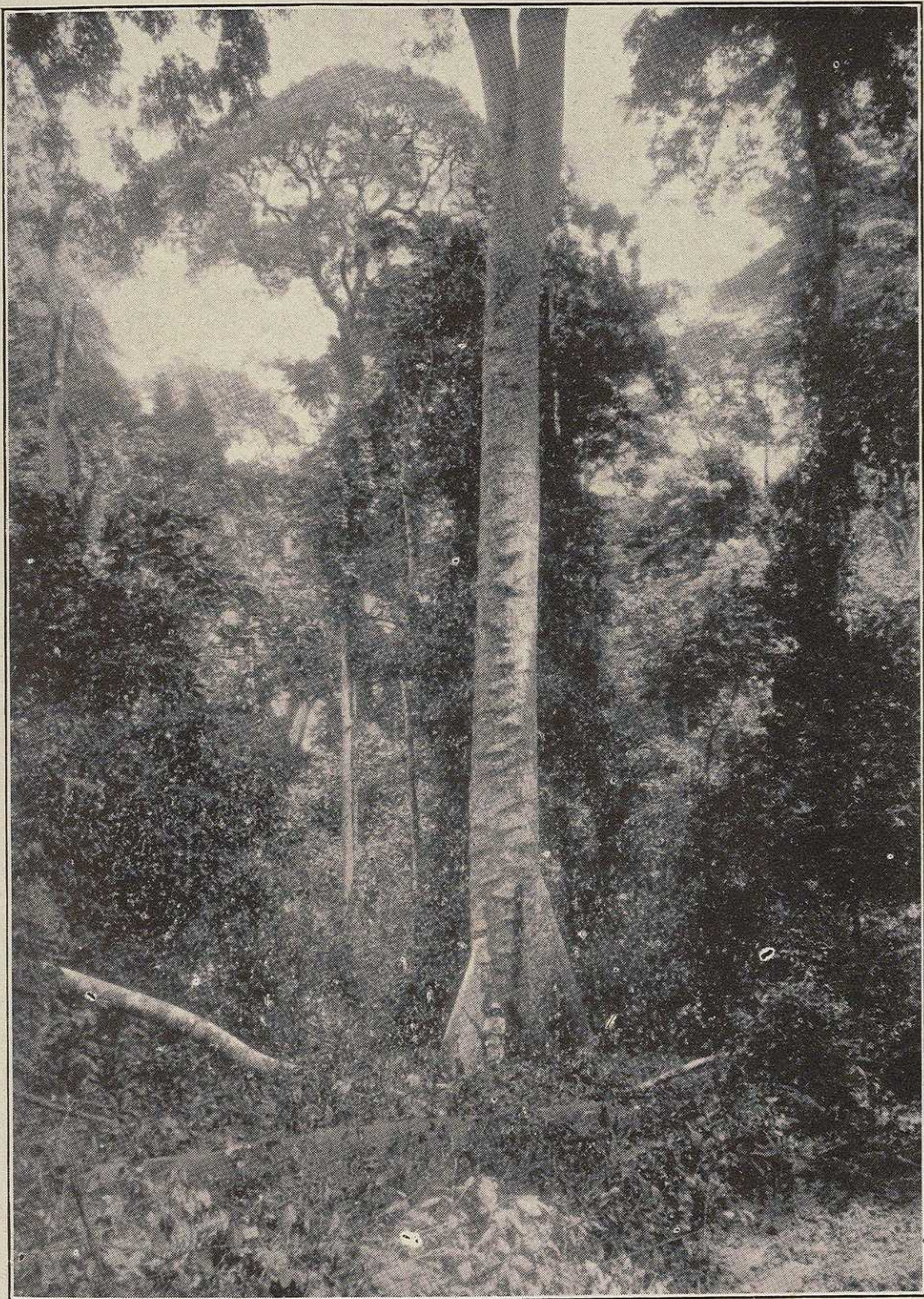
In 1595, Sir Walter Raleigh, on the advice of his ship's carpenter, had a rudder repaired with this wood when he was returning from Trinidad (2) and it is popularly believed that he presented a mahogany table to Queen Elizabeth a few years later.

There is no doubt that the wood, under the name of Cedar applied to it by the Spaniards, began to appear in England from the holds of early adventurers to the West Indies, and that, in 1680, it was used for wainscoting and flooring parts of Nottingham Castle (2).

It was not, however, till the middle of the eighteenth century that a cabinet maker of the name of Wollaston introduced it as a furniture wood (4). The warm red tones, and peerless lustre, together with the durable and stable character of mahogany, made an irresistible appeal to craftsmen worthy of the wood. The famous work of Chippendale, Heppelwhite and Sheraton was, almost entirely, carried out in it.

Originally, supplies came solely from the West Indies and, subsequently, from the mainland of America. In 1833 fifty-eight logs of African mahogany from the West Coast of Africa reached Liverpool (5). Since then this trade has grown enormously and tropical Africa now supplies the greater part of the mahogany used in England and probably in the world. During 1913, that is to say eighty years after the arrival of the first logs, 64,579 logs of the African wood were imported into Liverpool besides twentyone thousand tons landed in London (4). Very large quantities also reach Havre and other timber ports in Europe.

The popularity of mahogany is due to its decorative qualities such as colour, figure, lustre and capability of taking a high polish, to remarkably slight



UGANDA MAHOGANY

Munyama (*Khaya anthotheca* C. DC) in Budongo Forest.

(Photo by W. J. Eggeling)





shrinkage, so that the wood stands well in changing atmospheric conditions, to ease of working and the power of repelling the attacks of beetles responsible for worm holes in other woods.

Mahogany from Africa is available in larger sizes than that from other sources. In the past it has been shipped, mainly, in the form of logs squared with an adze, thirty foot lengths, four foot square, being common, while larger sizes have been obtainable. A number of trees provide richly figured logs that fetch very high prices at the auctions. The record is probably held by one tree shipped from Grand Bassam in 1903 from which three figured logs sold in Liverpool and one in London realised £4,228 between them. The butt log weighed nine and a half tons and fetched £2,518, which is about £6 per cubic foot (4). The highest price recorded for figured Cuban mahogany in England, during the present century, is £13/10/- a cubic foot (4). It is also stated that what was probably the finest log of Cuban timber imported into Liverpool sold for £750 in 1901 (4), which indicates considerably smaller dimensions than those of the African logs. The tendency, at present, is towards an increase in shipments of sawn timber and fewer squared logs are exported. The valuable portions of trees known as "curls" or "crotches", that is to say the portion cut just below and just above the fork of a main trunk and so including beautifully and curiously marked wood, are sent home unsawn to be cut into veneers.

For some years mahogany has been out of fashion for furniture, but signs are not lacking that the public is tiring of walnut and limed oak. A return of the popularity of "the wood which is stamped with the glamour of the 'Golden Age' of English furniture" is likely, according to a writer in the *Cabinet Maker* recently (6).

If this is so, it is to be hoped that craftsmen worthy of their medium will appear once again and that mahogany will not suffer the degradation of staining and over polishing. Mr. Alexander Howard, a great wood lover, who has spent over fifty years in the timber trade, writes of the proper treatment of African mahogany as follows:

"The surface is much spoilt by the french polishing which is customary in England. The American and Continental custom of using a coach-makers' flat varnish is preferable" (4) In the same work, he also writes:—

"The colour of Cuban mahogany when first worked is very light, even lighter than some of the other sorts, but the impression prevails that it should be as dark as the old wood which has matured with age. In order to comply with this somewhat unreasonable demand for this darker wood, it is customary to stain the new to the shade of the old. This is an unfortunate practice as it entirely spoils the transparency and beauty of the wood. Originally all the polishing was done by hand, without the use of polish; this produces the best results. Staining and heavy french polishing ruin the colour which otherwise would continue to improve with the lapse of time." (4)

(What Mr. Howard would have to say about the treatment often meted out to another beautiful African wood, iroko (*Muvule*), can be imagined).

Naturally, many suppliers of timber have not hesitated to make use of the name mahogany to enable them to sell woods which have, sometimes, possessed some of the properties of mahogany and, sometimes, none at all.

The original mahogany was named *Swietenia mahogoni* in 1760 by Jacques in honour of Baron von Swieten, physician to Maria Theresa, Empress of Germany (3). It is a species of the genus *Swietenia* of the family *Meliaceae*, and was the only one placed in that family by Linnaeus in 1763. This tree has provided the bulk of the supplies from the West Indies, but, when shipments began to be made from Mexico and Central America, the majority of the logs were from another species of the same genus, *Swietenia macrophylla*, King (1886) (2). There are now five \* recognised species of *Swietenia* in the West Indies and America. Early explorers in West Africa found trees which they were unable to distinguish from these and botanists described them as *Swietenia angolensis*, Welw, and *Swietenia senegalensis*, Desroussaux. Later, as botany advanced, new genera of the *Meliaceae* were formed, *Khaya* (A. Juss 1830), *Entandrophragma* (C. De Candolle 1894), *Pseudocedrela* (Harms 1895) and the African mahoganies were placed in these.

The distinction between the two latter species was based, mainly, on flower characters and certain mahoganies were first described as *Pseudocedrela* from fruits alone and, later, when flowers were collected, were found to be *Entandrophragma* (7). The position now is that the genera *Swietenia*, *Khaya* and *Entandrophragma* of the family *Meliaceae* include all the trees which can properly be called mahogany. To distinguish between them all, both as trees and timber, requires training and experience.

Unfortunately, scientific names are not used in the timber trade, possibly because they are considered to be too difficult. Mahoganies have been described in the trade by their port of shipment, country of origin, and, in one case, by the nationality of the first European users. If only one botanical species had been shipped from one port, serving only one locality, the name of the port would have been a splendid description, because any species of mahogany exhibits a considerable range of variation in its physical and mechanical properties, according to the character of the soil and general conditions of growth. Unfortunately several distinct species, from several different localities, are often shipped from the same port and considerable confusion has arisen. The five species of *Swietenia* are exported as Spanish, Cuban, Santa Domingo, Honduras, Tobasco, Nicaragua and Mexican mahogany (2). The various species † of *Khaya* and *Entandrophragma* are known as Benin, Lagos, Grand Bassam, Sassandra, Bathurst, Assinee, Axim, Secondi, Cherry, Sapele, Grand Lahou, etc. mahogany (4).

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\* *Swietenia mahogoni*, (L) Jacq (1760) West Indian Islands and Southern Florida.  
*Swietenia humilis*, Zucc (about 1836) Mexican Coast and northwestern Guatemala.  
*Swietenia macrophylla*, King (1886) Southern Mexico to Columbia and possibly Ecuador  
(was named from trees grown in Calcutta from seed from British Honduras).

*Swietenia Candollei*, Pittier (1920) Venezuela.

*Swietenia cirrhata* Blake (1920) Mexico southwards to Salvador.

† In 1931 eight species of *Khaya* and 10 species of *Entandrophragma* were recognised (10). Several new ones have been described since and no attempt at a complete list will be made here. The Uganda species are dealt with on a later page.

Besides these, there are so called "mahoganies" obtained from trees of other genera and families, e.g. "Colombian mahogany" (*Cariniana pyriformis*), "Mountain mahogany" (*Betula lenta*), "West Australian mahogany" (*Eucalyptus marginata*), "Philippine mahogany" (*Pentacme contorta*). With regard to this last named, a Dipterocarp, a lawsuit was brought in America seeking to restrain certain firms from describing the wood as mahogany. In July 1926 the Federal Trade Commission (U.S.A.) ordered that the respondents "do cease and desist from advertising or selling or offering for sale under the terms "Mahogany", "Philippine mahogany", or any term of similar import woods known under the common or trade names "red lauan" . . . . . or any other wood, lumber, or wood products, unless such wood . . . . . is derived from trees of the Mahogany or Meliaceae family" (8). In May 1928 the United States Circuit Court of Appeals affirmed this order on appeal (9).

The following is an extract from the judgment :-

"It is found that many of the characteristics and virtues possessed by Mahogany are lacking in the Philippine hardwood sold by the respondent as "Philippine Mahogany" and this prevents such hardwoods from serving such uses for which Mahogany is particularly adapted, and there is evidence to support the finding that such woods are not suitable for cabinet-making because of the prevalence of worm holes which constitute serious defects and that they are too soft for flooring, and not suitable for the construction of lamps because they do not take the required finish; that they are not susceptible to the finish required by piano manufacturers on the exposed surface of pianos nor are they suitable for carving. When used in furniture it is necessary to fill the worm holes before the wood is stained or varnished and such filling destroys the even appearance of the surface. They do not retain the sub-surface luster peculiar to Mahogany and, unlike Mahogany, they do not beautify with age. The Commission has found that the general public is deceived when lauan or tanguile is sold for Mahogany."

The wood is still imported into England and South Africa under the name prohibited in America.

Naturally the woods which may rightly be described as mahogany exhibit certain differences and variations in quality, both by reason of species and of locality of origin. On account of the method of marketing it is difficult to place them in the order of trade preference. There is no doubt that *Swietenia mahogoni* from San Domingo produces the finest timber and is closely followed by *Swietenia macrophylla* or Honduras mahogany. The African species are more difficult to assess and, though, for some purposes, some of them are preferred to the American woods and are available in larger sizes, speaking generally they rank after the *Swietenias*.

*Khaya ivorensis* has provided the bulk of the shipments from West Africa, but there is, so far, no certain means of distinguishing between it and some others, including *Khaya anthotheca*, in the form of timber, without a microscope (11). *Entandrophragma utile* and *Entandrophragma cylindricum* are believed to be the best of the sapele mahoganies, but investigations are now being carried out on

the African species and it is probable that these will lead to a re-organisation of trade names and marketing.

It is at this stage that Uganda is endeavouring to come into the picture. Knowledge of the flora of Uganda forests is of very recent date only and, in the "Provisional List of Plants growing in the Uganda Protectorate" in Sir Harry Johnston's work "The Uganda Protectorate", published in 1902, *Khaya senegalensis*, A. Juss, is the only mahogany mentioned.

His authority for including this is a specimen collected by Speke and Grant in Madi in 1863. This tree is a common constituent of savanna country in the north of Uganda and in the Sudan, but it rarely attains valuable sizes, at any rate in Uganda.

The late Lord Randolph Churchill recorded in 1901 that he had seen "a fine big mahogany tree covered with red pods" in Uganda (12). His description, that "these seed pods resemble a very large locust bean and the covering is like old black leather. On opening them you find arranged in beautiful order about 8 or 9 seeds in shape like acorns, the cup being the brightest scarlet, the berry ebony black," is a perfect one of *Afzelia africana*, the Locust Bean or Beyo tree of Acholi. The obvious impossibility of this tree being a mahogany threw doubt on reports that mahogany existed in Uganda (13).

Mr. M. T. Dawe, the pioneer of forestry in Uganda, carried out an investigation of the forest districts of Buddu, the Western and Nile Provinces of Uganda in 1905 (14). In the Kalinzu Forest, west of Mbarara, he found an unknown tree "a valuable timber tree of immense size" which he later described with Mr. Sprague of Kew as *Pseudocedrela excelsa* of the family *Meliaceae* (15) (renamed *Entandrophragma excelsum*, Sprague, in 1910 (7)). Proceeding he found in the lower part of the Mubuku Valley "a very large tree of a new species, *Pseudocedrela utilis* which will be referred to later" (now *Entandrophragma utile*, Sprague, from flowers collected by Dawe in 1910 (7)). From the Semliki Valley he reported "*Khaya anthotheca*, a tree which affords a valuable African mahogany." Of the Luanbanya Forest, Bunyoro, he reported:— "The most important tree found here is *Khaya anthotheca*, it is found in fair quantity and good size; the specimen I procured was 20 inches in diameter at the top of the trunk which was over 60 feet from the ground."

When he wrote of the Budongo Forest, Bunyoro, he stated:-

"The most important timber trees of the Budongo Forest belong to the mahogany order—*Meliaceae*. What appears to me to be the most valuable one is a new species of *Pseudocedrela*, which Mr. Sprague and myself have named and described as *Pseudocedrela utilis* (*Entandrophragma utile*). It is an immense tree which affords a valuable timber . . . . *Khaya anthotheca* is another valuable tree found throughout the forest."

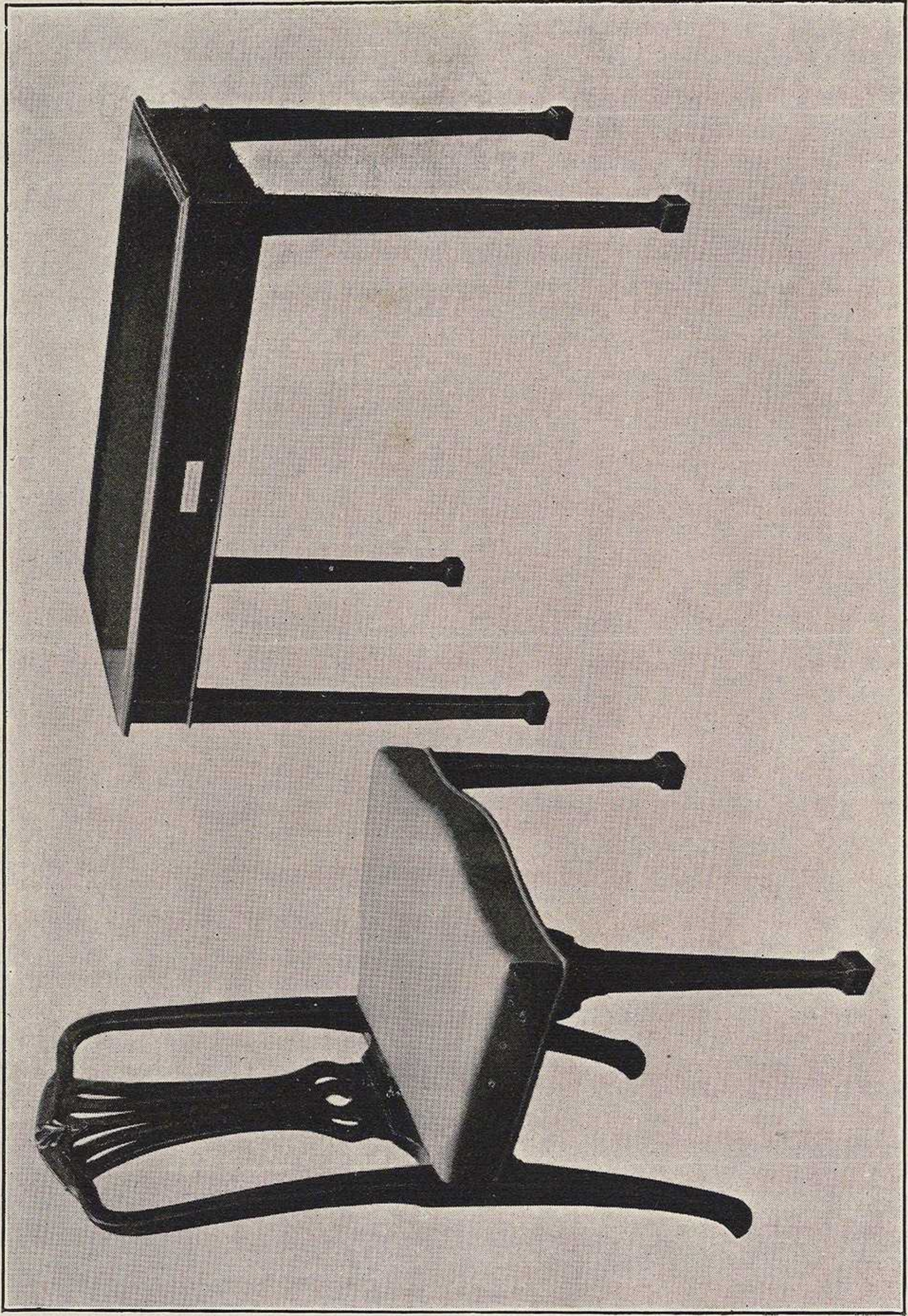
Mr. Hutchins (afterwards Sir David Hutchins), a very eminent colonial forester, visited the Mabira Forest in 1909 and was very impressed by the *Miovu* trees there (16). He did not know at the time that the tree had been described as *Pseudocedrela utilis* by Messrs. Dawe and Sprague in 1906. He wrote:-



UGANDA SAPELI

Mi ovu (*Entandrophragma cylindricum* Spr.) in Budongo Forest

(Photo by W. J. Egging)



Furniture made from Uganda Mahogany (Munyama, *Khaya anthotheca C. DC*) exhibited  
at British Industries Fair, Olympia, 1934.

(Photo by Messrs. Hobbs, Offen & Co., Ltd. London)

"I do not think there is any tree in Mabira to surpass *Miovu* in economic value . . . Old logs of *Miovu* can be seen lying about the forest with only the sapwood decayed . . . The biggest *Miovu* tree I measured was 6 feet in diameter at the butt, with a total length of 75 feet bole."

The present list of mahogany species known to occur in Uganda and their distribution is as follows (17):-

*Entandrophragma angolense*, C.DC. (1894). Native names - *Mukusu* and *Miovu* (Luganda), *Muyovu* (Lunyoro), *Olwa* (Madi). Lakeside forests Buganda Province, Bunyoro forests, Zoka Forest, Gulu.

*Entandrophragma cylindricum*,  
Sprague (1910). Native names the same as for *E. angolense*. Distribution is very similar but it has not been seen in the Zoka Forest.

*Entandrophragma excelsum*,  
Sprague (1910). Native name - *Miovu*. Recorded only from the West Ankole forests up to the present. Probably also occurs in some of the Kigezi forests.

*Entandrophragma utile*,  
Sprague (1910). Native names and distribution the same as for *E. angolense*.

*Khaya anthotheca*, C. DC. Native name - *Munyama* (Lunyoro). Very plentiful in the Bunyoro forests and in the Bwamba Forest of the Semliki Valley.

*Khaya grandifoliola*, C.DC. Native names - *Munyama* (Lunyoro), *Eri* (Madi), *Mario* (Lugwara), *Kiree* (Kakwa), *Tido* (Acholi). Riparian tree in West Nile and Gulu districts.

*Khaya sp.* Intermediate between *K. anthotheca* and *K. grandifoliola*, showing all gradations between the two. Native names - *Munyama* (Lunyoro), *Eri* (Madi). Found in Zoka Forest, East Madi, and in the northwest edge of the Budongo Forest.

*Khaya senegalensis*, A. Juss (1830). Native names - *Eri* (Madi), *Mario* (Lugwara), *Kiree* (Kakwa), *Tido* (Acholi). Savanna tree in West Nile and Gulu districts.

All except the last named are available in sufficient quantities and in large enough sizes to be worth placing on the world's markets. Stock taking in the forests has not progressed very far yet, but, in the Budongo Forest, a conservative estimate of thirty seven and a half million cubic feet of mahogany was made from a combination of aerial photographs and ground enumeration. The Zoka Forest of only 8 square miles has been found to contain one and three quarter million cubic feet.

The different species are known and can be kept distinct from each other for marketing purposes and steps are being taken to have each thoroughly tested and reported on in England.

A consignment of 57 tons of *Khaya anthotheca* (*Munyama*) is already undergoing full tests at the Forest Products Research Laboratory at Princes Risborough and, on account of the interest taken in it, an Interim Report was issued 1933 (11). This report stated that *Munyama*, while not the equal of the best Central American mahoganies, was a good grade of African mahogany. It has already been exported by the French from the Ivory Coast under the name of White-bark mahogany and Uganda supplies will probably be marketed as Uganda mahogany or Uganda White-bark mahogany.

Investigations of the other species are not so far forward, but regeneration experiments are being carried out with all the various mahoganies of Uganda and the indications are that, if markets can be established, it will be possible to maintain and to increase the supplies by quite inexpensive methods.

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# Notes on Uganda Mosquitos and on Methods of Control.

By G. H. E. HOPKINS, M. A., F. R. E. S.

The general appearance of a mosquito is familiar to most people. In case of doubt care should be taken to note whether the insect in question has a long piercing proboscis; if it has and its general appearance is that of a mosquito it is safe to assume that it is one. A further character which is only visible under a lens is the possession of small scales on the wings; other flies of the same type of build have wings either bare or with small hairs.

All mosquitos pass their early stages in water on or near which the eggs are laid, either singly or stuck together to form a small raft. From the eggs hatch larvae or "wrigglers" which obtain most of the air which they breathe from the surface of the water. The larvae after changing their skins four times become pupae, or "tumblers" which look like a comma with a swollen head. After a day or two the skin of the pupa splits along the back and the adult mosquito emerges. The pupa is a resting-stage; it does not feed and only swims about when disturbed. The duration of the whole of the early stages is usually about a fortnight in this country, but it differs according to the species and also according to the prevailing temperature.

We all know mosquitos as a nuisance and as carriers of malaria, but they also carry yellow fever, dengue and filariasis (more familiar under the name of one of its symptoms as elephantiasis), while they are suspected with regard to other diseases also, and are known to carry a number of diseases of domestic animals. The direct and indirect losses from malaria alone must reach almost incredible figures in money and life: Professor Muller of Cologne estimated that eight hundred million people are infected with malaria and according to an estimate made some years ago by the late Sir Ronald Ross there are two million fatal cases every year. The late Dr. Andrew Balfour, Director of the London School of Hygiene and Tropical Medicine estimated that the direct monetary loss to the British Empire due to sickness and death caused by malaria was in the neighbourhood of fifty or sixty million pounds per year.

Adult mosquitos have different feeding-habits according to their sex and species. Males are content with a vegetarian diet and merely seek the juices of plants and fruits, while the females of most species (but not all) must

have blood in order to mature their eggs. Some species prefer man's blood, while others prefer that of cattle or even of birds. These food-preferences have a great practical importance, for it is sometimes possible to educate mosquitos to prefer the blood of cattle to that of man. This has come about (quite accidentally) in certain parts of Europe, where malaria used to be common and where the species of *Anopheles* which formerly carried it is still abundant. The people now keep more cattle than formerly and keep them in stables instead of in the open; the *Anopheles* has come to prefer the blood of the cattle and malaria has almost died out. There are species of *Anopheles* in Kenya and Uganda which prefer the blood of goats or cattle and for this reason are harmless to man.

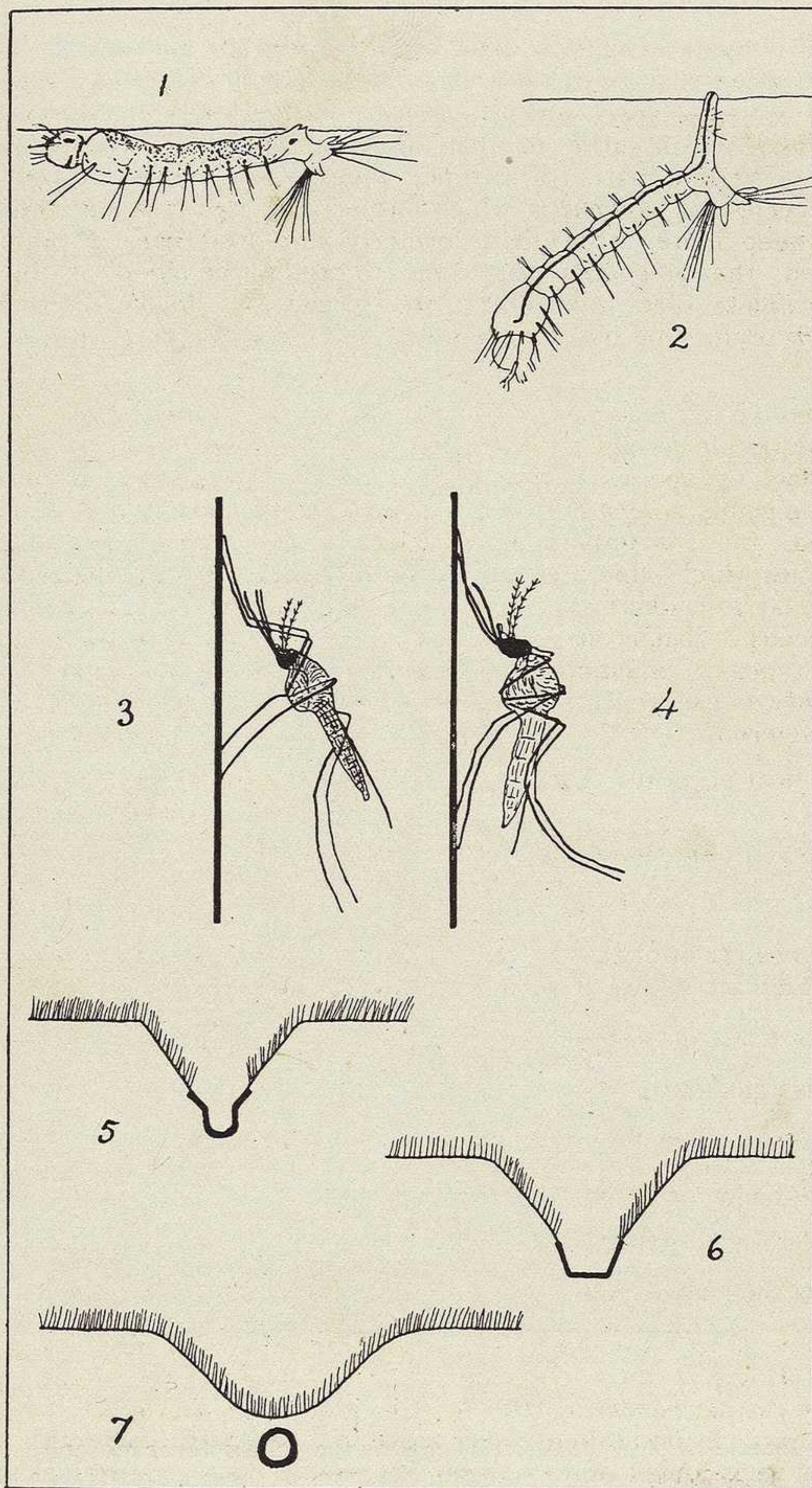
It is often wrongly assumed that there are only a few kinds of mosquitos, of which some people recognise *Anopheles*, *Culex*, *Stegomyia* and "grass mosquitos". There are in fact 141 species of mosquitos known from Uganda, included in twelve genera. In the genus *Anopheles* there are 27 Uganda species, only some of which carry malaria, and it is important to avoid spending money in trying to control harmless species which often breed in places unsuitable for the dangerous ones. It is also quite easy to convert a place which is the source of little or no danger into one which breeds a dangerous species of *Anopheles*, and it is therefore important to know the types of breeding-place selected by the various kinds of mosquitos and to take care to use control measures in those places and against those species which are dangerous.

For practical purposes Uganda mosquitos may be divided into the following groups:

- (1) Species of *Anopheles* which carry malaria.
- (2) Other species of *Anopheles*.
- (3) *Stegomyia* (a subgenus of *Aedes*) which breed in small containers and some of which are known to be able to carry yellow fever.
- (4) Other kinds of *Aedes*.
- (5) "Grass mosquitos".
- (6) Species of *Culex* found in small containers.
- (7) Species of *Culex* found in pools and swamps.
- (8) Mosquitos which have predaceous larvae.
- (9) Other mosquitos.

The adults of all *Anopheles* can be distinguished by the position in which they rest (Pl. I. fig. 3) the body being held in a straight line, while in all other mosquitos the resting position is the same as that of a *Culex* (Pl. I. fig. 4) with the back hunched up. In addition all the Uganda *Anopheles* have dark patches or spots on their wings, most other common mosquitos have entirely clear wings but two kinds of grass mosquitos have minute black speckles which give the wing a "pepper-and-salt" appearance.

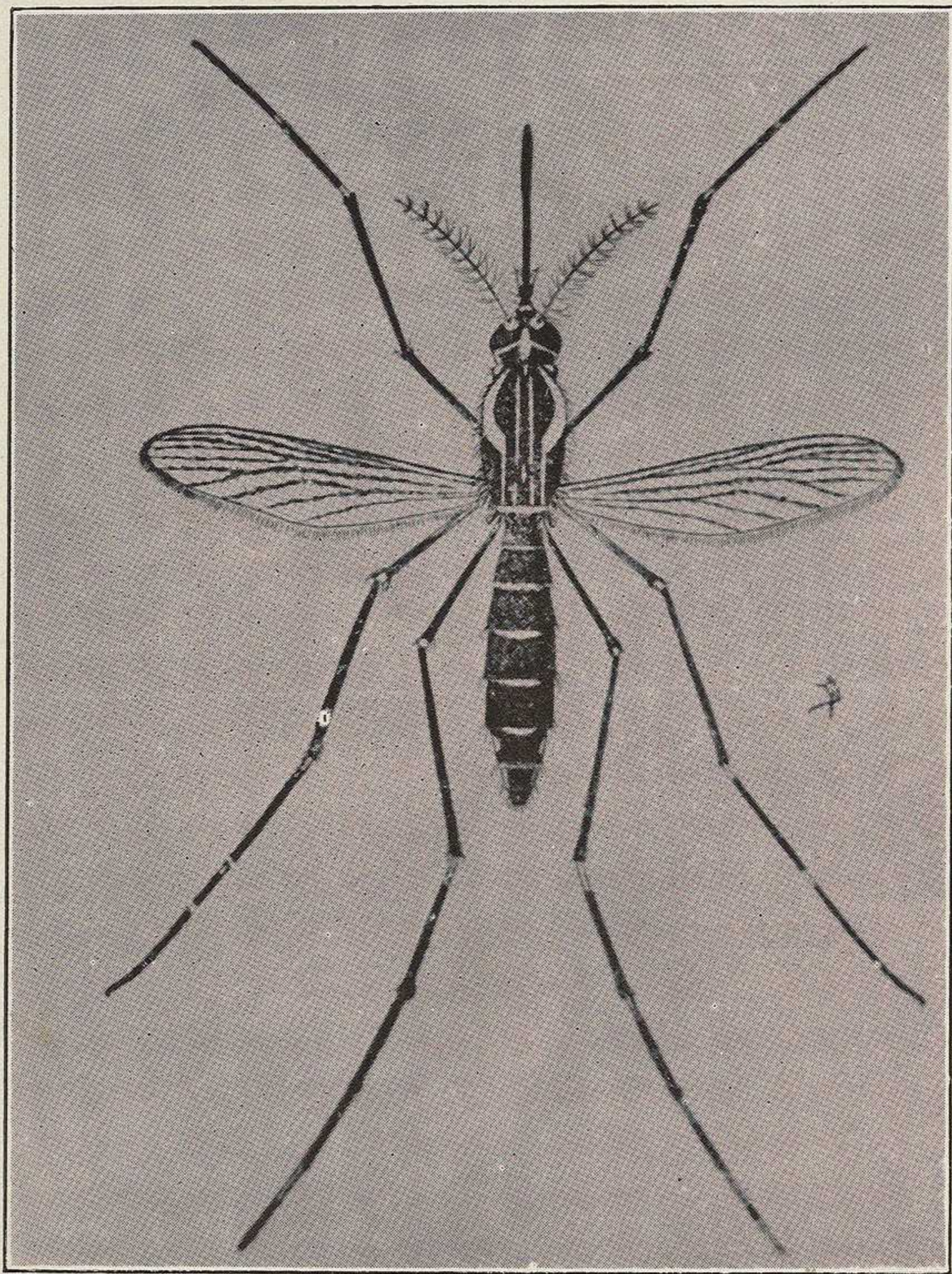
PLATE I.



Drawn by E. G. Gibbins.

Figs. 1 & 2. Larvae of mosquitos, *Anopheles* (1) and *Culex* (2).  
 Figs. 3 & 4. Resting-positions of adult mosquitos, *Anopheles* (3) and *Culex* (4).  
 Figs. 5 — 7. Transverse sections of suitable types of ditches. Figs. 5 & 6 show a cement lining to the bottom of the channel, fig. 7 a tile-drain let in below the grassed channel.

PLATE II.



Adult female of *Aedes (Stegomyia) aegypti*, the yellow fever mosquito, greatly enlarged (after L. O. Howard).

*Anopheles* larvae may be distinguished from all others by the absence of a breathing-tube (Pl. I. fig. 1). The absence of the tube compels them to rest and feed close under the surface of the water whereas other mosquitos, all of which have this tube or siphon as in *Culex* (Pl. I. fig. 2), hang down at an angle from the surface.

In a few cases the larvae of some very small kinds of mosquitos or very young larvae (which have very short siphons) may be mistaken for *Anopheles* unless the siphon is carefully looked for, and these and the predaceous *Lutzia* larva may lie almost parallel with, though still not touching, the surface of the water.

(1) *Species of Anopheles which carry malaria.*

Among the malaria-carriers are two very common species of *Anopheles* (*A. gambiae* or *costalis* and *A. funestus*) which occur throughout nearly the whole of Uganda and four others (*A. marshalli*, *A. hancocki*, *A. pharoensis* and *A. moucheleti*) which are much less common. The breeding-places of these dangerous *Anopheles* are pools, ditches, slowly flowing streams and the edges of swamps, and one species occurs in rock-pools. None of these species occur in covered tanks, barrels, old tins or roof-gutters unless the latter are shaded by trees and then only very rarely.

*A. gambiae* is found in open pools where there is much sun and often where the water has a milky appearance owing to the presence of suspended clay, and is especially abundant in clay-pits, sand-pits, puddles, ditches which are badly cut and where there is a poor flow of water, and hoof-prints of cattle and hippos.

The other dangerous species prefer rather clearer water and some shade, particularly from grass or weeds growing in the water, but steep banks are quite sufficient for this purpose. In a pool which is partly shady and partly open to the sun *A. gambiae* will be found in the sunny portion and *A. funestus* in the shady portion. The minimum breeding-periods observed in Uganda for *gambiae* and *funestus* are 11 and 20 days respectively, of which 7 and 15 days respectively are occupied by the larval stage. These figures would almost certainly be lower in the hotter parts of the country.

While these species occur on the edges of swamps, where the water is clean, they avoid foul water, very peaty water and dense forest.

It is important to remember that, at least in tropical Africa, an enormous proportion of the malaria from which we suffer is caused by ourselves, since we make the greater number of breeding-places. Man makes roads and railways, builds houses and makes bricks; for all these purposes he digs large holes which promptly fill up with water. He also digs wells and makes ditches to irrigate or drain his cultivation. It is no exaggeration to state that, in most parts of tropical Africa, three-quarters of the breeding-places of malaria-carrying species of *Anopheles*, and therefore three-quarters of the malaria, are made by man himself.

These dangerous kinds of *Anopheles* enter houses in the mornings and evenings and will bite as soon as the sun begins to go down and before it has risen sufficiently to give a good light. In a dark house they may bite at any time of the day.

(2) *Other species of Anopheles.*

- (a) Rare species, which are not further discussed here.
- (b) Species which commonly breed in places which are unsuitable for the kinds which carry malaria.

Under this heading are included three species. (*A. implexus*, *A. obscurus* and *A. mauritanus*) of which the first two occur only under heavy forest-shade; the last, which is often found breeding in company with such a dangerous species as *A. funestus*, occurs also in water too peaty for this species. None of these species commonly enters houses and it is important to avoid expenditure of money in endeavouring to control their larvae unless dangerous species are present in the same area.

The breeding-preferences of mosquitos (not only Anophelines) are of very great practical importance and a very good instance of the way in which knowledge of them may assist control was published in the home press about a year ago:- A sanatorium was so badly infested with mosquitos that it was feared it would have to close. The surrounding countryside was deluged with oil without result until it occurred to the authorities that it might be well to consult an entomologist. The latter identified the mosquitos as a species which breeds only in ponds in pine-woods and a search of the neighbouring pine-woods quickly led to the discovery that the mosquitos were coming from one small pond; this was dealt with and the plague was stayed.

- (3) *Stegomyia* (a subgenus of *Aedes*) and other mosquitos which breed in small containers and some of which are known to be able to carry yellow fever.

The commonest species of *Stegomyia* (known variously as *Aedes* (*Stegomyia*) *aegypti*, *A. argenteus*, *A. fasciatus* or the yellow fever mosquito) can readily be distinguished by its black colour with white markings, including a lyre-shaped mark on the thorax (Pl. II.) The larvae occur in tanks, tubs, discarded tins and bottles, roof-gutters, discarded motor-tyres and machinery and tree-holes. This mosquito bites at all times of the day but is perhaps most troublesome in the late afternoon. *Aedes stokesi* has been proved experimentally to be able to transmit yellow fever in West Africa; it breeds chiefly in tree-holes. *Eretmopodites chrysogaster*, which breeds in fallen leaves and old tins, can also transmit yellow fever under experimental conditions. This species bites viciously during the day-time in dense swamps and in forest; it has a reddish-brown thorax and a black abdomen marked with silvery spots.

(4) *Other species of Aedes.*

There are a large number of other species of *Aedes*, of which very few are domestic. Most of the members of the subgenera *Aedimorphus* and *Banksinella* breed in pools and are believed to scatter their eggs over depressions in dry ground, the eggs hatching whenever rain falls and the pools are filled. Eggs of all species of *Aedes*, including those of *Stegomyia*, are able to withstand dessication (for at least six weeks in the case of *A. aegypti*).

(5) "*Grass mosquitos*".

These all belong to the genus *Mansonia*, (formerly known as *Taeniorhynchus*) and the larvae have the interesting habit of obtaining air by piercing the roots of water-plants with their siphon, while the pupa also obtains air in a similar way. It is, therefore, impossible to control these species by the application of insecticides on the surface of the water.

As they do not come to the surface of the water, the larvae of this group are very difficult to find, and this has given rise to all sorts of weird superstitions as to their breeding-places. Some people have thought (hence the name grass-mosquitos) that they breed in grass—presumably grazing on it! More adventurous spirits have been stated (I do not vouch for the statement) to have climbed palm-trees in hopes of finding larvae in the water collected in the crown. This latter is an occupation not looked on with favour by the life-insurance companies and one highly unlikely to produce the required larvae, though I am not prepared to say that other species of mosquitos may not occasionally breed there.

The common grass mosquito (*M. fuscopennatus*) found in houses is a large brown mosquito and is leathery in texture; specimens which have been "swatted" are, therefore, not almost completely destroyed as is the case with other mosquitos. This is quite a useful way of identifying this species. Two other common species occur very abundantly in swamps and along the shores of lakes and bite viciously in the day-time. These two last are very similar in appearance, being brownish grey with white bands on the legs and peppered wings. All grass mosquitos breed in swamps. Several species are suspected of being able to carry a disease which causes abortion in sheep in Kenya and which can be transmitted to man in the form of a fever.

(6) *Species of Culex found in small containers.*

There are about half a dozen species of *Culex* which breed in tanks, tubs, old tins, and tree-holes and of which some are not uncommon in houses. They are not of any known importance as carriers of disease in Uganda.

(7) *Species of Culex found in pools and swamps.*

The majority of species of *Culex* breed in pools and swamps, of these only one or two enter houses and they are of minor importance.

(8) *Mosquitos which have predacious larvae.*

Most mosquito-larvae feed on microscopic organisms (animal or vegetable) floating in the water, but there are, in Uganda, three kinds of mosquitos which have predaceous larvae. These feed voraciously on the larvae of other mosquitos, but unfortunately they are of little practical importance in keeping down those which carry disease as they do not occur in sufficient numbers.

One subgenus of *Aedes* (*Mucidus*) appear to have the same egg-laying habits as the species of *Aedes* mentioned in section (4). The eggs hatch at about the same time as those of the other kinds of *Aedes*, which latter may eventually be

nearly killed out by the predaceous *Mucidus* larvae. *Mucidus*, however does not lay its eggs in the pools where permanent breeding of dangerous *Anophelines* is taking place. A second kind is found uncommonly in tree-holes where it occasionally destroys a number of *Stegomyia* larvae. The adults of this genus (*Megarhinus*) are very large and metallic blue in colour and although from their appearance they would seem capable of inflicting a severe bite their large proboscis is in reality quite incapable of being used for this purpose and they do not bite at all.

The last kind (*Culex (Lutzia) tigripes*) occurs in pools and to a less degree in small containers and does play a small part in destroying dangerous mosquitos. It is, unfortunately, unable to make any appreciable difference in their numbers, nor can it be encouraged to multiply more rapidly.

(9) *Other mosquitos.*

There are a number of other genera of mosquitos which are of no practical importance. There are certain species which breed only in the axils of plants such as *Colocasia* or wild banana, others are confined to the stumps of cut reeds or to bamboos, and will live inside these when a hole has been bored by a caterpillar and water has collected at a joint. It is of practical importance to realise that mosquitos breeding in such places are harmless, for it is often thought that the prevalence of malaria on sisal estates is due to mosquitos breeding in the axils of the sisal plants; no *Anopheles* breed in such places, and no water collects in the axils of the sisal of commerce.

One genus, (*Harpagomyia*) which breeds in plant-axils has a curious feeding-habit as an adult; it obtains its food from ants of the genus *Cremastogaster* which it worries until they are persuaded to give up a drop of a sweet secretion.

### Control-Measures

These are conveniently discussed under two headings:

- (1) Measures against adults; including personal protection.
- (2) The destruction of the early stages.

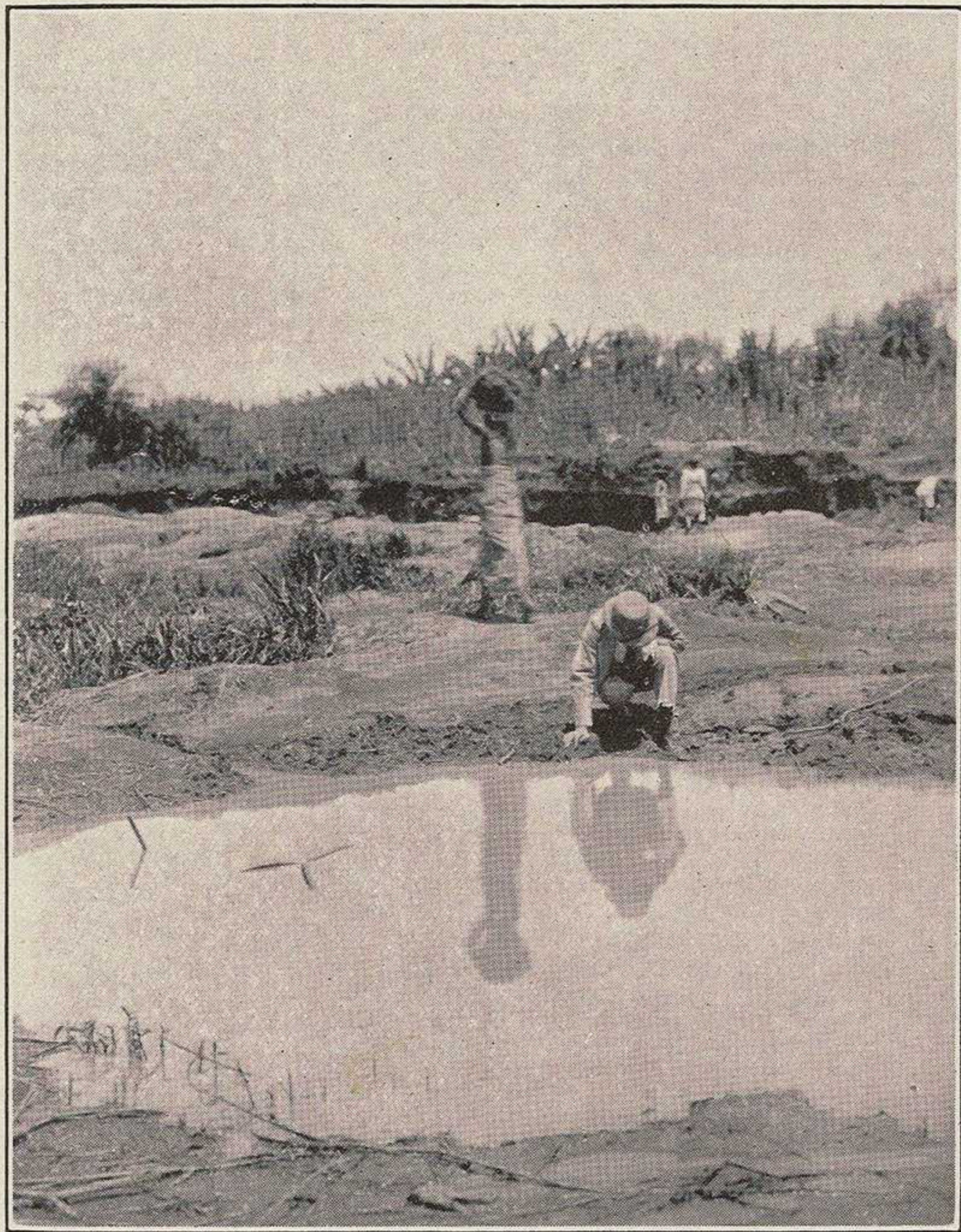
(1) *MEASURES AGAINST ADULTS.*

There are many ways in which it is possible to protect oneself from the bites of mosquitos and it is important to remember that those species of *Anopheles* which carry malaria bite before as well as after dark and also bite in the early morning. They will moreover bite in any dark place during the day-time. There are a number of small precautions which any person can take; these include:-

- (a) Putting on mosquito-boots at sunset.
- (b) Closing all wire gauze doors and windows a considerable time before dark and not opening these until the sun is well up (*Anopheles gambiae*



PLATE III.



A typical breeding-place of *Anopheles gambiae* in an abandoned clay-pit.

[Photo. by G. L. R. Hancock].

PLATE IV.



An old well. *Anopheles gambiae* breed in the middle of the pool and *Anopheles funestus* in the shade of the banks.

[Photo. by G. L. R. Hancock].

has been noted as late as 8.0 a.m. on a dull cold day endeavouring to enter a house through the wire screening).

- (c) The killing of any mosquitos found on the inside of the wire screening, where they are most easily seen in the early mornings.
- (d) The use of a bed-net.
- (e) Insecticides, including compounds containing pyrethrum and various proprietary compounds, will kill mosquitos if these are actually hit with the spray; they also act as a repellent and often stupify mosquitos not actually hit, it is well therefore to sweep the floor after using these sprays to collect up those mosquitos which have not been killed. In a few cases mosquitos may be driven on to the wire screening of houses, where they can be crushed as soon as seen or given a further puff of spray.
- (f) Houses should be as light as possible and heavy dark curtains and dark distemper should be avoided.
- (g) Care should be taken when on 'safari' to avoid being bitten during breakfast or when shaving in the morning. It is well to wear mosquito-boots at this time and to have breakfast outside the rest-house where the light is brighter. A large dining net is valuable to reduce the chances of being bitten when on safari.
- (h) When using cane-bottomed chairs it is advisable to put a cushion or even a piece of newspaper over the seat.

Larger-scale measures of protection against adult mosquitos include :-

- (i) *The proper screening of houses.*

The object of exclusion of mosquitos can only be attained by complete screening. Partial screening is of no value and often allows infected mosquitos to enter a house and hinders them from leaving it. All doors should open outwards and have some spring or other self-closing device. Doors should fit well and there should be no gaps between the doors or between the door and the floor. Light double doors should be avoided. In areas where mosquitos are abundant, a double porch consisting of an inner and an outer door with a screened space between them is a further protection; both these doors should open outwards. A perfect example of what to avoid is a house built some years ago by a native chief, who had excellent mosquito-gauze on the windows but (owing, no doubt, to the financial depression) had failed to put in doors of any kind!

Windows should similarly open outwards or a wire screen can be fixed outside each window and the glass windows be made to open inwards, folding back against the wall on long hinges.

The most efficient and economical method of protection is the screening of the entire verandah of a house, rather than of individual windows and doors; latrines should be included in the general screening of the house. The wire gauze should be of not less than 14 meshes to the inch, using wire of gauge 30

I.S.W.G., and mosquito-nets should be of not less than 25/26 holes to the square inch, and woven of 30/S or 40/60 cotton.

In designing rest-houses administrative officers should endeavour to make these as open and light as possible, compatible with giving reasonable shelter from the weather. A wide verandah is desirable, and whitewashing the walls is an advantage. In South Africa it has been shown that a bright lamp (300 candle-power) will prevent Anophelines from entering a room.

(j) *Siting of houses and clearing of bush and grass.*

A house should be placed as far away as possible from the breeding-places of malaria-carrying species of *Anopheles*, preferably on a hill. Long grass and bush which shelter mosquitos should be cut and replaced by short grass or cultivation for as far away as practicable; even one or two hundred yards of clearing may be useful. Care should be taken, however, to avoid clearing dense vegetation or forest in swampy places, which might thereby be turned from comparatively harmless breeding-places into sources of dangerous species. While little is known as to the distance of flight of mosquitos, they appear rarely to wander more than a mile from their breeding-places unless carried by wind or unless the breeding-place is so extensive that the insects must spread further in search of food. The same considerations should be remembered when choosing a site for native county or other headquarters.

(2). *DESTRUCTION OF EARLY STAGES.*

The control of *Anopheles* larvae usually requires extensive drainage-schemes or temporary measures for the destruction of larvae by the use of insecticides. The householder can do comparatively little himself in this matter beyond avoiding the creation of pools or puddles. The control of the domestic *Stegomyia* and some species of *Culex* does, however, depend on the individual householder.

*Compound sanitation.*

This is the way in which everybody can help. All old bottles and tins should be collected up, grass should be kept short so that these may be easily seen and to avoid sheltering adult mosquitos; tanks, if not properly screened or fitted with a trap which is in working order, should be oiled regularly, as should any barrels which cannot be replaced by tanks or discarded. Pools of all kinds should be filled up and any drain which is choked up should be cleared. Gutters should be kept in good repair and any branches of trees which shade the gutters should be removed; sagging of gutters is usually due to the use of brackets not strong enough to bear the weight. The places mentioned are not the only ones which breed domestic mosquitos around a house. An old outer cover of a motor-tyre is often a very prolific source, as also are such unexpected places as the cylinders of a scrapped engine. The yellow fever mosquito is the most important species which breeds in such places; it also breeds freely in tree-holes.

*Control of pool and swamp breeding species.*

This is usually undertaken by some public authority and consists chiefly of

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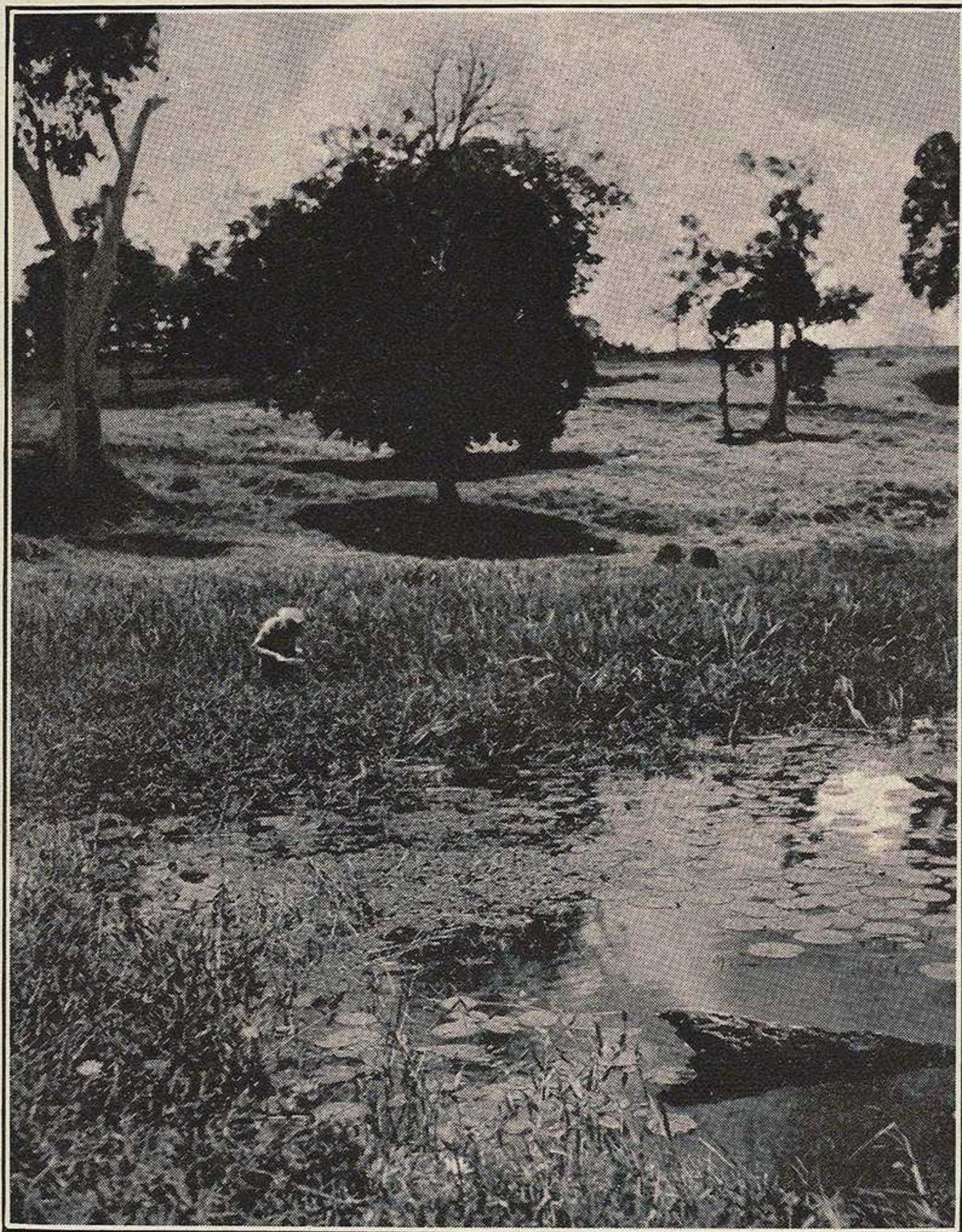
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PLATE V.



A lake-shore breeding-place of Anophelines. *Anopheles funestus* and *Anopheles mauritanus* (the latter a harmless species) occurred in water among the grass at the position of the figure.

[Photo. by G. L. R. Hancock].

draining those areas which have been found to be breeding dangerous species of *Anopheles*. It should be remembered that forests are places in which dangerous species do not breed and that in some swamps few mosquitos of a dangerous kind can be found, so that these places are better left untouched unless complete drainage is possible. It is usually at the edges of swamps that the more dangerous species of *Anopheles* will be found breeding.

(A) *The reclamation of swamps* is conveniently considered under the following headings: --

- (1) The central channel
- (2) Side drains and ditches.
- (3) The planting of trees.

(1) In dealing with the central channel it is usually necessary to consider both the dry-weather flow of the stream and the question of flood-water. A suitable type of ditch has sides sloping at an angle varying with the nature of the soil but never vertical (in order to avoid falling-in of the sides or under-cutting by the stream) and planted with short grass (Pl. I. figs. 5 and 6). In the bottom of the ditch is a much narrower channel which is either cemented or tiled; in either case it is necessary that the cement or tiles should extend considerably above the dry-weather level of the water, and if seepages occur below the level of the cement or tiles it is essential to provide weep-holes. This lower section of the ditch takes the dry-weather flow of the stream, while floods are dealt with by the grassed upper portion which must meet the cement or tiles in such a way that no water can collect at the junction and that under-cutting is avoided. In very sandy soil the grass may not be sufficient protection to the sides and some further form of strengthening may be required.

Cattle should never be allowed to graze in marshy areas. They not only break down the sides of the channels but their hoof-prints form very prolific breeding places of dangerous species of *Anopheles*.

The proper formation of drainage-ditches is of the first importance, as unsuitable drains are liable to become much worse breeding-places than was the swamp which they were intended to drain. Earth drains of the usual type are always unsatisfactory. They are commonly dug quite narrow in the first place and appear satisfactory for a short time but, because the sides are vertical and the bottom is not protected by cement or tiles, frequent cleaning-out is required and this inevitably leads in a comparatively short time to the formation of a channel much too wide for the volume of water and therefore with a very poor flow and peculiarly liable to the formation of pools. Such channels are ideal breeding-places for *Anopheles gambiae*, one of our two worst malaria-carriers. Failure to clean out (and therefore widen) these channels results in their being choked by falls of earth and again becoming breeding-places.

Ditches of the type advocated in the first part of this section are expensive to construct but require little up-keep and are, therefore, economical in the long run.

(2) The drainage of subsidiary valleys or small swamps often does not require an open channel as the volume of water is much smaller, but a shallow grassed channel should be provided in some cases to take storm-water. Such places can often be dealt with by a subsoil drain. The best type of subsoil drain (Pl. I. fig. 7) is the agricultural tile drain (unglazed and porous), but rubble drains, in which the pipe is replaced by fair-sized stones, are at present working entirely satisfactorily in several parts of Uganda. These latter are very cheap to construct but their length of life under the conditions found in Uganda is not yet known and will undoubtedly depend largely on the texture of the soil; in Kampala this type of drain has now been working successfully for two years.

(3) As an alternative method these areas may be planted with Eucalyptus, of which *E. robusta* has proved the best for wet land. When planting it is, however, necessary partially to drain the land and for this purpose temporary ditches are sufficient. These should be as small as possible and should be regularly oiled or treated with paris green until the trees have grown sufficiently for them to dry out or to be filled in. Pools often form round the mounds on which the young trees are planted and these should be dusted with paris green; they must not be oiled as the oil will kill the young trees. Planting should begin on the hill-side above the springs, in order to intercept the seepages.

An important fact in connection with control of mosquitos by means of tree-planting is that the dangerous species of *Anopheles* do not like heavy shade. For this reason any rain-pools which may form in wet weather in an area closely-planted with trees will not be a source of malaria-carrying species because of the denseness of the shade

(B) In dealing with *pits dug for clay or sand* it is often possible to drain away the water; in some cases they are too deep to drain and it becomes necessary to fill them up completely or partially. Wells or water-holes which are required for use should be covered over. The simplest form of covering is a roof of thatch or corrugated iron raised on poles to a height of about four feet and extending sufficiently far at the sides to keep the sun off the water. This method is already sometimes used by natives as a means of keeping the water cool and it was observation of wells shaded for this purpose which led to the discovery of this simple and inexpensive method of control.

Abandoned water-holes should always be filled in; they almost invariably become breeding-places of dangerous *Anopheles*.

(C) A less important type of breeding-place which requires treatment is the *rock-hole*. These holes occur in large rocks and may be quite small and bare of vegetation or larger and with a fringe of grass. They can usually be readily filled up with stones and cement, in some cases they can be filled with earth and turfed over.

#### *Temporary Measures of Control.*

While permanent drainage-schemes are being put into operation it is necessary to keep down the numbers of mosquitos by the application of insecticides.



The two kinds most commonly used are oil, a suitable mixture being supplied for this purpose by all the oil companies, or paris green. In the latter case the dust is mixed with wood ashes or any other convenient diluent and the most satisfactory mixture is 4% paris green to 96% wood ashes.

Paris green is cheaper, but, being a dust, only kills Anopheline mosquitos (which feed on the surface) whereas oil will destroy all except grass mosquitos. In using paris green it is difficult to see whether the application has been thorough, while with oil it is easy to see the film on the water; in using paris green it is, therefore, essential to have very efficient supervision.

Besides killing the mosquito larvæ oil deters the adults from laying their eggs, whereas with paris green egg-laying takes place normally.

Dusting with paris green should be repeated at intervals of not more than a week, while in the case of oiling the interval between applications may safely be extended to 10 days. In running water much more frequent application of larvicides becomes necessary.

A simple and satisfactory method of temporary control in pools is to throw bundles of cut grass (elephant-grass is quite suitable) into them until the surface is covered. The decay of this grass renders the water entirely unsuitable for Anophelines, but the method has the disadvantage of permitting the breeding of large numbers of a domestic species of *Culex*.

#### *Biological Control.*

Under this heading are included methods which will render places unsuitable for the survival of mosquito larvae either by the introduction of some animal which will devour the larvae or by planting (already dealt with) or by making some change in the fauna or flora which will render the area unsuitable for the production of mosquitos or of some species against which control is specially desired.

The only animals which have at any time proved of real value are fishes. In a pool with clean sides and with no weeds in which the mosquito larvae can hide, fish will destroy almost all the mosquito larvae provided the water is clear and they can see their prey. There are numbers of predaceous insects which feed on mosquito larvae, but practically nothing is known about them or the possibility of utilising them in controlling mosquitos.

It has already been mentioned that heavy shade is inhibitory to the breeding of the dangerous species of *Anopheles*.; some kinds of swamp also seem entirely unsuitable. At present few trees have been found which will grow in really waterlogged areas and little is known as to the reasons why certain swamps breed very few mosquitos; it is, therefore, not yet possible to find a method of producing these inhibitory conditions wherever they are required.



# Ebifa ku Mulembe gwa Kabaka Mutesa

(Byeyongede)

*Byawandikibwa* OM. HAM MUKASA.

Awo bwebwakya enkya Mr. H. M. Stanley nasitula ng'alina omukulembeze aja amulaga ekubo okumutusa mu Kibuga Rubaga, era Kabaka yamulindirira n'esanyu. Bamuyisa mu lugudo olwoku bugwe nebamugukiza ku Wankaki. Bino byebyaliwo:-

Bwebava e Busabala nebayita e Ziranumbu e Kibiri nebatuka e Gangu nebasomoka Kalidubi nebatuka e Masaja ne Ndiku tamada ne mu Nsike, nebasomoka omuga Nalukolongo mu lugudo Kalungi nga batuka mu Rubaga mu Lubiri nga banyumya mbozi yabwe, era Kabaka nabuza bingi nyo Mr. H. M. Stanley namutegeza byona n'Edini ya Yesu Kristo nga bweri, era namutegeza nga bweyaleka ebibye ebingi enyuma mu Sukuma ne bwasubira okudayo okubigoberera. Kabaka nadamu nti Ndisanyuka ng'okomyewo e Buganda. Awo ekisera bwekyatuka mu mwaka ogwo 1875 mu June, nadayo e Sukuma. (Wano wewali ebya Colonel Linant Bellefonds n'okusibulagana mu August). Ate mu mwaka 1875 nga amuwa ebaluwa gyeyawandikira Ekibina kya C. M. S. gyeyagenda nayo e Sukuma eyasaba Abasomesa okuja okusomesa Kabaka n'Ensi ye namuwa ne Galubindi. Mu 1875 Mr. H. M. Stanley yakima ebibye e Sukuma nakomawo nasanga Kabaka ng'atabade Abavuma e Naka'anga. Bwebamutegeza naye teyatula yagenda mu lutabalo, yayita Nsonga natuka e Nyomerwa, bweyava e Nyomerwa nasula e Makindu, era embwaye Fox yafira Nyomerwa era nebagizika mu lusozi olwo Nyomerwa. Bweyava e Makindu nalyoka atuka e Bugungu, e Nakalanga yasanga nga Kabaka tanalwana n'Abavuma ng'ali Bugungu era bino byebyaliwo:-

1. Okukuba ekifananyi ky'abasebeyi ba Kabaka.
2. Okukuba ekifananyi eky'enyanja n'amato.
3. Okukuba ekifananyi eky'olusisira.
4. Okukuba ekifananyi eky'Abami.

Awo nga naye asako amagezi ge n'amanyi ge era ng'afuka omulwanywa wa Kabaka dala obutabusibwabusibwa, songa bali e Nakalanga ku luk'lu lwabwe webaimanga okulwana. Olukalu olwo wewali enyanja esalawo ne Kizinga Lingira ekya Bavuma, kwebavanga okwerwanirira mu nyanja eyo entono n'enene eweza kitundu kya mailo. Yakuba ebifananyi bingi eby'engeri zona, yakuba emundu n'omukono gwe ate yasala amagezi okugata awamu amato asatu gaberenga ekyombo baime mwago nga bakuba emundu, era gagasako nyo. Era amato ago geyagata gatukira dala

e Buvuma ku taie nebadukawo nga bagamba nti Ono alese Lubale mu'gya ajide mu kibondo ekitali mato, atenga abatukuba tebalabika, leka tuduke, awo nebaduka bona. Naye Abaganda olw'okutya enyo Abavuma kyebava baduka kubanga Abavuma bamanyi oku'bira mu ma'zi nebasala amato wansi mu lyato, eryato lyona neri'ka mu nyanja n'abantu balyo. Awo olw'entisa eyo neziyiza amagezi ga Mr. H. M. Stanley songa amagezi gandigasiza era mpo'zi n'ekizinga bandikirinye; naye entisa eyo yeyalobera Abaganda okuwangula Buvuma. Awo Ekizinga bwekyalema okuwangula Kabaka nakomawo n'Omugenyi we nayenga talina sanyu nakatono olw'okulemwa Ekizinga ekyo ekye Buvuma, atenga ba'se abantube bangi era n'Abami bangi. Ekitegeza bweyanakuwala kyekino: Waliwo omukyala omuganzi enyo enyo, mpo'zi okusinga Olubiri lwona obuganzi, obwami bwe nga ye Mujuko naye Kabaka bweyali ava mu lutalo nga ayingira mu nyumba ye mu Lubiri olwo mu lutabalo awo omukyala omuganzi Mujuko bweyalaba Kabaka ng'ayingira nafukamira okumuyozayoza nti Ayi Salongo wange Serumenya Mawanga, yogayoga nyo, yogayogage. Awo bweyamala ebyo nga banyumya ne Kabaka ng'omuntu bwanyumya ne mukwano gwe ebifudeyo byona ku lutalo awo omukyala Mujuko omuganzi wa Kabaka nadamu nti Salongo bwenalabye nga wesereka amaliba g'Enko nabade nsubira nti Ekizinga Buvuma onokirinya nti tebeyo musaja akuziyiza, so ng'Abavuma basa'ja, mbatide! Awo Kabaka olwawulira ebyo nana-kuwala nyo nyini n'emere nemulema okulya okulaba mukwano gwe ng'amuvuma bwatyo! Awo Kabaka nakyukira Abakyala abalala nabagamba nti abafe Emwanyi gyewesiga tebamu mulamwa, abafe Omujuko yampita omuti? n'okunangira amaliba g'Enko genayambade songa ngambala bulijo, ye amawanga gona genakawangula ngalwanyisa omulundi gumu? Anti era gamala kulwawo nengawangula. Okudamu kw'abakyala abalala nti Sebo mu'no oyo tekimusanide kwogera bwatyo wabula gw'onolaba kyonokola. Kabaka nadamu nti Tasana kuba mulamu kubanga naye abade tayagala nkomewo nga ndi mulamu wabula okunzi'ta n'amaliba gange kale ye yanasoka okufa. Awo nga balagira Abambowa Mukajanga n'Omusigula nga bamutwala okumu'ta, bamu'ta bwebati. Bamusibako Masikani nebamusula mu nyanja aleme okuzikibwa, kyekimu n'okumwokya kubanga Kabaka yamanya nti azalibwa Kyagwe mu kitundu kye Bukunja ekiriranye Buvuma. Abo nga bafumbiriganwa, Abavuma na Bakunja, nti ye nsonga emusanyusa Abavuma okugoba Abaganda, songa ndowoza sibwekyali, wabula ebirowozo byava mu kunakuwala butawangula. Naye Mr. H. M. Stanley ekyo teyakitegera mu kiseru ekyo. Mr. H. M. Stanley yanyumya nyo ne Kabaka ku bigambo by'Edini ya Yesu Kristo nga bweri n'empisa ze Bulaya nga bweziri n'Edini y'Abaisramu nga bweri nga Abazungu bwebagirowoza. Ebyo byona ng'ayagala abiyige era olwo lweyabuza Stanley obanga ayinza okubaletera Abasomesa. Awo Stanley namusubiza nti bangi, awo Kabaka bweyakomawo nabera mu Kibuga Rubaga nga olwo balongosa Nabulagala ne Rubaga, nebanyumya nyo ne Mr. H. M. Stanley ku Mawanga amalala n'empisa nyingi eza Bazungu neza Badugavu abalala beyayitamu, abagezi n'abatali bagezi, Bakabaka abekitibwa n'abatali bakitibwa nebirala. Naye Kabaka nategeza Mr. H. M. Stanley nti njagala nyo okusoma Edini yamwe gyemukiriza, naye oyinza okundeterayo Abasomesa? Mr. H. M. Stanley nadamu nti ekyo kyangu nyo nti ekiseru kiriyita kineneko naye tebalirema kuja. Era Kabaka nabuza Mr. H. M. Stanley nti muni zamwe buli nsi erina edini yayo? Oba Edini emu? Mr. H. M. Stanley namudamu nti Edini eyamazima eri emu. Namubuza nti Dini ki eyamazima? Mr. H. M. Stanley na-

mudamu nti Edini ya Yesu Kristo, Omwana wa Katonda Omulamu era Omulokozi wafe fena eri buli akiriza yena. Namugamba nti Nsobedwa, kubanga Abawarabu bagamba nti Edini yamwe Abazungu si yamazima, kale nkakaseko kiruwa? Mr. H. M. Stanley namudamu nti Gwe weka olyetegerera weka bwolifuna Abasomesa benyini, nti naye kyenkubulide, era nabo kyebalikubulira nti Edini ya Yesu Kristo ye yamazima era olyetegerera ng'osomye Ekitabo Ekitukuvu lwolikiriza ekisinga. Awo Kabaka nadamu nti kale no nyikira okundetera Abasomesa, naye nange ndisanyuka nyo nga ba'ze mu nsi yange Buganda. Naye Mr. H. M. Stanley yalina Omutaputa we erinyalye Mr. Dallington (oba Mafutawa ly'erinya ly'Egwanga lyabwe Abaganda lyebamuita, liringa lya Kiisramu, songa muigirize mu Kanisa ye Zanzibar). Omuvubuka oyo yeyavuuulanga mu Lungeréza ebigambo bya Mr. H.M. Stanley. Naye ekisera bwekyatuka eky'okudayo Mr. H.M. Stanley nalaga Kabaka okudayo. Yakwata lye Bu'du, mu nsi ez'ebugwanjuba. Naye Omutaputa oyo Kabaka yamwagala nyo era bweyalaba nga Kabaka amwagala nyo nalyoka asala amagezi agatali gamu yeka, yabulira mu kubo e Bujaju. Kabaka natuma Kadu Omusalosalo okumugoberera nakomawo nasanga Kabaka Mutesa nabera Omusomesa wa Kabaka namuwa obwami bw'ekitongole Ekitezi ng'osomose omuga Mayanja ng'ogenda okumpi ne Bulemezi. Era omwami Dallington yeyasomesanga Kabaka enukuta ez'Ekizungu n'okunyikira okusoma Walifu mu ngeri eno:-

A B C D E F G

L M N O P Q R S T U W X Z.

Awo Kabaka nanyikira okusoma nayiga nyo. Yasoma nyo ekitabo kya Luberyeberye n'ekya Kuva. Ebitabo ebyo nga biri mu lulimi Luswaili nga biyitibwa bwebiti: Mwanzo ye Luberyeberye; Kutoka ye Kuva.

Kabaka Mutesa yayiga nyo ebitabo ebyo era mweyasinziranga okuwakana n'Abawarabu nti Abazungu byebogera by'amazima dala kubanga nti ekitabo Mwanzo kiriranya ensi n'okuzalagana nga bwebyasoka, naye ekyamwe Korani tekiriranya bwekityo mu ngeri enungi, kale mwe mulina ekinyonyola nga kino? Era nagamba nti kubanga nsomyeko nyo ekitabo Korani naye siwuliranga kunyonyola kutufu nga kwendabye mu Kitabo eky'Ekizungu, kale mulwoza mutya? Awo Kabaka bweyamala okwatula bwatyo mu lwatu Abawarabu nebanakuwala nyo nga bagamba nti Kabaka ayagalira dala okufuka ow'Edini eno eya Bakristayo? Awo nebeyongera nyo okwogera ne Kabaka n'amagezi amangi balyoke bamukomyewo mu Dini gyeyasokamu nga bogera bwebati:-

Ku Dini ya Bakristayo Sebo Kabaka (Saidina) (Amakulu nti Omubezi w'Abantu) tukutegeza nti wekume nyo Edini ya Bazungu, gwe Kabaka owekitibwa era omugaga enyo alina byona ekisera kitono oja kubera mwavu dala era olibera mukopi kubanga Abazungu tebasomesa Dini yoka, era balina bingi byebaja nabyo byebino:-

1. Ekibina kya Basomesa wekiri
2. Ekibina kya Bafuzi wekiri
3. Ekibina kya Balwanyani wekiri
4. Ekibina kya Batunzi wekiri.

Naye ebibina ebyo buli kimu kirina engeri yakyo songa byona biberagana nyo nyini. Okuberagana kwabwe kwekuno: Leka nsoke Abasomesa kyebakola. Obuwombefu ge manyi gabwe, bagonvu nyo nyini naye bwebalaba Kabaka omugezi nga gwe bwebakugondera nga bakukolera kyona kyewetaga gyebali nga n'okusoma okiriza nga kakano bwoyagala okukola, naye ekivamu kufirwa byona byolina.

1. Olisobola omukazi omu?
2. Olikiriza enyumba emu?
3. Olikiriza obutafuga ba·du?
4. Olikiriza obutanyaga bano?
5. Olikiriza obutasoloza musolo mu nsi endala zona zofuga nga Busoga n'endala?
6. Olikiriza buli akukolera okumuwa empera?

7. Olikiriza obuta·ta nte yakulya buli wantu wabula ey'okutunda n'olyako buli kweyo? N'ebirala bingi byetutayogedeko ebiringa ebyo eby'obulombolombo byoliraba. Ebyo byona Ekibina ky'Abasomesa kyekisoka okubiyigiriza mu nsi, bwobikiriza nga towakanye tewabawo kabi kona, naye bwogana okubikiriza n'ekisa awo nga Abasomesa babitwalira Ekibina ky'Abafuzi abalina amanyi agateguya, nga Abafuzi abo balagira nga bikolebwa. Era bwowakanya Abafuzi nga bo balagira Abalwanyani nga Abalwanyani bakulaga enaku wolikiririza, bwosisobya nga bakulaga esawa nti mu sawa gundi bwotokirize kino ng'okulwana kutuse, okutusa lwokiriza oba tokiriza nga kibera nga bwebagala okukiriza mu buwangule! Awo olukuwangula nga byona bikolebwa olw'amanyi nga Abafuzi amateka bateka boka, bwogana nga Abalwanyani webali nga Abasomesa basomesa, bwogana Abafuzi webali n'Abalwanyani webali. Okwo kwekuberagana kw'Ebibina bya Bazungu kwetukunyonyola Sebo Kabaka, naye tetukugana kusoma Dini yo, naye ogisoma nga byona obitegedede bwolibikiriza era bwolibikiriza olibera mirembe naye bwolibigana toliba Kabaka, kale soma. Naye bwebalaba nga kizibu nyo okugonza Kabaka oyo mu ngeri zino nebalyoka bamusalira amagezi bwebati: ate nebamutegeza olugero lw'e·diba ly'ente nga Omuzungu bweyalya ensi ng'asoka mpola. Olugero olwo luli bweruti :-

Sebo Kabaka, eda waliwo Kabaka mu nsi endala nga mugezi nga gwe, era nga mugaga nga gwe era nga wakitibwa nga gwe, Omuzungu Omusubuzi yagula ente ye nasaba Kabaka ekifo wanabamba ediba lye, naye Kabaka nakiriza namuwa ekifo nga tolowoza nti ekifo awanabambi bwa ediba nakyo kyaki? Kabaka nagamba nti Leka muwe abambewo ediba lye, nga amuwa kifo ng'abaga nte ye ng'agyako diba lye nga alikomola akalere katono nyo akaweza obugazi bwa misiri kumi ze Eka ebiri n'ekitundu, ngayetoloza olulere olwo olwenkana nga olulega eng'oma nga alutimba ku bikondo nga ekisakate kya namuziga, naye bwebabulira Kabaka nti Sebo okubamba ediba okwa Bazungu kukomola ndere? Ediba limazewo énsi! Akatono kazala akanene. Sebo Kabaka ensi bagirya nga Kabaka agamba nti Mutya ki, nga basirika ate nga Omuzungu agamba Kabaka nti Sebo ediba lyanze likaze naye gyerikomye gyenakomya akakomera kange kenazimbamu enyumba yange kenazimba, onzikirize mukama wange, akataka

aka Eka ebiri kintu ki eri gwe Kabaka owekitalo era owekitibwa a'ina ensi enene bweti? Awo nga Kabaka akiriza nga amugamba nti Sebo gwe Kabaka ow'ekisa bwolivawo nga sirina baluwayo tebalingobawo? Bwompa akapapula akatali kanene akogera nti Nkuwade Eka biri zoka zikumale akakakasa nga bwom-pade, awo nga Kabaka akiriza nga Omuzungu akola olukomera lwe lwa bugwe ng'age'a enyumba ye nene ya mayinja ate kumpi ne nyanja, nga atekako n'oluk-mera eruyin'eruyi. Enyumba bweyagwa nga aleta ebibye eby'okutunda nga awa-nga Kabaka ebirabo ebimusanyusa eby'engeri ez'embalasi okutusa lweyaleta emi-zinga egy'amanyi nga ne mundu aleta nga atesa ne Kabaka okulongosa engudo olw'egali ya Kabaka gyeyamuwa alemenga okuyita mu makubo amabi nga alambu-la ensi ye nga ne Kabaka asanyuka ng'amuwa amagezi amalala nti singa enkumu y'abantu eno bakuwa omusolo mu buli mwaka notolwawo okumala emyaka esatu oba ebiri wandigagawade okusinga bwoli kakano naye byebakuwa obuwi bikugasa ki? Nga Kabaka abuzza engeri ey'okuwa omusolo nga amuteg'za engeri nga bwe-guwebwa okusoka nti bwoti ne bwoti okutusa lwebaliwa bwebati nga ensi egeziwa-de era nga egagawade nga abasubuzi beyongede mu nsi, awo nga Kabaka akiriza. Nayewaliwo okukayana okw'abatunzi n'okukayana okwa Basomesa nokwa Baserikale nga byebagala tebikolebwa bulungi mu kulagira kwa Kabaka. Awo Abazungu abatunzi nga bagamba Kabaka nti Okufugakwo kubereko akubera okukuwa amagezi, ye Mutunzi mukwano gwo oweda era n'Omusomesa wo oweda, ekina-kulemanga okutegera bebanakikutegezanga ekinalemanga mwabo abakuwakanya abo bebanakuberanga, nga Kabaka akiriza. Naye ekisera bwekyatuka nga byona bimaze n'okuwandikibwa bikakase byakiriza, nga mpo'zi ekyenyanja kimize e'dobo okuli ekifi ky'enyama ey'eki-si kisigalide kuwalulwa, amanyi nga gakiwede, ye Ndagano Kabaka gyakiriza okuwayo obuyinza bwe n'Amateka nga takyayinza kuwakanya abo bawade obuyinza, nga byona bakola n'obuyinza bwabwe. Naye Kabaka bweyagezako okuwakana kwekyo kyatasima nga bamugobako nga bawako omulala ng'ensi efuka yabuyinza bulala! Kale no sebo Kabaka jukira ekiroto kyo: Watunyumiza bwewalota ng'ensi Abazungu bagiride, naye ekyo kyewerabi-de? Olowoza okugirya balirya matoke oba lumonde? Neda kyewalota okugirya nawe okimanyi, kwekufuga gwe n'abantu bona n'ebintubyo byona n'etaka lyo lyona ebyo byona obutabera mu buyinzabwo; kwekulya ensi kwewa-lota, naye kuba omugezi enyo ekyonona amagezi ge kibera kitono, n'omuzira ekimuta kibera kitono, naye fe tubade tukubuliride, kale soma eruyi n'eruyi wekanye. Naye edini ya Muhamadi buli Kabaka agisoma n'omuntu obuntu ebibye byona abera nabyo nga bwayagala, newakubade ng'oyagala okwesiga Abazungu ekiroto kyo kirikutukirira.

## Some Notes on the Reign of Mutesa.

(Continued).

Early next morning Mr. H.M. Stanley set out with a guide to show him the road to the town of Rubaga and the Kabaka awaited him joyfully. They took him by the road to the outer enclosure and brought him out at Wankaki<sup>(1)</sup>. These are the places they passed through on leaving Busabala; they passed by Ziranumbu and Kibiri and arrived at Gangu; they forded the Kalidubi and reached Masaja and Ndikutamada and Nsike; they crossed the river Nalukolongo on the road Kalungi and they arrived at the Royal Enclosure at Rubaga conversing as they went.

The Kabaka asked Mr. H.M. Stanley very many questions and he answered them all and explained the religion of Jesus Christ to him. He also informed him that he had left much of his property behind in Sukuma and that he hoped to return and fetch it. The Kabaka replied how glad he would be when he returned to Buganda.

Now when the time arrived in June in the year 1875, he returned to Sukuma and there happened here the arrival of Colonel Linant de Bellefonds and their parting from each other in August, also in the year 1875; he (H.M. Stanley) giving him the letter which he had written to the C.M.S. (and he i.e. Col Linant de Bellefonds,) gave him some binoculars which he took with him to Sukuma) asking for missionaries to come and teach the Kabaka and his country in accordance with his request. In 1875 Mr. H. M. Stanley collected his property in Sukuma and on returning found the Kabaka making war on the Bavuma at Nakalanga. On being told this he did not stop but went off to the war. He passed by Nsonga and reached Nyomerwa where his dog "Fox" died and they buried it on Nyomerwa hill; after leaving Nyomerwa he slept at Makindu and then reached Bugungu. At Nakalanga he found the Kabaka had not yet started operations against the Bavuma. While he was at Bugungu he did as follows:- Took photos of :—

- (1) the Kabaka's wives;
- (2) the lake and the canoes;
- (3) the camp;
- (4) the chiefs.

Further he applied his wisdom and powers to the matter and became undoubtedly a true warrior of the Kabaka for they were on their side of the shore at Nakalanga where they were drawn up to fight with an arm of the lake separating them from the island of Lingira whence the Bavuma were sallying forth to defend themselves. In the narrow lake half a mile wide he took many photographs of all kinds. He fired a rifle with his own hand and he devised a scheme to join three canoes together to form a vessel, which

(1) Wankaki is the name of the main entrance into the Kabaka's enclosure.

was of the greatest value, in which they could take up position and fire their guns. These canoes which he had joined together approached very close to the Buvuma shore and the Bavuma fled saying, "This one has brought a new god, which is functioning in a receptacle which is not a canoe. Those who are shooting at us cannot be seen, let us fly" and they all fled. The Baganda, however, out of their great fear of the Bavuma, because they knew how to dive beneath the water and pierce the canoes from below so that they sank in the lake with their crews, did not pursue. This fear therefore nullified Mr. H. M. Stanley's ingenuity whereas it should have been of the greatest value and no doubt they would have taken the island; but it was their cowardice which prevented the Baganda from conquering Buvuma.

Having failed to conquer the island the Kabaka returned with his guest and there was no joy in him whatsoever having failed to overcome the island of Buvuma and having lost many of his chiefs. The following will show how great was his chagrin. There was a very favourite wife of his, perhaps the most favoured in the whole Lubiri, whose post was that of Mujuko. Now when the Kabaka returned from the battle and entered his house in the temporary campaigning Lubiri, the favourite wife Mujuko, seeing the Kabaka enter, knelt to felicitate him saying, "Oh Father of twins, Conqueror of the Nations, congratulations and compliments". Having greeted him thus and when conversing with the Kabaka, as do two friends together, about all that had happened in the battle, the lady Mujuko, the Kabaka's favourite, said, "Father of twins, when I saw that you had arrayed yourself in all those leopard skins, I expected that you could take the island of Buvuma and that no man could stop you; therefore I am very frightened of the Bavuma who must be men indeed". Now when the Kabaka heard this he was very very angry and he could not eat his food to think that his friend should insult him thus. He then turned to his other wives and said to them, "My friends, there is no grit (2) in reliable coffee; my friend Mujuko has called me a coward and has reproached me for my leopard skins which I wore whereas I am always wearing them. Did I conquer all the nations which I have subdued by fighting one battle? Why, of course, they took time to conquer". The others answered, "Sir, your friend here should not have spoken thus and now you will take what action you think fit." The Kabaka answered, "She is not fit to live, because she did not want me to return alive but that I should be killed in my skins. Let her therefore be the first to die!" They therefore ordered the executioners Mukajanga (bully) and Musigula (uprooter) to take her away and kill her. They killed her thus. They tied stones on to her and threw her into the lake to prevent her being buried (i.e. the same thing as burning her) because the Kabaka knew that she was born in Kyagwe in the Bukunja area adjacent to Buvuma, the people whereof intermarried with the Bavuma. That was why in the Kabaka's opinion she was glad at the Bavuma defeating the Baganda. For my part I do not think, however, that this was the case; her behaviour arose merely from her sorrow at their not being defeated. Mr. H. M. Stanley knew nothing about this episode at the time.

Mr. H. M. Stanley held much converse with the Kabaka about the Christian

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(2) There is no grit in reliable coffee: coffee was not drunk formerly by the Baganda but the beans were roasted and chewed.



religion, the customs of Europe, and the Mahommedan religion and what the Europeans thought about it, and the Kabaka was anxious to learn about all these things. That also was the time when he asked Stanley if he could bring them Missionaries and Stanley promised him them in numbers. Now when the Kabaka returned he stayed in his town of Rubaga (at that time they were building the new Lubiri at Nabulagala) and he held many conversations with Mr. H. M. Stanley about other nations and the many customs of the Europeans and the other African races, both intelligent and otherwise and kings, important and unimportant, etc., whom he had visited.

The Kabaka also informed Mr. H. M. Stanley, "I desire greatly to follow the faith which you believe in but can you bring me teachers from yonder". Mr. H. M. Stanley replied, "That is easy enough; they will not fail to come, but a longish period will elapse first". The Kabaka further asked Mr. H. M. Stanley, "In your countries has each country its separate religion or is it the same for all". Mr. H. M. Stanley replied, "There is only one true religion"; and he asked him, "Which is the true religion?" Mr. H. M. Stanley replied, "The religion of Jesus Christ, the son of the living God, the Saviour all of us who accept him". And he said, "I am in a dilemma, for the Arabs say that the religion of you Europeans is not the true one, where can I find the truth?" Mr. H. M. Stanley answered, "You will find out for yourself when you have got the teachers. What I have told you and what they will tell you, i.e. that the religion of Jesus Christ is the true one, you will find out for yourself when you have read the Holy Book; then you will acknowledge which is the truth". The Kabaka then replied, "Very well. Do not fail to bring me teachers and I shall rejoice when they have come to my country Buganda". Now Mr. H. M. Stanley had an interpreter called Mr. Dallington or "Maffutawa", (3) the name of his nationality, by which the Baganda called him. It is like a Mahommedan name whereas he was taught in the Church of Zanzibar. It was this young man who used to translate Mr. H. M. Stanley's remarks from English.

When the time of his departure had arrived Mr. H. M. Stanley notified the Kabaka and took the road to Buddu and the countries on the West. But this interpreter, because the Kabaka wanted him badly and because he knew that the Kabaka wanted him, devised a plan and deserted on the way at Bujaju and the Kabaka sent Kadu, the Omusalosalo to fetch him. So he came back to Mutesa and was the Kabaka's teacher. The Kabaka gave him the chieftainship and fief of Kitezi across the river Mayanja on the way to Bulemezi.

The chief Dallington taught the Kabaka the European characters and to endeavour to read the alphabet as follows :—

A B C D E F G L M N O P Q R S T U W X Z (4.)

The Kabaka persevered and learnt much. He read the Genesis and Exodus, these books being in the Kiswahili tongue in which Genesis is called "Mwanzo".

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(3) Maffutawa was apparently a name by which James Dallington, Stanley's interpreter was known. He was a native of Nyasaland trained in Zanzibar. The name does not note nationality. It is possibly Arabic "Maftaha", a key.

(4) The alphabet is given thus in the original.

and Exodus "Kutoka". Kabaka Mutesa studied these books eagerly and it was on them that he based his arguments with the Arabs that the Europeans were telling the truth as follows:- "The book of Genesis reconciles countries and the origins of things but in your Koran there is no such reconciliation; what explanation therefore have you of this? I have read your book the Koran, but I have never heard as perfect an explanation as I have seen in the European book, what think you therefore?" The Kabaka having made this public statement the Arabs were full of chagrin, saying the Kabaka wishes without doubt to become of the faith of the Christians. They thereupon made further attempts to talk cunningly with the Kabaka in order to bring him back to their faith in which he had started to believe, saying thus:-

In regard to the Christian religion Sir Kabaka, Saidina (5) (meaning "helper of people") guard yourself against the European religion, august and wealthy Kabaka, the possessor of all things. In a short time you will be indeed poor and will become a mere peasant for the Europeans do not teach their religion alone; they have many other things which they bring with them:-

1. There are the Missionaries.
2. There are the Administrators.
3. There are the Soldiers.
4. There are the Traders.

Each of these communities is after its own kind but all co-operate and help each other. In regard to the manner of this, let me start with what the Missionaries do. Humility is their strength; they are very gentle. When they see a wise Kabaka like you, they will humble themselves before you and do all for you which you desire of them and you will agree to follow their faith as even now you are wishful of doing. But the result will be the loss of all you have:-

1. Will you be able to manage with one wife?
2. Will you agree to one household?
3. Will you agree not to keep slaves?
4. Will you agree not to plunder your neighbours?
5. Will you agree not to collect taxes off all the other countries you rule, such as Busoga, etc?
6. Will you agree to pay wages to all who work for you?
7. Will you agree not to slaughter cattle for food everywhere you go and agree only to eat those which you buy?

and many other ridiculous matters concerning which we have not spoken, will you experience. All these will be the first teachings of these Missionaries in this country. If you permit their teachings without opposing them no fuss will occur but if you refuse gently to allow their activities, the Missionaries will take the matter to the Administrators who have a power which is not derived from any flattery and what the Administrators order is done. Then if you op-

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(5) The author appears to have confused a title of the Sultan of Zanzibar with the Swahili verb "Kusayidia," to help.

posed the Administrators they issue orders to the soldiers and the soldiers give you a period of days within which to submit; if you fail they give you a period of hours i.e. if you do not agree, by such and such a time force will be used until you submit; or do not submit; and the latter will be what they want, i.e. submission on your part as a result of defeat.

Now in conquest everything is done by force and the Administrators themselves make the laws and, if you refuse to obey, the soldiers are there and they instruct like school-masters. If you refuse to submit there are the Administrators and the soldiers. That is how the various sections of the Europeans work together in the manner which we are explaining to you Sir, Kabaka.

We are not preventing you from following this religion of yours but we are asking you to understand all that you will be agreeing to in accepting it. If you accept all these conditions you will be left in peace but if you refuse them you will no longer be Kabaka. Carry on therefore". Now, when they saw how difficult it was to persuade the Kabaka they advised him as follows, telling him the story of the cow's hide and how the Europeans absorbed the country beginning slowly. The story is as follows:-

"Sir, Kabaka, once upon a time in days of old there was a Kabaka in another country as wise as you are and as rich and important as you are. A European trader bought a cow and asked the Kabaka for a place where he could peg out the hide to dry. The Kabaka agreed and gave him a place without any suspicion that there was any trap in regard to the place for drying the hide. He just thought, "Let me give him what he asks and let him dry his hide" and gave it to him. The European then killed his cow, flayed it and cut off a very narrow thong equal to ten plantations amounting to  $2\frac{1}{2}$  acres. He encircled the area thus with this thong, which was similar to the leather thongs which bind a drum head, fastening it to pegs in the way that a rim encircles a wheel. When they said to the Kabaka, "Sir, the European dries his hides by cutting them into thongs and his hide has absorbed the country. Little beginnings have big ends. Sir, Kabaka they are eating up our country", he answered, "What are you afraid of?", so they held silence. Now when the European said to the Kabaka, "Sir, my hide has dried and where it reaches, there have I placed my fence within which I will build the house which I will erect. Permit this my lord, what is a little estate of 2 acres, wonderful and august Kabaka, the owner of such a vast country?" And the Kabaka agreed but he then said to him, "Sir, kind Kabaka, shall I not be driven away if you leave here and I have no document? If you give me a paper, not a large one, saying, "I have given you only two acres, it will serve as a deed of ownership"; so the Kabaka agreed to the European erecting walls round his plot and measuring out a large stone house near the sea with the walls on all sides. When the house was built he brought articles to sell and used to give the Kabaka presents for his pleasure, such as horses, until finally he brought powerful cannons and guns and he arranged with the Kabaka to build roads for his carriage, which he had given him, so that he would not have journey on bad paths when he was inspecting his country and the Kabaka was glad. He also gave him other

advice to the effect that, "if the population was taxed annually, in two or three years' time you would be much richer than you are now; what use are the things which you now receive just as gifts?". The Kabaka then asked him how tax was paid and he instructed him as to the method of its imposition, first of all thus and thus until they would be paying in such and such a manner when the country had progressed and become more wealthy and traders had increased. The Kabaka agreed to this also but there were protests on the part of the traders and the teachers and the soldiers because what they wanted was not carried out under the Kabaka's orders. The European traders then said to the Kabaka, "Let there be attached to your administration some one who will help and advise you i. e. the trader, your old friend and your old teacher; what you do not understand these will advise you about and will assist you in regard to those who are quarrelling with you", and the Kabaka agreed. Now when the time arrived all these things were written down in confirmation of what he had agreed to. When a fish has swallowed the hook, baited with a piece of meat, there is nothing left to do except pull it in; its strength is finished. Such was the agreement whereby the Kabaka agreed to give away his power and his laws, he having no authority left whereby he could oppose those to whom he had handed over his powers whereunder they did everything legally. Further if the Kabaka tried to oppose them in any matter which was displeasing to him they would be able to depose him and instal another so the country would be ruled by another authority. Now Sir, Kabaka remember your dream which you told us you dreamt; to the effect that the Europeans had eaten your country and which you appear to have forgotten! Do you think that in eating the country they will eat the bananas and potatoes? Certainly not, your dream about "eating the country" meant, as you know, ruling you and all your people and all your possessions and all your land and removing them from your authority; that is the "eating the country" about which you dreamed. A very small matter can turn a wise man from the path of his wisdom and a very small thing can kill a brave man. Anyhow we have warned you; study both religions and you will see. The Mahommedan religion is followed by every Kabaka and under it every humble person retains his own possessions even though he wishes to place his trust in the Europeans. Your dream will come true!"

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# NOTES.

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## **A Glimpse of Uganda's Past**

By K. A. DAVIES.

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"There are times" says H. G. Wells, in 'The World of William Clissold', "when I feel as though it (the world) was less the sphere that enclosed me and made my all, than a sort of magic crystal into which I peered and saw myself living. I have, as it were, a sense of externality and a feeling that perhaps it might be possible.....to turn away and look at something else quite different from this commonsense world—another world".

It is this amazing gift of detachment which has so fitted this great writer for his task of looking backward and forward through time, and has invested his descriptions with the distinction of extreme probability. The everyday person, on the other hand, leaves retrospection to the historian, the archaeologist and the geologist; of prescience he asks nothing more than that it shall carry him forward to the first Wednesday in June. In the pages of this *Journal*, however, a geologist may be excused a brief glance back at Uganda as it once appeared, at its contours and streams, its plants and animals.

The area to be considered is Bugishu, the period the Upper Miocene and Lower Pliocene; in other words we shall look at the country of twenty million years ago. This number, to the geologist, is a useless approximation, to the layman it is a disappointment, for its magnitude is such as cannot easily be imagined from our every-day measure of time. When however, we span the Pliocene and later Pleistocene in terms of change of scenery we lose the sense of remoteness and thus gain an added interest. Uganda before Mount Elgon strode its eastern border had many features which it possesses at the present day. True, Lake Victoria did not then exist nor any but the first indications of the major elements of western Uganda; on the other hand an east-west or northwest-southeast river system and flat-topped hills were typical of the larger part of the country then as now.

Let us look at eastern Uganda as it appeared in Upper Miocene times. A high plateau lay along the Kenya side of the border, and from it the ground sloped steeply down to the west. Rivers began well back in what is now Kenya's territory and firstly by precipitous and then by gentle grades found their way to the north-west or west. Many of the present small, west-flowing streams were represented over parts of their courses, but the Siroko is the only large river which has consistently followed the same directions since that period.

The most striking feature of the district, however, at this time was the occurrence of a series of lakes, which were probably scattered all round the area where Mount Elgon now lies. One lay on the site of Nkokonjeru hill, another around Buyobo, a third on the course of the Siroko two miles above Budadiri, a fourth around Bunambale and a fifth around Busoba. Before and during the early half of the Miocene period the greater portion of Uganda had been planed down to an extreme flatness, which is now represented by the tops of the Buganda hills; subsequently, the land was raised, and the streams again began their work of cutting down—in this instance to a height which is only fifty feet above the level at the present day. The planing-down process, however, did not progress east to such an extent as to level the hills in what is now eastern Bugishu, so that the lakes which subsequently formed were not all at the same height. The Nkokonjeru basin, for example, was drained by a stream which led out at a point near Busano and which dashed over in a series of falls to a smaller sheet of water, one mile south-east of the site of the present Mission station at Nyondo. The stream then proceeded at a fairly steep grade to a lake which lay around Busoba and which covered an area of fifteen square miles or more. Waterfalls, too, marked the outlet of the Bunambale lake, which was drained by an older Sala flowing towards Bubulu. In a hollow in the granite hills around what is now Buyobo another small basin was formed, fed mainly by a stream which ran parallel to the Siroko, but lying immediately north of Namugauhe Hill; the outlet lay on the north-east side of this basin and led to the Siroko about Buhugu.

Of all the rivers in the district, it is the Namatala which shows the greatest amount of change when present and Miocene courses are compared. At one time it undoubtedly fed the Nkokonjeru lake and, in common with the stream to the north-east of Namugauhe, had its source in some limestone hills which were situated somewhere to the east of what is now called Buteza. In later times, and when Elgon had begun its eruption proper, the Namatala was gradually turned north to cut its present bed in the granites.

Now let us turn to other aspects of this late Miocene and early Pliocene Bugishu. Fossil plants have been found in the beds marking the positions of the old lake-basins and these give us a good deal of information concerning the type of vegetation which then covered the area. Woodland, probably of a rather open type, possessed the slopes round and about the lakes, and carried some amount of evergreen scrub along the ravines which the streams had cut. Most of the plant types are similar to those found in Uganda at the present day and include *Terminalia*, *Olea*, *Pittosporum*, the leguminous genera, *Berlinia*, *Bauhinia*, *Cassia*, and *Delbergia* and the fern *Aciostichum*; the last-named, however, as represented in Bugishu, is closely similar to *Aciostichum lanzaenum* R. & C. from an earlier series (Eocene) of Europe. It seems from a study of the plants that the alternation of wet and dry seasons prevailed even in Miocene times and an annual rainfall of 40 inches has been suggested for the portion of Uganda we are considering. When we remember, too, that high land overlooked the lakes from the east and that the country to the west was flat and comparatively low-lying, it seems highly probable that this amount of rainfall was a maximum

for the greater part of Uganda; in other words we are dealing with a period when dry conditions prevailed.

Of the animals who lived in this part of Africa during Miocene times many, such as the crocodiles and rhinos, were very similar to those of the present day. Beasts allied to the elephants were represented by *Dinotherium*, an animal somewhat larger than most of his present-day relatives and possessing backwardly-directed tusks in the lower jaw. Carnivorous animals of the cat family there were, too, and rodents similar to the cane-rats of our own times. Man, however, had not yet made his appearance and the primates were represented only by the anthropoid apes.

With the close of Miocene times and the oncoming of the Pliocene, the first signs were given of the volcanic activity which was to raise Elgon and to control the scenery as we now know it. At first the effect was slight, though in some instances causing the damming-up of the rivers to form lakes such as we have already discussed. Lava broke through the cracks in the older rocks and spread for short distances over the surface, and in the quiet waters of the lakes some amount of fine volcanic dust was laid down. Later, however, huge flows of mud swept down from the crater, gathering up the rocks which lay on the surface, and partly carrying, partly rolling them down to the lower parts of the area; in this way the lakes were filled up, and the foundations built of the massive, cliff-edged structure that overlooks eastern Uganda today. The subsequent history of the mountain from its maturity in Pliocene times to the 'fire and smoke' of native legend was made up firstly of episodes of explosive outbursts and lava flows, and later of hot springs and small localised eruptions.

'This let me further add that nature knows,  
 No steadfast station, but, or ebbs or flows,  
 Ever in motion she destroys her old,  
 And casts new figures in another mould,  
 . . . . .  
 And every moment alters what is done,  
 And innovates some act till then unknown'.



## Storks

By A. W. WILLIAMS, M.B.

A large number of storks passed over Kampala on February 24th, following a flying swarm of locusts. These were Abdim's Storks (*Sphenorynchus abdimii*), and must have been noticed by nearly everyone, but it may be of interest to record the appearance of two other storks in the district at the same time. These were the White Stork (*Ciconia c. ciconia*), of which such large numbers were reported from Ankole (1), and the Marabou (*Leptoptilos crumeniferus*). Of the former a flock of about three hundred were seen in a grassy semi-dried swamp near mile 19 on the Bombo road on March 6th, and again in the same neighbourhood on the 8th and 13th. At the same place about forty Marabou were seen on March 6th, and a smaller number on the 8th. Throughout March there were many thousands of Abdim's Storks here and in the surrounding district.

All three species were feeding on locust hopper bands which were present during February and up to the middle of March. The Abdims certainly seem to have entered the district in company with the flying swarms referred to, but to have deserted them for the easier and perhaps more attractive diet of hoppers. The attraction of the particular spot at mile 19 was probably the wide area of short grass, just springing up after the severe burning, which would facilitate feeding in a district largely covered by elephant grass or papyrus. This large collection of birds certainly made a striking picture. The Marabou stood about in groups, their long legs showing up quite white at a little distance, impressive and almost venerable in appearance, though repulsive enough at really close quarters. In sharp contrast with the duller Marabou were the White Storks, with white body, black wing, large red bill, and long red legs. The black and white Abdims, less striking in appearance, were in enormous numbers, and must certainly constitute a real enemy to the locust swarms during their passage through the Protectorate on migration.

The Abdim, though much smaller than either of the other storks referred to, appeared to feed much more greedily for its size,<sup>(2)</sup> and well merits the Luganda name "Najakumala",—the bird which "comes to finish them up". These birds are regular visitors twice a year, and on southern migration their arrival in November coincides with the hatching out of a species of flying grasshopper ("ensenene"). It is from their regular appearance, feeding on these insects, that they have earned their local name, which, however, describes well enough their onslaught, less seasonal, on the locust swarms. In his paper on birds and locust destruction<sup>(3)</sup> Captain Pitman stresses the voracity and persistence of these birds, and regards them as being "more than any other species responsible for the greatest locust destruction." The

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All Reference notes will be found at end of Article.



breeding grounds of Abdim's stork appear to stretch right across the continent somewhat north of Uganda, including the Sudan, on the fringe of the region in which the desert locust is endemic. It is interesting to read that it has a great liking for the neighbourhood of man, often nesting in the peak of grass-roofed huts, and while in this country large flocks may be seen roosting in the trees in native plantations.

This association with the dwelling place of man is familiar enough in the case of the White Stork which breeds in Europe. Delightful and accurate descriptions of this bird in its northern home, and of its habits, actual as well as legendary, may be found in the tales of Hans Christian Andersen. For example—“her four young ones stretched out their black bills, which had not yet become red,—on the parapet stood the father stork; he had drawn up one of his legs under him, being weary of standing on two, you might have fancied him carved in wood, he stood so motionless—it was so droll to see him show them his tricks; he would lay his head upon his tail, making a rattling noise with his bill, and then tell them such charming stories all about the moors”.—“All the storks in the country will gather together and the autumn exercise will begin,—and we shall fly to warm countries, far away, over mountain and forest,—and go into the marshes and eat frogs,—it is delightful! One does nothing but eat all the day long”.—A lively description of *Ciconia*. In legendary vein, the story<sup>(4)</sup> of the pool where infant humans lie until they are born is too well taught to need quotation. The White Stork was Andersen's favourite bird.

In its winter quarters, too, the stork's partiality for the civilised environment attracts it to plantations, and in Kenya it is said to have been of distinct benefit to wheat farmers<sup>(5)</sup>. Flocks of *Ciconia* were also seen in late January or early February 1933 near Bombo, once in flight northwards over the K. A. R. cantonment, and twice near the roadside, at mile 20. I could get no local name for this stork, which is not surprising as it only passes on migration, and is probably little noticed except in years when its arrival coincides with locust swarms. Its migratory habit has been well demonstrated by the report of a specimen obtained in Ankole<sup>(1)</sup>, which had been ringed in Denmark.

The Marabou, of course, is a resident, well known in many parts of the country but perhaps seldom seen close to Kampala. Its Luganda name is “Nunda”, but this name, while referring in particular to the resident Marabou, is applicable to storks in general. By some natives it was suggested to me as a name for the White Stork—they were unfamiliar with the bird but recognised it as a stork. Carpenter<sup>(6)</sup> gives it as a name for both Abdim's Stork and the Saddle-billed Stork.

On March 27th there were no hoppers to be seen near Bombo, nor any Marabou or White Storks, but a flying swarm of locusts was passed, and it was interesting to watch the Abdims hawking among these, feeding greedily, in the company of Kites (*Milvus migrans*) and Pied Crows (*Corvus albus*), which were also feeding on the wing. The White Stork feeds in the air when hungry<sup>(3)</sup> but Abdim's Stork follows the flying swarms with greater persistence,—chiefly because locusts form its staple food, and perhaps, too, its smaller size fits it better for feeding in this manner.

These few notes suffer from being simply "roadside" observations, made on weekly journeys by car along a particular road. The last date on which White Storks were seen was March 13th, and the last Abdims on the 27th, but of course they may have remained later out of sight from the road.

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I am indebted to Mr. H.B. Johnston, Chief Locust Investigator, Imperial Institute of Entomology, and Mr. G.H.E. Hopkins, Entomologist, for the following figures. They are the result of the examination of the contents of crop and stomach of specimens shot in this district for entomological purposes, and represent the total number of hoppers, or complete head or jaws, found. As the process of digestion appears to be rapid, this probably represents *less* than the actual number consumed in a day. For three Marabou the numbers were 510, 472, 172, an average of 385; for four White Storks the numbers were 210, 315, 276, 250, an average of 263; for a single Abdim's Stork, 30. It should be noted that hoppers at this time were nearly mature.

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Of the other true storks (i.e. family CICONIDAE) occurring in the Protectorate, the African Open-bill (*Anastomus lamelligerus*) may be seen anywhere near water, and often in large numbers along the Sezibwa or Nile in Bugerere. At present(7) a small flock is roosting at night-time in the Eucalyptus trees round the new extension of the Kampala golf course, near the Kololo road. It is a small black stork, about the size of a heron, and when seen from the side, is easily recognised by its bill, through which daylight can be seen between the closed jaws. It feeds on freshwater shellfish, whence the Luganda name "Enkonamasonko". The beautiful Saddle-bill (*Ephippiorhynchus senegalensis*), familiar to those who make the Murchison Falls trip, was once seen feeding in the meadow-land close to the houses at Nabugabo. I am informed by the Game Warden that it is sometimes very plentiful here, and not uncommon, in places, all along the Victoria Nyanza shores. It sometimes visits Namanve swamp(8), nine miles along the Jinja Road. The Uganda list also includes the Woolly-necked Stork (*Dissoura episcopus microscelis*) and the Wood Ibis (*Ibis ibis*). Of these the former is about the size of the Abdim, but has soft white feathers on the neck. The latter, in spite of its name, might be mistaken for the White Stork, being of similar size, with an even longer bill, and largely white(9) in colour. The bill however has a slight downward curve, and is orange, not red. The true Ibises are much smaller.

The Black Stork (*C. nigra*) is another winter migrant from the north. Van Someren records flocks having visited Kenya, but not regularly; it has seldom if ever been seen in Uganda(10), but it is quite possible that it may pass through this country on migration. It is a large bird, with red legs and bill, and white underparts, about equal in size to *C. ciconia*.

Two strange Uganda birds, dissimilar, but both half-stork, are the Greater Hammerkop (*Scopus umbretta bannemani*)(4) and the Whale-headed Stork (*Balaeniceps rex*). These interesting birds are not members of the stork family(11), and fall outside the scope of this note.

While the majority of our birds are identical with those described in books (12) on the birds of West Africa, it is probable that their behaviour differs in many cases in the different territories, and there is at present little *accessible* information based on observations made in this country, except in the case of game birds. A great deal of detailed information exists, however, recorded by different observers in various journals and reports(13). Several references to Uganda are made in C.F. Belcher's book "The Birds of Nyasaland", as well as by Bannerman (12) in discussing the distribution of West African species. Dr. V.G.L. van Someren is gradually publishing his illustrated book "The Birds of Kenya and Uganda", in consecutive numbers of the Journal of the East Africa and Uganda Natural History Society.

For those of us, however, who cannot easily keep in touch with these valuable, though scattered, sources of information, it is good news to know that books on East African birds are in course of preparation, and will probably be available in a very few years' time.

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- (1) C.R.S. Pitman, "Bird Migration", Uganda Journal, April 1934.  
 (2) Grasshoppers and locusts comprise the staple food of this stork, wherever it is found.  
 (3) C. R. S. Pitman, "The economic importance of Birds in Uganda and parts of Kenya Colony from the point of view of Locust destruction," Bulletin de la Societe Royale Entomologique d'Egypte, June 1929.

(4) Other stork-like birds are the subjects of folk-lore.

About the Hammerkop, a bird found throughout Africa, there are many local superstitions. Belcher gives some Nyasaland stories: if you kill one, you will go mad; powerful witchcraft can be worked from its eggs; and certain birds are supposed to be in subjection to it, helping to build its nest. The Hammerkop builds a huge closed nest, spending sometimes several months at the task, and has a habit of depositing bits of bone, tin, etc, on the outside.

The noisy lamenting cry of the Hagedash Ibis, "a-a-a, a-a-a", likened by the Baganda to the wailing of a child, has earned it the name "Mpabana". One story told about it is of a man who, in time of famine, collected roots in the forest to feed his family. His wife always fed the children first, leaving very little for himself, but when he complained she agreed to give him his share. Things went on, however, just as before, and at last the hungry man got really angry. He was stitching some bark-cloth at the time, and in his anger leapt into the air. The cloth changed into wings, and his needle into a beak, and he began to fly. In dismay his wife cried out, "Don't go, here is your food", but he flew away, crying, "No, no, give it to the children"—"a-a-a, mpabana".

- (5) D. Bannerman, "Birds of Tropical West Africa". vol I. 96, 97.  
 (6) G. D. Hale Carpenter, "A Naturalist on Lake Victoria", 1920.  
 (7) The beginning of May.  
 (8) W.J. Eggeling, "Notes on the Flora and Fauna of a Uganda Swamp", Uganda Journal, January 1934.  
 (9) tinted with rose-colour on the back, and with crimson on the wings. Captain Pitman notes "sometimes referred to as the Painted Stork, an apt description; at close quarters its rose-tinted plumage is particularly lovely".  
 (10) Carpenter (*loc. cit*) gives *C. nigra* as occurring on the Sesse Islands, but is referring under this name to an "all black stork of about the same size" as the Open-bill, whereas *C. nigra* is a considerably larger bird, and not all black.

- (11) Though stork-like in stature, and related anatomically to the Storks, *Balaeniceps* much more resembles the Herons in flight and habits.
- (12) "Handbook of the Birds of West Africa" by G.L. Bates, (1930) and "Birds of Tropical West Africa" by David Bannerman, of which the first three volumes (out of six) are available.
- (13) In particular, a complete Bird List for Kenya and Uganda was published by Dr. V.G.L. van Someren (1921), in the NOVITATES ZOOLOGICAE of the Tring Museum.



## The Kampala Museum.

By J. W. F. MARRIOTT.

The Kampala Museum, though perhaps not very well known, possesses an interesting history.

The earliest mention of the subject, which is contained in the Secretariat Minute Papers to which the writer has had access, is a memodated the 22nd December 1907 from the Deputy Commissioner, Mr. George Wilson, to Mr. Dawe, the Officer in Charge of the Botanical, Forestry and Scientific Department, which runs "His Excellency (Sir Hesketh Bell) is anxious to at once open up the scheme for these collections. Please give your plan". Mr. Dawe with remarkable zeal replies on Christmas Day, briefly outlining a scheme for collecting specimens, and suggesting how the £200 which had been allotted for the purpose might be spent. On New Year's Eve Mr. Wilson writes to His Excellency proposing that circulars asking for specimens should be sent out at once, and receives the reply that action must be taken immediately or the money will lapse. Soon afterwards therefore a circular was issued to Collectors, and one somewhat shorter but of a similar nature to a number of private individuals inviting their co operation also. Amongst these were Dr. H. H. Hunter and Mr. Moses, who are both still resident in Uganda, and also Mr. Borup who has only recently left the country.

Chiefly no doubt as a result of the issue of these circulars a considerable number of specimens of various kinds were obtained during the year, and it was decided to erect a building on the site of the Old Fort at Kampala in which to house them. A plan of a somewhat elaborate hexagonal building, estimated to cost about £370, was submitted by the Public Works Department, but was rejected by the Governor. The latter desired something simpler and capable of extension, and suggested the plan finally accepted, of which the present building is the central portion. The full project comprised the present rectangular room and two other rectangular wings coming forward at right-angles. The centre part, which alone was built, cost £400, of which half was provided by the British and half by the Native Government. The building took over a year and a half to erect, during which time the collection was temporarily housed in the Coronation Hall, Kampala. In May 1910, however, it was completed and the specimens were transferred.

Unfortunately a flat roof had been constructed instead of a sloping one and for the next ten years much of the correspondence, with a regularity at once comical and pathetic, is concerned with a leaking roof. Finally in 1921, Mr. Hargreaves, the Hon. Curator at the time, writes "It would seem that repairs to the existing flat roof are futile, and that a new sloping roof of the usual type would be a most advantageous substitute." His advice was taken and the new roof completed

in January 1923. During the alterations the exhibits were stored in a house nearby kindly lent for the purpose by Mr. Ishmael. One is not surprised to read that after the double change was over they were "in an awful-muddle labels torn off and so forth."

Four years after the Museum was built the need for further extension became apparent. In addition to the £200 which had originally been granted for the purchase of specimens and equipment, £50 was voted for cases in 1910, and a further £50 was inserted in the draft estimates for the following year for new specimens for the Museum and the Uganda Court at the Imperial Institute. The building had now become too small to house all the exhibits and it was decided to insert £300 in the draft estimates for 1915-16 for an extension in the form of a wing 35 ft. by 22 ft. The advent of the Great War in August 1914 presumably prevented this proposal from being realised, and since then owing to lack of funds other attempts to extend the building have of necessity met with failure.

So much for the building. The site is also well worthy of attention. On account both of its centrality and of its historical associations a better position would have been hard to find. The small hill on which the Museum is built has given its name to the hills which surround it and comprise the township and suburbs of what is comprehensively called Kampala. It is generally believed that the hill was called Kampala because in times past one of the Kabakas used to keep some tame *mpala* (a species of buck) there. Kampala is therefore most probably short for "*akasozi ka mpala*" meaning "the hill of the mpala."

The hill was ceded to Capt. F.J.D. (now Lord) Lugard as agent of the British East Africa Company by the Kabaka Mwanga in 1891, and on it he built his Fort. It was taken over by the Government on April 1st, 1893 when at 12 noon, Sir Gerald Portal "hailed down the Company's flag and hoisted the Union Jack." The spot where the flag was hoisted is now marked by a stone memorial. The hill remained the headquarters of the Government till 1894 when they were moved to Entebbe, and continued as the local Government station till 14th July, 1905, when this was transferred to Nakasero Hill, where it still is to day, as there was no room for expansion on the old hill. The site of the Museum therefore possesses considerable historical interest if only as the birth place of the Protectorate. Government has recognised this fact and has stated in recent correspondence with the Museum Committee that "it is completely in accord with the wish of the Committee to keep Old Kampala Hill as far as possible from being built over."

As regards its administration, the Museum was first in the charge of the Botanical, Forestry and Scientific Department. Then in April 1914, by order of the Governor, it was taken over by the Agricultural Department, chiefly owing to the fact that the latter, having its headquarters in Kampala, could more easily exercise supervision than the former, whose headquarters were in Entebbe. The Museum continued in the care of this Department till 1926, when a suggestion was made by the Director of Agriculture (then Mr. S. Simpson) that the Administration, being represented in every district and more in direct touch with Native Governments, was in a better position to develop the Museum than the Agricultural Department. Correspondence passed on the subject and, as a result, in January

1927 the Acting Governor approved the appointment of the following Committee to administer the Kampala Museum: The Provincial Commissioner, Buganda, (chairman); the Directors of Agriculture and Education, a member of the Native Government to be nominated by His Highness the Kabaka, and one of the staff of Makerere College, to be nominated by the Principal, as Secretary. The Kabaka chose the *Omukulu we Kibuga* of Mengo as his nominee, and in March 1927 the Museum was accordingly taken over by this Committee, in whose charge it has remained ever since.

Lastly a few words on the specimens themselves. It is unfortunate that in March 1923 a burglary at the Museum resulted in the catalogue being stolen, for though lists in the old files give some idea of what the Museum should possess it is very difficult to correlate them with the present contents.

As far as can be gathered from the records the majority of specimens were obtained during the year 1908. Curios, either purchased or presented by native Chiefs, were sent by Collectors from various districts throughout the Protectorate. A number of Bari manufacture came even from as far as Gondokoro, now no longer included within the sphere of the Uganda Administration. Some additions from Busoga in 1914 and from Bunyoro in 1920, and a number of trophies captured from the Germans during the Great War, appear to complete the list. These latter include a flag given by the Germans to the late Sultan Lwekika as the emblem of their authority in the "Sultanate of Buddu," and cut down by the Baganda levies, under Capt. J. E. T. Philipps, during the advance to the Kagera line. The Museum also contains a large number of charms presented by the Buganda Lukiko, of which however there seems to be no record in the files.

It is not possible to give a comprehensive description of the contents here for lack of space but they are both varied and interesting as is indicated by the following which have been picked out at random:—

A number of Bagishu weapons taken by the police in the Baulucheki expedition in 1901. A full-size bed hewed from a solid block of wood and reputed to have belonged to Kintu, the first King of Buganda. An imitation of an executioner's axe. A number of curious pieces of diseased ivory. A Bari smelting pot. An earthenware pot used by Bari Chiefs to put their charms in. A long decorated stick with straw matting at the top carried by Bari women in their dance to celebrate the drawing of the four lower incisor teeth. A small horn generally worn by every Madi and Acholi youth and blown at dances, etc., also when dancing. Unfortunately, the specimens are so crowded for lack of space and still rather inadequately labelled that it is not always easy to find them.

Since 1920 practically no new specimens appear to have been added, mainly due no doubt to the fact that there is no space left in which to put them. The wheel of the S.S. "William Mackinnon", for example, had recently to be refused for that reason.

As regards the future of the Museum a few points may be noted. At present the Kampala Museum is the only record kept, or even attempted, to which the native has access, of many objects once common in Uganda, which are now

rapidly disappearing. Owing to the speed with which civilisation is advancing in this country, the time cannot be very far distant when a first-class Museum will be as essential to Native culture as it is to that of Europe. The Museum is ready to hand to provide a nucleus for a more extensive collection and also a site which is perhaps historically the most interesting and the most important in the country—the birth place of the Protectorate. Again the Museum being the only one of its kind in East Africa and therefore the first in the field, it is surely not an impossible dream that it may some day fulfil an even wider purpose than that visualised by its originator, the first Governor of Uganda, and become the central Museum for the three territories, just as Makerere College is on its way to becoming their central University. The Museum has survived, not only the considerable post-war competition and expansion of the more vital services, but also the recent acute financial depression. One feels more than justified therefore in looking forward to its future with confidence.

In conclusion it is hoped that it has been shown, as far as is possible in so brief and superficial a survey, that the Museum is a more interesting institution than is perhaps generally realised.



## CORRESPONDENCE

### Storks

(To the Editor, "The Uganda Journal.")

SIR,

With reference to Captain Pitman's note in the April issue of the Journal on the death of a ringed stork in Ankole, it may be of interest to your readers to know that the skeleton of another of these birds, *Ciconia c. ciconia*, was found by me on the 20th of May near the northern shore of Lake Nakavali in Ankole district, lat.  $0^{\circ} 48' S.$ , long.  $30^{\circ} 52' E.$

The skeleton was complete except for the lowest bone of one leg which presumably held any ring that the bird may have carried. Though search was made neither this bone nor the ring were found. There is little doubt that this bird died from a surfeit of locusts and was consumed by ants.

The Lunyankole name for one of these birds is *Ekihuhurabahuta*, which means "one that kills a thing that is wounded".

Yours, etc.,

F. LUKYN WILLIAMS.

MBARARA,  
7TH JUNE, 1934.

### Mutesa

(To the Editor, "The Uganda Journal.")

Sir,

I enclose herewith an extract from a letter, which has been written by the Katikiro of Buganda and has been passed on to me. I have annexed thereto my own observations as to the evidence concerning Mutesa's parentage. As these observations to some extent modify what I have written in the paper, which you did me the honour to publish in your first issue, I should be very much obliged if you would give this correspondence the same publicity.

I would also venture to invite attention to the fact that by some error certain paragraphs in the before mentioned article have been misplaced.

The third and succeeding paragraphs appearing on page 33 and beginning "Gordon who once described Mutesa as an abib" should appear on page 37 after Mutesa's letter to Gordon. They should be followed on that page by the first three sentences appearing on page 34, which begin, "It may be that Gordon accurately guessed" and end "the task of dealing with them in case of hostilities would be much more difficult."

Yours, etc.,

J. M. GRAY.

THE SUPREME COURT,  
BATHURST, GAMBIA.

10TH APRIL, 1934.

*Extract from a letter of the Katikiro of Buganda.*

"I am writing as I wish to give an explanation about the statement which Mr. Gray made the other day . . . He stated that Kabaka Mutesa was not born of the Namasole Muganzi-lwaza but was born of the Mukyala Gwolyoka . . . .

"I want to explain to you that whoever gave Mr. Gray this information, if it was a Muganda, he did not properly understand what happened, or possibly he discovered the news from the writings of the earlier Europeans. However, as was the case with Europeans in those days, they got the news from Baganda, who were unaware of the truth of the matter. There is no truth in this statement whatsoever . . . .

"When the Kabaka killed the princes, people said that the Namasole was the cause of their death and they were angry with her. Therefore a song was made, which they sang to a drum, when they were drinking mwenge—"It was Gwolyoka who went with the Banyambo." They also said it was Gwolyoka who was the mother of Mutesa, and not Muganzi-lwaza. All this, however, is peasants' rumour."

M.L. NSIBIRWA, KATI KIRO.

*Observations on the Katikiro's letter.*

The earliest statement to the effect that Muganzi-lwaza was not the real mother of Mutesa occurs in the diary of Father Lourdel under the date July 14, 1881. The relevant entry reads as follows:

"La Namasolé, qui est venue aujourd'hui à Roubaga n'est pas la mère de Mtéca. La vraie mère du roia été au trefois vendue à un Arabe par Souna. A la mort de son père, Mteca la fit chercher partout, mais en vain. Il nomma alors au titre de Namasole une esclave de confiance à qui sa mère l'avait recommandé avant de quitter l'Ouganda."

Statements to the like effect, but giving further details, can be found in the 1915 volume of "Munno" on pages 115, 116, and 160. I have also heard the same story with circumstantial details from native sources. I should add that the above mentioned articles in "Munno" were also written by Baganda.

I have found by careful checking that Father Lourdel's information in regard to the history of Buganda is generally speaking remarkably accurate. Therefore with such information from a usually very reliable source and corroboration from several native sources I felt I was justified in saying more or less authoritatively that Mutesa had a mother, named Gwolyoka, who was sold as a slave by Suna. What seemed to render the story still more circumstantial was the account given by several natives of the sending by Mutesa of a young elephant to the Sultan of Zanzibar with a request that a search might be made for Gwolyoka. That elephant undoubtedly was sent to and did reach Zanzibar. We have the unimpeachable authority of David Livingstone and Dr. Kirk on that point.

The above facts are set out in order to explain how I arrived at the conclusions set out in my paper and also in order to show the extreme difficulty there is in the absence of contemporary written records in arriving at the truth in history. The story was not an improbable one and it received circumstantial corroboration in certain material details from perfectly reliable sources. I was thus led to accept it as representing indisputable fact.

However, on reading again the passage from Father Lourdel's diary and referring to its particular context, I am disposed to think I accepted the story of Gwolyoka as being far more authoritative than it really is. Father Lourdel made this entry in his diary on the same day as that on which he records the fact that the Queen Mother violated all precedents by paying a personal visit to the King. This event must have set all sticklers for etiquette very much agog. The more malicious amongst them may well have put in circulation a story that the lady, who had committed so gross a breach of etiquette, really had no right to her title. In the circumstances I think it quite probable that the passage, which I have quoted from Father Lourdel's diary, represents information which was simply malicious gossip. In justice to Father Lourdel, I must add that his diary was not written with an eye to future publication, but was merely the jottings from day to day of things he either saw or else heard. It may well be that, if he had lived to publish any work on Uganda, he would have discarded this information as unreliable.

I think the Katikiro is wrong in attributing the story of Gwolyoka to unpopularity incurred by the Queen Mother owing to the slaughter of the princes. There seems to be reliable authority for saying that this holocaust took place at the beginning of Mutesa's reign and not in 1875, as the Katikiro suggests. If the Queen Mother's unpopularity was responsible for the circulation of a rumour, which was entirely without foundation, I think that unpopularity arose, as I have already suggested, owing to her violation of previously accepted etiquette.

I feel, however, that the most which can be said for the story of Gwolyoka is that there was a strong contemporary rumour that the Queen Mother was not really Mutesa's mother and that that rumour was possibly not entirely reliable.

J. M. GRAY.

## A Dry Crossing of the Nile and its Possible Influence on the Distribution of Mammalian Species.

(To the Editor, "The Uganda Journal.")

SIR,

In the "Correspondence" at the end of No. 2 (Vol. 1) of the "Uganda Journal" in connection with "A Dry Crossing of the Nile" an extremely interesting point is raised concerning the possibility of the white rhinoceros in West Madi and the black rhinoceros on the right (east) bank availing themselves of this dry crossing.

Elephant have apparently taken advantage of the temporary bridge—and it is asked, "If elephant, why not rhino?"

It has also been suggested that the existence of this highway across the Nile offers a unique opportunity for endeavouring to persuade representatives of the rare 'white' species to cross to the right bank where it is at present unknown, and where the conditions seem equally suitable.

The suggestion of induced, as opposed to natural, movement need not be considered seriously for if one reflects a moment it will be realised that the crossing is in the nature of a defile, which most of the larger species of animals however carefully driven or persuaded would probably regard with suspicion and avoid. In consequence these notes concern only possible crossings undertaken naturally.

Local evidence indicates that the blockages occur periodically and last for several years at a stretch, and therefore it at first appears remarkable that the Nile continues to play the rôle of boundary between the two species of rhinoceros.

That this river remains a very definite barrier to the two varieties, in spite of the periodic occurrence of blocks which act as serviceable highways, is not so remarkable in view of a certain characteristic peculiar to both, and this is a pronounced aversion to crossing running water. It is a trait which has never been satisfactorily elucidated.

Neither species has an aversion to water and both are partial to swamps and wallows, but those who are intimately acquainted with either will find it difficult to recollect any occasion on which a specimen or spoor crossed a river.

I can quote no instance from personal experience of a river being crossed, though hundreds to the contrary.

On one occasion after two and a half years of drought I found dozens of the black type concentrated in a relatively small area either side of the river Kerio, south of Lake Rudolf in Kenya, and although nightly many were accustomed to drink at this river, all invariably returned whence they came and not a single one attempted to cross however shallow and narrow the stream.

In the erstwhile Lado Enclave, the white rhinoceros is not only true to type in refraining from crossing running water but exhibits a curious disinclination to drinking at the Nile, the immediate vicinity of which it avoids—and why?

I have insufficient personal experience of the local situation to claim definitely that the white rhinoceros never drinks at the Nile though this may be the case.

There are various localities in the West Nile District in which its nightly peregrinations for the purpose of drinking lead directly towards the great river, but if the spoor is followed up I have discovered invariably that it leads to a pool or swamp some distance short of the Nile.

The black rhinoceros on the other hand does not display the same antipathy to this river and not infrequently comes down to the opposite bank to drink.

The above remarks, I hope, will be accepted as sufficient reason for the lack of enterprise on the part of either species of rhinoceros in undertaking the crossing of the Nile when nature offers an opportunity.

Although the blockage may extend along the river for several hundred yards with all the appearance of the surrounding countryside and dry land, an unerring instinct probably warns these creatures of the hidden moving waters below and deters them from attempting the venture.

As far as I am aware nothing is known of the capabilities of the rhinoceros as a swimmer, and if the art of swimming is not included in its accomplishments there is no necessity to seek further for enlightenment. Also, to test whether or no the rhinoceros can swim would be no easy matter.

A theory, sometimes propounded, that this peculiarity of the rhinoceros is due to a dread of crocodiles is untenable, for there is no special avoidance of crocodile-infested waters.

In spite of its ponderous proportions there is a case on record of a three-quarters-grown example seized by a hind-leg as it left the watering-place being pulled under and drowned after a grim struggle with a crocodile.

The above remarks should constitute sufficient reason for the Nile's continued efficacy as a definite barrier between the two species, notwithstanding the periodical occurrence of a dry crossing.

It is this curious aversion to traversing running water which accounts for the present-day extraordinary, discontinuous distribution of the white rhinoceros which, as is probably known, in the north is confined to the West Nile District and West Madi region of Uganda, a restricted area of the adjacent Sudan and north-east Belgian Congo, and possibly a few still remain in a tiny portion of neighbouring French Territory, and then one must cross the River Zambezi before its last stronghold in the south is encountered.

There is no evidence that within historical times this species occurred anywhere on the left bank of the Zambezi. If it did it is unlikely, though not impossible, that it should have disappeared completely while its black cousin has survived.

There is evidence that in a remote past prior to the last pluvial period, coincident with the glacial period in Europe, the two existing and widely separated white rhinoceros habitats of the north and south were joined by well-stocked plains and savannah.

With the advent of the pluvial period the great equatorial forest originating in the west crept across the continent to the east coast, at the same time spreading extensively to the south-east and north-east, cutting off the northern from the southern savannah.

It is reasonable to expect that during the subsequent period of progressive desiccation and consequent steady recession of the forest—the period in which we live—this animal would have re-established itself in the region between the equator and the Zambezi. But it seems that the location of the River Nile, the lakes and scarps of the western rift, and the River Zambezi, coupled with the existing eastern boundaries of the equatorial forest, has effectively prevented the extension south or east of the range of the northern race, or of distribution to the north of the southern.

That the discontinuous distribution of the white rhinoceros is no mere accident but the result of a definite concatenation will probably be better understood and accepted, if at the same time attention is drawn to the fact that two other species, of localised habits, equally share in this curious distribution.

The species referred to are the lechwe, closely allied to the kobs and waterbucks, and the grotesque whale-headed stork, both of which are essentially marsh and swamp frequenting creatures.

The lechwe, represented by the handsome "Mrs. Gray" in the vast Nile swamps and sudd of the Sudan, is absent from Central and Eastern Africa until the Mweru-Bangweulu neighbourhood in N. E. Rhodesia is reached.

The whale-headed stork, a bird with restricted powers of flight, is widely distributed throughout the Nile sudd, its northern range extending as far south as the great papyrus swamps which fringe the Uganda shores of the Victoria Nyanza.

Thereafter although absent from the Central and Eastern African region it re-appears in the Katanga district of the Belgian Congo, adjacent to N. E. Rhodesia.

The theory outlined to account for the wide separation of the existing white rhinoceros habitats seems equally convincing in connection with both the lechwe and whale-headed stork, and in their cases the type of country now intervening is sufficient reason for no extensions of range respectively to the south and north as a consequence of the recession of the forest.

It is unlikely that the theories advanced will meet with general approval, but, as the extraordinary discontinuous distribution of the white rhinoceros does appear to depend to a great extent, if not entirely, on the aversion to crossing running water as above explained, I trust that any known contradictory factors will be published in a later issue of the "Journal".

Finally I would like to mention that I am indebted to an eminent member of the Geological Survey of Uganda for valuable comments on the relevant portion of these notes.

I once read an article explaining as above the curious distribution of the white rhinoceros as now known and so had the temerity to write, "It has been recorded" inviting well-merited rebuke which not only referred to me as "you cave-man" but *inter alia* asked "Who did the recording? Type-writers were not invented: what a lovely epoch!"

Yours, etc.,

C. R. S. PITMAN.

ENTEBBE,

21ST JUNE, 1934.

