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OF SCIENCE & TECHNOLOGY

UGANDA

1965

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Final Report

Imperial College Exploration Board
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This once formidable encampment is fast deteriorating in this
vile swamp and is in urgent need of maintenance if it is to be
preserved as part of Uganda's history. The walls are still extensive
but show signs of wear from game traffic; the buildings are all but
ruins of rubble, it is remarkable and ironic that the local people
still remember the fort in their folk lore and few of them would
have to cultivate this land, if it were not in Emin’s lonely province.

PART I

The Forts of Emin Pasha

A description of the stations Dufile and Fadibek,
together with concrete suggestions as to the whereabouts
of Fajajok and Bora.

N.P. Fitzpatrick
This once formidable encampment is fast deteriorating in this
virile swamp and is in urgent need of maintenance if it is to be
preserved as part of Uganda's history. The walls are still extensive
but show signs of wear from game tracks; the buildings are all but
piles of rubble. It is perhaps a good thing that the local people
still remember the fort in their folk lore and few of them would
dare to cultivate such a magnificent monument to Emin's lonely province.

The approach to the fort follows a good track from Laropi, where
the Nile is crossed by free ferry, to the present-day village of
Dufile.

The simplest way to find the fort from the village is to ask for
a guide; from here to the walls of the fort itself it is about 3 miles.
Alternatively, it would be feasible to proceed directly along the
north bank of the Nile, in which case it would be very difficult to
miss the splendid earthworks.

The track from the village to the fort is subject to flooding,
as we found to our cost on our return journey, when it took 7 hours
to cover the 3 miles back, plus the men from the nearest settlement
to the fort, who helped to dig our vehicles out at intervals.

The local people were at first frightened by our appearance within
the fortifications and mistook us for the ghosts of the former inhabitants.
It would be advisable therefore to send advance warning to the area
sub chief in the event of any future visits.

A very convenient place to camp is the village 400 yards west of
the fort. The people here were very willing to act as labourers,
Plate 1  Bank at Dufile
historians and philosophers. After our first set-back with the ghost episode, we were quick to make friends with the elders of this village, who presented us with a chicken, put guards around our encampment, provided a force of labourers and arranged for a latrine to be dug.

The soil in this area is sandy and thunderstorms really are thunderstorms; tents should be firmly pitched and well protected from flooding by large ditches.

The plan of the fort was made by theodolite and chain traverse, as the fort is too large to survey completely by plane table. The detail of the buildings was later picked out by the plane table method using the plan of the walls as a guide.

It is estimated that it took 60 man-hours to clear the bush from the buildings in the fort to clear triangulation stations. Care should be taken in this work as a large number of scorpions were disturbed amongst the buildings.

Our guides from the village showed us carefully around the ruined buildings and to each they were able to give a name, such as office, prison, barracks. We were unable to verify the accuracy of their statements as we were not qualified to make an archaeological survey, but we pass on the information in the building descriptions.

Some 200 yards north of the north-west corner of the fortifications there are three rectangular tombs erected, according to local legend, in 1918, and on top of which were erected in 1927 iron name plates set in concrete, on which were enamelled the names of the deceased. A little enamel remains on the eastern tomb and the last two letters
appear to be TL or TI. This discovery did not fit in with the local legend that the tombs contained the bodies, reading west to east, of Emin, Gordon and Wilton-Jones.

The Buildings

These are described as they appear on the map, while for the office a separate plan is enclosed.

Buildings (1) and (5) appear to be similar, the latter being the better preserved. It was built of brick and had an outer wall 35'3" by 32'5", the width being 1'2"; the inner rectangle is 19'5" by 20'6", the wall width being 1'3½". There were two 3' wide gaps in the inner wall on the eastern side.

Building (5) was, in the same directions, 38'8", 29'11", 17'3". The apparent door in the inner wall was on the west, 3' wide, confirming the idea that there was a double door in building (1). In the centre of this building there appears to be a collapsed chimney breast. If these buildings were used as barracks, as we were told, then it is difficult to understand why central heating was required in that climate. An archaeological party could provide more positive evidence of the purpose of these buildings.

Buildings (2) and (6) were described as "kitchens". No. (6) was 12'3" by 12'3", with a suspected hearth on the northern wall and a 4' door in the western wall.

No. (2) was 14'3" by 13'3" and appeared to have had a wall running centrally north to south, with possible symmetrical doors central in the eastern half on the north wall and in the western half in the southern wall.
Plate 2  Cookhouse and Barrack, Dufile

Plate 3  Officers' Mess, Dufile
Both buildings (2) and (6) were of brick with walls 1'1" thick and both buildings were surrounded by lines of stones at a distance of 6'.

Building (3) was given no name by our guides and consists of a 17' x 10' rectangle of brick very much distorted by a large ant hill.

Building (4) was a 30' by 22'6" rectangle of brick walls 1'1" thick and was again given no name.

Building (7) was a pile of stone and brick, (8) and (9) were piles of stone, (10) was an 8' diameter spread of stone, possibly the walls of a hut.

(11) and (12) appear on the main plan as large areas surrounded by dotted lines with solid areas in (11). The square represents the obvious remains of brick walls, while the area around shows the scattering of random bricks. In building (12) there was a 4' diameter circle of brick on a mound on which were scattered stones. This was described as a 'mud hut'. We would hesitate to disagree.

Building (13), a 9' x 9' rectangle of brick rubble, has no other distinction than meriting the description of latrine by the natives. To outward appearances it is no different from (15) and (16) and the two unnumbered squares between the prison bank and graves, except these last, are of stone.

The prison, No. (14), is in good condition and has brick walls standing clear above the rubble to a height of 2' in places. In layout and size it is similar to building (1).
The gatehouse is undetectable from view, only a low mound of
silence. But it is on the side of the only road according to maps.
It was destroyed at this point by the attack from the Sudan by a General
whose men moved like elephants, though no data for their destruction
could be determined.

The ruins shown were in many cases identifiable as rectangular
structures of stone, in others as piles laid out in the shape of a map.
Proof positive that a solid frame of a box or square had been
rigged that the area was the site of a survey.

The bricks, stones in
make in the structure,
while they were a lap
meters thick.

In the distance
back there is an ancient bridge and a place of legend. It is not the
remains of the faithful according to science. Science has it that a
pillar once stood where the present bridge is today. It was said that the pillar was only recently shifted into the river
and that the villagers witnessed the bridge appearing that they could
see. As under the water. The present chronicler, after a bridge was
constructed, could see nothing but stones on the river bed and concluded
there might have been a jetty there.

Plate 4  Prison Building, Dufale
The gatehouse is unidentifiable as more than a low mound of stones, but it is on the line of the wall which according to rumour was destroyed at this point by an attack from the Sudan by a General whose name sounded like Mundukuru, though no date for this devastation could be determined.

The graves shown were in some cases identifiable as rectangular areas of stone, in others as stone laid out in the shape of a man. Proof positive of this rubble being graves was obtained when the corner of a box was struck in one of those occasional minute bore-hole sized digs that the curious indulge in, despite strict instructions to stick to surveying.

The paved path is described thus since there were numerous flat stones in this area, leading from the gatehouse to the other buildings; while this is a possibility, it could also be conjectured that there were a large number of grass huts here.

In the north-eastern corner of the fortifications on the river bank there is an obvious harbour and a piece of bank is cut off from the remainder of the solid ground by marsh. Rumour has it that a pillar once stood here to mark the landing point for river boats. It was said that the pillar had only recently fallen into the river and intrepid villagers who waded to the bridge reported that they could see it under the water. The present chroniclers, after a bridge was constructed, could see nothing but stones on the river bed and concluded there might have been a jetty there.
Plate 5  Harbour at Dufile
The 'Office' at Dufile

SCALE 1:48

ICUE 1965
The last building is of course what was described to us as the office (see diagram). While it is only 40' by 30', it was to us more impressive and its layout can be seen very clearly, hence the plan. It is mainly constructed of stone and the precision of its plan shows that here at least in this mosquito-ridden swampland there was some vestige of civilisation for the officers of the fort.

The earthworks are extensive as the main plan shows. In the north-west, just east of the level corner platform, an attempt was made to determine the true original shape of the wall and ditch. This spot was chosen as this is the best preserved section and it was hoped to minimise the digging. Our estimate was possibly awry as a result of torrential rainfall during the dig, but we publish them nevertheless, using as our guide to the true depth of the ditch the fact that a bottle was found 2'8" below the apparent surface, and we assume on the original bottom. Here the soil became definitely damper and more clayey, but whether this was related to the problem or the previous night's rain we could not tell.

This shows that while the ditch is at present 3' deep its original depth was 5'. The height from bottom of ditch to top of wall was some 18' at this point.
SECTION OF BANK TO DITCH

AT DUFILE

GROUND LEVEL

PRESENT DEPTH OF DITCH

BOTTLE FOUND

SCALE 1CM. = 2FT.
Our camp was on the Lokung-kitgum road as near to the fort as we could get and virtually due west of the rocky outcrop known as Lachich.

Our enquiries lead us to an old man who claimed that he had fought for Emin and that he knew where the fort was. His estimation agreed with our aerial photographs and we followed him at a leisurely pace.

The march from the road to Fadibek itself took just over two hours. Even with our aerial photographs and guide we were forced to spread out in a circle and march in various directions from the estimated position.

The fort is best picked out by looking for the symmetrical array of tallish trees which fill the surrounding ditch. There is no footpath, the area is unfrequented and the best method of finding this fort is therefore by compass, map and good luck.

Once inside the earthworks and after a little clearing work has been done, it is difficult not to be impressed by the good condition of the structure. In the main body of the fort we were not able to discover any obvious remains of buildings, but in the smaller area numerous remains are to be found - remains of mud huts, granaries and cooking areas. There was also a lot of pottery lying on the surface. The positions of these finds are marked to facilitate rediscovery.

The stone breast work consists of a large heap of stones and it is not easy to suggest its purpose from a superficial glance.
Plate 6  Gatehouse, Fadibek

Plate 7  Pestle and Mortar, Fadibek
It was suggested by Mr. J.H. Chaplin of the Ministry of Information, Uganda, that this may have been a tower for signalling to the top of Lachich hill, which would have made an outstandingly good observation post.

Although it is possible to see the hill from the fort and the theory must be feasible, we were unable to find any similar remains on the hill.

The gatehouses, standing west, east and south in the bank, were all fortified with stone standing to a height of 7' in places, but they are very liable to collapse in the future (see photograph).

The ditch and walls of the fort are of constant height, the bank being 3' to 4' above ground level and the dry ditch about 4' deep. These figures are fairly constant, and it is fortunate that this area is so sparsely populated that human incursion is limited.

FARAJOCK

It is believed that the station of Farajock is visible on aerial photographs 59 UG 14 nos. 138 and 139 on the north bank of the Nyimer.

Our efforts to reach this station were unsuccessful owing to the difficulty of staying in the correct area for a time of more than 4 hours due to lack of a Landrover. It is essential to take such a vehicle on from Lokung, and any future expedition should be prepared to spend at least a week away from Lokung.
A comparison of the estimated positions of the forts on the aerial photographs available (Fadibek 59 UG 17 no. 035 and 036) with a map of Emin's from his Tagebuch Drei shows the following results.

<table>
<thead>
<tr>
<th></th>
<th>Fadibek</th>
<th>Farajok</th>
</tr>
</thead>
<tbody>
<tr>
<td>Air photograph</td>
<td>32°43.4'E 3°31.1'N</td>
<td>32°18.3'E 3°36.31'N</td>
</tr>
<tr>
<td>Emin's map</td>
<td>32°43.4'E 3°36.3'N</td>
<td>32°18.3'E 3°38.7'N</td>
</tr>
</tbody>
</table>

This shows a roughly constant error in the latitude while the longitudes agree, confirming that what was seen on the photograph is in fact the fort.

**BORA**

This fort is visible on aerial photographs 160 and 161 and is on the opposite bank of the Nile to Rhino camp. The choice here is to approach from the east by Land Rover or cross the Nile by canoe from the west.

Since our estimated position of the fort has been confirmed by a game ranger who has visited it, it would seem that this fort is well worth a visit.

The traveller must be prepared either to cover a lot of mileage on the good road approaching Rhino camp or to suffer a rough journey from the east.

We had no Land Rover and no funds to hire canoes, so we pass on Bora to future travellers.
Before leaving England we had been given a list of places known to have been visited by Assunguru by Mr. Isaacvsi of the British Ministry of Overseas Development. We had seen the District Commissioner of Vessa District and had made a special study of Kakunguru's activities. We decided to visit as many of these places as possible to try and find any evidence remains of the remains which might still exist.

PART II

The Forts of Kakunguru

I. Blackhurst

We set off from Vessa District on 1st August after a slight accident to the Ministry of Works trucks and disembarkation changes of truck and driver. We quickly discovered in our joy and the six drivers space good English and we obligingly pointed out places of interest to tourists. Past Jinda we turned left, still on turning by Kororo and Mulo. The Temara narrowly missed a nasty accident when a lorry travelling in the opposite direction jumped out and ran on the wing mirror with the tail-end. Later a tread came off one of the tyres and the shank had to be changed. We turned off the Otoro onto the inevitable rough road at about thirty miles past Mele and ran on to St. Alphaeus Teacher Training College, Nkororo, where we were to meet the three African students who would accompany us. Although the Principal, Father Whelan, had not received our warning letter he quickly made arrangements for us to camp in one of the dormitories. Two of the students had not yet started their holiday and the third lived a short distance over, so we were all ready to start were the next morning.
Before leaving England we had been given a list of places known to have been visited by Kakunguru by Mr. Lawrence of the British Ministry of Overseas Development. He had been the District Commissioner of Teso District and had made a special study of Kakunguru's activities. We decided to visit as many of these places as possible to try and find any physical remains of his visits which might still exist.

**IN TESO**

We set off for Teso District on 4th August after a slight accident to the Ministry of Works truck had necessitated a change of truck and driver. We quickly discovered to our joy that the new driver spoke good English and he obligingly pointed out places of interest en route. Past Jinja we turned left, still on tarmac to Tororo and Mbale. The Taunus narrowly missed a nasty accident when a lorry travelling in the opposite direction swayed out and smashed the wing mirror with its tail-end. Later a tread came off one of the tyres and the wheel had to be changed. We turned off the tarmac onto the inevitable murram road at Kumi about thirty miles past Mbale and carried on to St. Aloisius Teacher Training College, Ngara, where we were to meet the three African students who would accompany us. Although the Principal, Father Whelan, had not received our warning letter he quickly made arrangements for us to sleep in one of the dormitories. Two of the students had not yet started their holiday and the third lived a short distance away, so we were all ready to start work the next morning.
After a courtesy visit to the District Commissioner in Soroti we decided to have a look at the fort known as Opege, near Ngora, which was well known to Louis. Under his guidance and with the help of local villagers, we found it easily after a three mile drive along bush paths just about wide enough for the Taunus. Navigating without a guide would be very difficult in this type of country, since there are hardly any distinctive landmarks and the trails are not all marked on the map and are not permanent. We found later however that after two or perhaps three journeys to a particular fort we could remember the route without difficulty. It is always advisable to visit the local chief before going to any fort for the first time and also when on a second visit if this occurs some time later than the first.

The route to Opege is as follows: go north from Ngora along the murram road to Soroti for about 2½ miles until a group of tin-roofed huts appears on the right. A fairly wide trail crosses the road here, down which we turn left. The main trail is followed for nearly 3 miles with one sharp left turn at a cross-roads which we could not identify on the map. Even when on the trail at its nearest point to the fort it cannot be seen and a short excursion across a ploughed field is necessary to reach it.

OPEGE

This fort was much less impressive than the western forts and consisted simply of 150 sq. ft. of land surrounded by a dry ditch about 10' wide and 3' or 4' deep. In places a shallow bank was just about discernible on the inside edge of the ditch. Presumably this would
have been higher and surmounted by a stockade when originally built.
As the vegetation in the fort was not very thick we decided to survey
it immediately, and in fact we finished it by late afternoon.

The following day we split up, Maurice and Gan taking the truck
back to Opege to pinpoint its position on the map, while the rest went
in the Taunus to look for remains at a place called Aterai Kumi, near
the town of Kumi. Apparently no remains were known here, although we
did meet a former houseboy of Kakunguru who is now chief of Atutur
village. We arranged to visit him again later since he had to travel
to Kampala that day.

We then went to Mukongoro which is about fifteen miles south-east
of Ngora. Guided by villagers, we carried on along the road to Pallisa
for about 2½ miles past the village to a trail on the right signposted
'Mission'. We followed this trail for a while with a few turns not
shown on the map, until we ended up in the compound of the local headman.
From here it was a short walk to the fort, which was similar to Opege.
It had been cultivated in the middle with trees and bushes left on the
bank and in the ditch, which were both very shallow. Indeed, the bank
was only distinct in two places. From the fort a small earth dam with
a small lake could be seen about 300 yards north-east. We were soon
joined by Maurice and Gan and quickly completed the survey of Mukongoro.
KAGAA

The following day we moved up to Kaberamaido in Lango District, stopping at Soroti on the way to meet Esia-Paulo Engulu, a Baganda agent who had administered the area after its subjugation by Kakungulu.

We had been given his name by Mr. Lawrence who had known him well and although he had many interesting reminiscences of the Baganda occupation we did not obtain any more information to help our search. This was probably because Mr. Lawrence had obtained some of the information he had given us from this source. He did confirm, however, that no remains existed at Aterai Kumi.

At Kaberamaido we camped at the Catholic Mission. This was one of our best camp-sites and the two 'Mill Hill Fathers' seemed as glad of our company as we were of theirs. The evenings were often enlivened with a game of football with them and the village children or by playing Bridge and Scrabble well into the night.

The following day being Sunday, we decided that a rest would be appropriate, although we spent some time ordering the camp for our week's stay and dealing with the inevitable paperwork surrounding an expedition of this kind.

On the Monday, we went to see the County Chief of Kaberamaido, who gave us letters of introduction to local headmen and an Askari guide. We carried on to Ochero and with guidance from the local chief soon found the fort of Kaga. This was reached by taking the road north-east from the chief's office at Ochero towards Dokolo for a mile, then turning
left along an easily missed trail which ended in a fenced compound. The vehicles were left here since the path to the fort has trees growing in the wrong places. After a short walk north, a swamp is reached which was more of a lake when we were there. The fort is then easily visible on the left, having a fairly high bank in this part. We quickly saw that the fort was too overgrown with trees and bushes to be immediately surveyable, so we arranged with the local chief to employ a gang of porters (labourers) to clear survey lines on the following day.

**BULULU**

Next morning Nigel and Gan started early to supervise the clearance of Kegaa while the rest of us went to look for a fort at Bululu. Again with local guidance this was found quickly, taking a wide track (nearly a road) due south from Bululu village for six miles before taking an obvious right hand fork along to a T-junction. The fort is diagonally left from the junction approaching up the leg of the T and cannot be seen from the track. It was slightly larger than the previous Teso forts although some of the bank had been completely levelled by cultivation and the whole of the area inside the bank had been ploughed. This fort was quickly surveyed, most of it being covered with grass about knee-high with a few bushes on the banks. While here we asked whether any remains were left on Kaweri Island where Kakunguru was thought to have landed. No-one knew of any remains however, and in view of the high price asked for hire of dugouts we decided not to visit the island.
Returning to the truck, we found some electric wiring smouldering so we had to disconnect the battery and push the truck to start it. This meant that the truck had to be taken to the depot at Soroti for repair.

**KAGAA again**

By now Kagaa had been cleared sufficiently for surveying so we returned there the next day to do the job. We hired porters again to clear the banks of scrub and small trees, but left most of the centre of the fort untouched. While surveying, it became apparent that Kagaa was of a completely different shape from the other forts, as can be seen from the plan. We were unable to account for this although one possibility is that the line of the nearby marsh at that time was much closer to the fort and affected its construction. This was the last fort we found in the Kaberamaido area, the rest of the time there being taken up visiting places where Kakunguru had been but had not built a fort. The first of these was Kangai, where Mwanga, the Kabaka of Buganda, and King Kabarega of Bunyoro were reputedly captured by Kakunguru after rebelling against British rule. While here, we inquired about the location of a place called Kikabukabu. Unfortunately it proved to be just off the maps that we had although we surmised that it was in the extreme south-east corner of the 1:50,000 map west of the one entitled 'Kaberamaido'. Its modern name is Akabi.
We later went to Anyara (formerly Nyara) where we were shown a few bricks in a field, all that remained of a Lukiko (Council) House built by the Baganda agents Esingu and Asana. We tried to get to Sangai but found the road blocked by a swamp, so we turned off to a nearby house. This proved to be inhabited by an old Buganda who had moved there in the wake of Kakunguru. He told us that he did not know of a fort at Sangai and also told us where to find a Baganda agent living at Kalaki who would know about it. We went to see the Baganda agent and he confirmed that there was no fort at Sangai.

This completed our work in the Kaberamaido area and we returned to Ngora, where we searched for forts at Sereere and Sambwa without success.

GOGONYO

We therefore set off to Mbale to find the more southerly forts, taking a roundabout route via Pallisa and Gogonyo. At Gogonyo we found a fort about 300 yards behind the dukas (small shop) at Kachanga. The ditch of this fort was fairly well preserved although there was scarcely any evidence of a bank. A probable reason for this is that the villagers had used the ditch as a natural boundary for a field, while the bank had been levelled by cultivation. This was in fact the case during the period of our visit - the whole interior of the fort was planted with cassava while in the ditch mtoke (green banana) trees grew. We surveyed this fairly quickly although finding it rather difficult to sight through the thousands of stalks of the seven-foot high cassava.
At this point it might be of interest to describe the method used for surveying the forts. First, four stakes were placed near the corners of the fort so that they were all within sight of each other. Then all four sides and both diagonals of the quadrilateral thus formed were measured using a surveying chain. A tape measure was used to measure the perpendicular distance between the chain and the edges of the ditch and bank at different distances along the chain. From these measurements the shape of the fort was then constructed and drawn to scale.

From Gogonyo we went to Butobo to inquire about a fort, but were shown only a tree which Kakunguru was said to have planted, so we carried on to Mbale to camp on the football pitch of Mbale College (luckily it was a school holiday.)

Budaka

From this base we went to Naboa where we found a court in session at the Lukiko House. We did not seem to be very welcome here, although we did manage to find out that Kakunguru had built a fort, now levelled, where the Lukiko House now stands. We carried on to Budaka, where we were shown a conical stop pyramid about 15 feet high, built either by Kakunguru or as a memorial to him. There was also a bank about 40 feet long running near it but we could not see any further signs of a fort so we decided to leave it.
That evening we met Michael Twaddle, a postgraduate student from the School of Oriental and African Studies in London. He was staying in Mbaale to write a thesis about Kakunguru and told us he had visited the sites of about thirty forts and outposts in the area, although none of them were sufficiently well preserved to be worth surveying. To our surprise, he told us that Budaka was a very large fort of which the bank we had seen was just a small part.

We arranged to visit it with him to be shown round, so that we could survey it later.

This we did, and discovered that the fort was nearly a quarter mile square, although large sections of the bank had been levelled and several roadways and tracks ran through it. The Water Board was also conducting earth moving operations which threatened to encroach on the fort.

This was the last and the largest fort that we surveyed. David Hando visited us and took some more film for the television programme, including some of a tree-lined avenue at Nabumale which used to run up to Kakunguru's Palace (now destroyed).

**KADAM**

The remainder of our time was spent in trying to climb Kadam, a fairly high mountain in the north-eastern district of Uganda called Karamoja.
PART III

Route Report

The idea of this short section is to give some idea of the types of road covered, the routes travelled and the difficulties encountered.

T.P.C. Doe

Kampala — Nandi —- Gulu
Gulu —- Aliko —- Laropi
Gulu —- Kitgum
Ngara —- Koroti —- Kaborowala
Nalis —- Jumusia
Nalis —- Lading

This is a list of the main routes and not all the minor tracks around the area of the forts sites. The mistake we made was to underestimate the distance we would travel. The original figure was 2,000 miles, but this is the distance from 1 to 8. We did not include much turns.
ROUTE REPORT

In eleven weeks we covered something in the region of four thousand miles, much of it over some of the worst roads I have ever seen. According to the official figures, there are 738 miles of Bitumen surfaced roads in the country, but, with the exception of one or two trunk routes, these are confined in and around the larger towns such as Kampala, Mbale etc. The rest are made up of 2,335 miles of Government maintained gravel surface roads and 6,678 miles of grant-aided roads with gravel surfaces, and it is on these that most of our travels were done. The gravel roads (‘murram’ locally) can be very good or very bad, ranging from a tarmac smooth surface to one worse than a cart track. As all our work was done in the north of the country I cannot speak with authority on the roads in the south.

Routes Travelled

Kampala → Masindi → Gulu
Gulu → Atiak → Lira
Gulu → Kitgum
Ngora → Soroti → Kaboramaido
Mbale → Kampala
Mbale → Kadam

This is a list of the main routes and not all the minor trips around the areas of the fort sites. One mistake we made was to underestimate the distance we would travel; the original figure was 2,000 miles, but this is the distance from A to B. We did not include such trips
as visiting local chiefs in the area for permission to carry out our work, or having to drive a trip of ten miles for water, buying food and so on, and this is why our final total was so high.

**Vehicles Used**

- Bedford Diesel with African driver
- Taunus Transit bus driven by myself and Maurice Clark

The Taunus was the only vehicle available at the time and I must say we took it with some trepidation for we had been promised a Land Rover and this substitute looked a bit fragile for the job involved, but as will be seen it came through with flying colours apart from the minor failures listed below.

**Troubles (Mechanical)**

**Bedford:** Short, causing all the wiring to burn out - but managed to start it by pushing - replacement truck found. 2 punctures.

**Taunus:** 4 blowouts, 1 thrown tread. Broken front spring bolts. Broken hydraulic pipe. Broken throttle spring.

**Other Difficulties**

The first fort we surveyed at Dufile was linked to the outside world by a non-existent twelve mile road which consisted of a man-width track through 12 foot elephant grass and between termite hills - an epic driving experience. To make matters worse, when we came to leave heavy rains had started and as the land is very low lying beside the Nile, it all turned into a vast swamp. I drove the Taunus out and all I could do
was drive fast and hope nothing got in the way. The truck was more
trouble and took nearly a day to manhandle out with the help of 20-30
natives. Many of the stream beds we had crossed when we came in were
now full-blooded streams and the Taunus went through one with the engine
completely covered apart from the carburettor!

This was about the worst of the conditions; the gravel roads churn
up a bit in the wet but on the whole they are well drained. In the dry
some surfaces were corrugated and pitted and if corners were not taken
carefully beautiful four-wheeled drifts resulted, which are not advisable
in such a top-heavy vehicle as the Taunus.

There is apparently a 50 m.p.h. limit throughout the country, but we
soon found that everybody drives like lunatics by United Kingdom standards,
whatever the surface of the road. Trucks, buses and taxis were the worst
offenders (80 m.p.h. in an African bus in the Kenyan highlands does things
to one!)

In conclusion, we found the roads mainly adequate but obviously
if the Government wants to open the country up to the world, other than
the tourist trade, then the process of tarmacing more of the main roads
must be carried out as soon as possible.
ACKNOWLEDGEMENTS

The members of the expedition would like to express their gratitude for material and financial assistance to the following bodies:

The Ministry of Information, Tourism and Broadcasting, Uganda
The William Johnston Yapp Charitable Trust
British Universities Society of Arts
Imperial College Exploration Board
The Royal Geographical Society
The Daily Telegraph and the Uganda Argus
The Uganda Mountaineering Club
Miltonian Wren Ltd.
Ronson Products Ltd.
Nelsadry Ltd., Kololo, Kampala
The British Institute of History and Archaeology in East Africa
The Geological Survey, Uganda
The Department of Lands and Surveys, Kampala

and for advice, encouragement, etc., to:

Dr. H. Posnansky, Department of African Studies, Makerere College, Kampala
Mr. L.F. Kirwan, Director and Secretary, Royal Geographical Society
The Librarian, Directorate of Overseas Surveys
Mr. J.H. Chaplin, Inspector of Ancient Monuments, Uganda
Professor S.J.R. Baker, Head of Geography Department, Makerere College
Mr. Lawrence, former District Commissioner, Teso District
Mr. A. Bishop, formerly attached to the Ministry of Information, Uganda
Mr. H.B. Thomas, former Director, Lands and Surveys, Uganda
Mr. E. Ware, Secretary of the Brathay Group
Mr. F. Steele, Kitgum
Messrs. A.W.R. McCrae, D.M. Hando, A. Glynn and many others in Kampala
Fathers van der Holtz and MacDonald of K aberamaido

and the students and staff of Lira and Ngora Teacher Training Colleges and the staff of the Samuel Baker School, Gulu.
PERSONNEL

The members of the expedition were:

Ian Blackhurst - 3rd year Electrical Engineering student, leader

Mark Hemming - 3rd year Metallurgy student, photographer

Maurice Clark - 1st year Civil Engineering student, driver and chief surveyor

Nigel Fitzpatrick - 3rd year Metallurgy student, secretary

Tim Doe - 1st year Zoology student, driver and equipment officer

Martin Ashton - 3rd year Physics student, transport and food officer