GEOFFREY BOND IN NIGERIA

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Geoffrey Bond was a geologist, who was born and brought up in England, but who subsequently spent the great majority of his professional career in what is now Zimbabwe. From 1946 to 1960 he was Keeper of Geology at the Museum in Bulawayo, and then Professor of Geology (also Vice-Principal) at the University in Harare from 1960 to 1982. Towards the end of his life, he was persuaded to write his memoirs, which he did, but the manuscript remained unpublished after his death in 1983. It was rescued from oblivion in 2020, at the suggestion of one of his former students, and with the cooperation of his family was published in 2022. Much of his field work was carried out in the Zambezi valley, now under the waters of the Kariba dam, hence the title of the work (Bond, 2022). The book has been meticulously edited by Roger Stringer, with the addition of numerous footnotes to provide, as he says, more information about some people, places, and events referred to in the text, whose significance might otherwise escape the reader. Bond writes in a forthright style, not without a good deal of humour, and the book is well worth a read.

Throughout his career, Bond took an interest in the connections between geology and archaeology, collaborating for example with J.D. Clark on two occasions in the field, and participating in the work of the Pan-African Congress in 1947 and 1959. In 1948, while doing a stint at the University College in Hull, he met Bernard Fagg, who had already made interesting finds in the vicinity of the Jos Plateau, and Fagg invited him to come to Nigeria for a period of two months in December and January 1948-49. The story of his resulting visit to the country is told in his book (Bond, 2022, 91-101). The principal scientific results arising from the visit have already been reported in the Proceedings of the III International West African Conference held in Ibadan in 1949 (Bond, 1956; Fagg, 1956). In connection with my own work at Zenabi (10°47' 22" N 8° 46' 14" E) (Allsworth-Jones, 2019, 26-46) Bond's article was very useful, but there were still some unanswered questions arising. In July 1978, I was able to write to Bond to seek some clarification, and to my surprise we were able to have an intermittent correspondence about the matter until October of the following year. In addition to providing written information, he was also able to send some photographs of the work done at the site in 1948. I was also pleased to discuss the matter with Bernard Fagg, who provided some further details. The purpose of the present article is to record these hitherto unpublished observations.

In the first place, Bond's original "geological sketch map" of the site was completed

with appropriate labelling, as at Fig. 1. The Tributers' Paddock (TP) was the one nearer to the Falls, the Main Paddock (MP) being more northerly but still south of the road passing through the site. The still unlabelled paddock north of the road, shown on the map, is not the one separately labelled Karara (K) (prominent in the Jos Museum records) which occurs along the river much further (about half a mile or 800 metres) to the north. This is indicated quite clearly in an additional sketch map supplied by Bond, which represents an extension of the existing version. A view from Zenabi (10° 47' 22" N 8° 46' 14" E) Falls overlooking the tin workings as they were on 20 December 1948 is at Fig. 2.



Fig. 1: Geological sketch map of Zenabi (after Bond, 1956, 201)

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Fig. 2: View from Zenabi Falls overlooking tin workings, 20.12.48. [C.10.A/46/7].

The "Zenabi (10° 47' 22" N 8° 46' 14" E) sequence" outlined by Bond (1956, 192-193) is based essentially on the Tributers' and the Main Paddock. In correspondence, he confirmed that this is a composite version. As indicated, there were three tin washes, although he never saw all three together in one section. The terms "Upper" and "Lower" in the Main Paddock were simply miners' names for these occurrences at that location. A very valuable and hitherto unpublished section of the Main Paddock drawn by Bernard Fagg was supplied to the author by him, and is reproduced at Fig. 3. The thickness of the first three layers is said to have equalled 2.40 metres, and assuming the rest of the deposits are on the same scale the total thickness of the section comes to about 9.70 metres. TW1 and TW2 correspond to the Lower and Upper tin washes respectively. The log embedded in sandy grits corresponds to the one shown in a well-known picture published long ago (Fagg, 1956, Fig. 6). The Upper tin wash can be seen 'at the level of the shoulder of the man squatting on the carbonised tree trunk'. Another picture taken by Bond on the same day is at Fig. 3. This shows the 'base of the Upper tin wash' on the clay surface, shown in Fagg's section as immediately overlying the log itself. A well-known radiocarbon date of 5440±100 BP (Y-142-7) was obtained on a sample from this log. Hitherto unknown has

been the subsequent fate of the log, but the whole tragi-comic story is related by Bond (2022, 98-99) as follows. The complete tree trunk was more than 6 metres long, but it was all taken out and transported to Jos. Fagg was sure that it could be dried out slowly under controlled conditions and cut into planks. Once arrived at its destination, it was carefully covered in damp sacks. Fagg later went on leave to England. 'On his return to Jos he went to see how his precious log was faring. It had gone. While he had been away, it had dried out, and his staff had chopped it up and used it for firewood'.



Fig. 3: Zenabi Main Paddock section, 20.12.48. (after original diagram by Bernard Fagg).



Fig. 4: Zenabi Main Paddock. Base of upper tin wash on clay surface, 20.12.48. [C.9.A/45/9].

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The paddock immediately north of the road, Bond informed me, was described in his notes as 'the usual section of Upper wash', with boulders about 25cm diameter, in lenses of about 30cm thickness, iron cemented, and passing up into 'red gritty sands' with less iron cement. There was no exposure of yellow clay, or Lower wash. The total thickness was about 3 metres. There were some 'large MSA flake tools'. The photograph of the 'roadside paddock' taken on 20 December 1948 shown at Fig. 5 appears to agree well with this description. As already mentioned, the locality recorded as Karara is quite distinct from the 'roadside paddock' and it is unfortunate that we do not have any detailed record of it. This is particularly so in view of the fact that there is a large collection of material from this site in the Jos Museum collection, and it is in detail somewhat different from the rest of the material (Allsworth-Jones, 2019, Table 3). It produced 69 tools, 50 cores, and 431 blanks, all highly characteristic of Zenabi (10° 47' 22" N 8° 46' 14" E) as a whole. Apparent differences of emphasis may be due to the workings of chance alone, but they are noticeable.



Fig. 5: Zenabi 'roadside paddock', north of road, upper tin wash passing into red gritty series, 20.12.48. [C.9.A/46/6].

There is another site called Yelwa, in a similar geomorphological position to Zenabi $(10^{\circ} 47' 22'' \text{ N } 8^{\circ} 46' 14'' \text{ E})$, but west of it, and also at the foot of the Liruei hills, where the Baba (or Mallam) river descends to the plains. It has received comparatively little attention. In his published account Bond says only that the exposures were not sufficient

to allow a full succession to be worked out, but that 'the red series is well exposed' (Bond, 1956, 192). In 1977-78 we were able to do some further work in the area, thanks to a small paddock which had been opened on the west bank of the river, south-west of the village between it and the Falls (Allsworth-Jones, 2019, 71-76). I asked Bond if he had any further information about the site, and it turned out that he did. He described the locality as being on the left bank of the river, 100 yards (90 metres) from the stream, within half a mile (800 metres) of the Liruei hills escarpment. This location seems to be very similar to the one where we worked. The full section as described by him is at Fig. 6. Its total thickness is 4.60 metres. The terms 'middle wash' and 'top wash' evidently refer to the Upper wash in the Main paddock and the tin wash in the Tributers' paddock at Zenabi (10° 47' 22" N 8° 46' 14" E) respectively (thus confirming the threefold succession). Only the lower of the two tin washes is said to be associated with MSA artefacts. The upper of the two evidently corresponds to the columbite layer which we detected in our own section (Allsworth-Jones, 2019, Fig. 115). In general, there is a fair degree of concordance between the two. A photograph of Bond's site as it appeared in mid-December 1948 is at Fig. 7.

That concludes this brief account of the main points covered in the correspondence between Geoffrey Bond and myself in 1978-79. The extra information adds precision to what was already published concerning the sites at the foot of the Liruei hills, and it is a useful addition to the literature. From what I am able to glean from his book as a whole, it is typical of Bond that he took such trouble to reply to me, at a time when he must have had far more pressing concerns, and it is also a tribute to his painstaking work that - 30 years after the event - he was still able to locate his records and pass on his observations and photographs to me.

Th (m)	Layer description
1.25	Fine uncemented red gritty sands, with gritty bands. =Zenabi top wash.
0.30	Red gritty sand, partly ferruginised.
0.60	Gravel, rounded pebbles up to 15 cm. MSA, rolled + unrolled.
	Erosion surface.
2.45	Yellow gritty clay. =Zenabi middle wash.

Fig. 6: Yelwa section (after Bond, in litt., 16.3.79).



Fig. 7: Yelwa photographed section, mid-December 1948. [A.44.3].

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