

BOOK REVIEW

Kalambo Falls prehistoric site Volume III

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Paradise Lost. A review of Kalambo Falls Volume III

John McNabb

Department of Archaeology, University of Southampton, Southampton SO17 1BJ, England

Between 1953 and 1966 excavations ran intermittently at the site of Kalambo Falls in modern day northern Zambia. The site was discovered by one of the great names in African archaeology, indeed in prehistoric archaeology in general - JD Clark, who died earlier this year. He lived long enough to see the publication of Kalambo Falls Volume III, the site with which many will always associate his name. Very quickly the site acquired a key place in the consciousness of Early Stone Age (ESA) archaeologists. It was stratified, contained a succession of different archaeological industries (in the 1950s this was enough to assure it celebrity status), it also had *in-situ* living floors with hearths, wooden tools, and was one of the first African testing grounds for a relatively new dating technique called radiocarbon, which suggested the site could be as old as 60,000 years or more. All heady stuff. By the late 1960s Volume I was published which dealt with the stratigraphy, and by the middle 1970s Volume II was published on the Later Stone Age (LSA) and Iron Age. The world waited for Volume III, the detailed description of the archaeology of the ESA and early Middle Stone Age (MSA) levels at the site...but it never came. Somehow the changing geographies of politics, careers, nationhood, and personalities got in the way - but that's archaeology for you. At last Volume III has been published through

the determined efforts of Clark and a team of editors who all deserve a big vote of thanks.

The archaeology of Kalambo Falls was recovered from four localities (sites A - D) within a small shallow basin formed between two quartzite ridges. Through this basin, only four kilometres across at its greatest extent, the Kalambo River meanders. Today it deposits gravels, sands, and other fines at different points along its course within the basin, and the archaeological sections clearly indicate that this was the situation in the Pleistocene as well. Then, as now, the primary control on major erosional and depositional events was the temporary blocking of the mouth of a short narrow gorge called the Spillway Gorge. Through this the Kalambo River passes as it leaves the open basin prior to plunging down the spectacular falls that gives the site its name. Fine and coarse bed loads were aggraded and then eroded by channel switching as the river was ponded behind the Spillway entrance and then flowed freely again. The archaeological sections clearly demonstrate the dynamic nature of this environment. The archaeology represents river bank and flood plain occupation by hominins revisiting a locality over probably tens of thousands of years.

It is clear from Clark's text that his ambition for this volume was that it contribute to the modern

dialogue; and I think it is on this basis the book must be judged. This aim is seen in the way Clark marshals old collaborators, established colleagues, and younger researchers in order either to embed the 1960s research in modern understandings, or have details of the site analysed using new approaches. As such, the volume divides itself neatly into two parts. In the first part we are presented with original description of sites, stratigraphy, and archaeological content by Clark. Additionally there is a series of chapters by other people whose research augments these aspects. This first section makes a series of claims about the sites. The second part of the book explores aspects of detail, in particular concentrating on the Acheulean assemblages.

So, then, what are the claims made in the first part of this volume?

- Discrete geo-stratigraphic separation of the different industrial types.
- Typological distinctiveness of the different industrial types.
- Evidence of change in material culture over time, itself a reflection of people adopting new working practices as environments changed.
- The ability to reconstruct the environmental context of the archaeological assemblages.
- Glimpses of the richness of the Acheulean material culture record as seen in rarely preserved tools and utensils of wood and bark.
- *In-situ* occupation horizons - some with hearths.

I think it is with the stratigraphic reconstruction of the process of sedimentation at the site that the quality of the work done at Kalambo Falls really shines through. The sediments at the site record a complex series of cut and fill phenomena as the Kalambo River moved backwards and forwards across its floodplain over many thousands of years (chapter 1 by Clark and following chapters). This process is recorded in the sections, and these reflect the staggering complexity of the sedimentological history of the site. The erosive and depositional events occur at vastly different scales. They are themselves interrupted by other

smaller scale events. In places colluvium interdigitates with alluvial sediments. Elsewhere, changes in the pattern of deposition resulted in the presence of rubble lines, accumulations of gravel whose origin is not understood. These are of varying thickness/significance. They often bifurcate and are interspersed with thin lenses of renewed sand accumulation suggesting rapid shifts in local conditions. In order to make any meaningful sense of all this Clark and his team had to dig at an astonishing scale. Trenches, some times in excess of 60 metres in length, with terracing that resembled Leonard Woolley's excavations at Ur, were cut down to river level and some times below it. But this attention to detail in recording is one of the great strengths of this volume. It presents the specifics of the relationship between the archaeology and its geo-stratigraphical position. As such it therefore enables new generations of researchers to return to the primary evidence and reconstruct for themselves the nature of the assemblages from various horizons. Today we bemoan the lack of a geologist on site whose chapters would have greatly enriched our understanding of localised geological context, but nevertheless from the richness of description it would not be too difficult for the reader to make some informed guesses in this direction. The excavation quality and clarity of understanding lend considerable weight to the stratigraphic separation of the different ESA/MSA industrial types. In terms of the volume's first claim, then, the book is a resounding success.

The MSA Lupemban assemblages in Rubble I and Rubble II (chapter 4 by Clark) do have distinct typological characters that distinguish them from other assemblage types, namely the high frequency of laminar and convergent Levallois (and retouched points), elongated parallel sided core axes (very different from those in the Sangoan), and elongated thin bifacial lanceolate points (the illustrations attest to Clark having a rather broad view of what these ought to be). From this point of view the Lupemban assemblages appear typologically as well as stratigraphically distinct. Worryingly, though, Clark indicates that artefacts from all periods may be

incorporated within these rubble lines as they may contain material eroded from lower down and then deposited on the rubble surfaces. This earlier material would have the same abraded physical appearance as the genuine Lupemban artefacts. What would mostly be affected here would be the ability to recognise Lupemban bifaces and important small tool types.

The Sangoan (Clark chapter 5) is stratified beneath the Lupemban rubbles and mostly occurs in iron stained reddish sands. It contains little Levallois (though one cracking Levallois point is illustrated, and a number of the illustrations of thinning flakes are probably better interpreted as flakes from recurrent radial Levallois cores), and it certainly lacks the lanceolates and Lupemban style core axes. The Sangoan has its own variation on the core axe theme. These are thick bifaces made for the most part on cobbles or thick slabs of rock. Intriguingly though, in outline form many are no different from Acheulean bifaces. It is this thickness in cross-section that distinguishes them from the underlying Acheulean whose bifaces are mostly thin and made on flakes. The assumption of the text is that this is a deliberate choice of blank on the part of the Sangoan knappers. New tasks required new kinds of axe and so necessitated different kinds of blank on which to make them. Another tool type that comes under the Sangoan core axe umbrella is the plano-convex core axe type. This too appears absent in the Lupemban, but is occasionally present in the Acheulean (Clark chapter 6). Levallois too appears absent or very poorly represented in the Acheulean. So, while the Lupemban and Sangoan appear to be genuinely typologically distinct, the separation between the Sangoan and Acheulean, while stratigraphically distinct, is less certain. Much of it would appear to hinge on whether thick bifaces (core axes) are a 'cultural' change or merely a necessary alteration of working practices for some other reasons. It should not be forgotten that perfectly decent Acheulean like bifaces, many made on flakes, also appear in the Sangoan (though from the illustrated sample many do tend to have a more elongated overall look to them - but then this is a highly

selected sample). Does the volume achieve its second aim? Yes, but only partially. There are differences between the industries, but especially in the case of the Sangoan and Acheulean it has yet to be independently established that the typological separation between the Sangoan and the Acheulean is a genuine 'cultural' difference (McBrearty 1991).

The third claim of the book is that the site shows changes in material culture over time. The stratigraphy reveals temporally distinct variants and sub-variants of cultural phenomena that show change, this is supported by differences in frequency of occurrence of particular artefact types as well as changes in the artefact types themselves. Clark argues these changes in material culture reflected new ways of making and using tools and were a reflection of people being forced to adapt their working practices to new challenges in the environment. We have already suggested that the basic 'cultural' division is sound, but whether it reflects genuine 'cultural' change remains to be established. Clark however is clear upon this point, and presents a robust defence of his long held views. The latest MSA at the site is the Polungu Rubble Component (detailed in Volume II), preceded by the Lupemban. There are three variants of the Lupemban present; the Siszya B is the most recent, preceded by the Siszya A, in turn preceded by the Nakisasa. These were distributed within the Rubble I and Rubble II units. Sangoan artefacts occur in channel in-fills, channel beds, and in older sub-channel in-fills partially eroded by the succeeding down cutting episodes. The Sangoan was divisible into three distinct groups depending on their relation to a particular channel bed gravel lag (site B surface IV). Like the Lupemban, these artefacts are in secondary context, but unlike the Lupemban the majority are in fresh condition and therefore have not come from very far away. The Acheulean assemblages are stratified beneath the Sangoan. These are primarily distributed between Sites A and B and two stratigraphic phases are identified. The Acheulean is locally known as the Bwalya Industry, a facies of the late Acheulean. Its earliest manifestation is the Moola Phase which is

an Upper Acheulean variant, followed by the Inuga Phase, a Final Acheulean. Unfortunately at no point in the text of this volume, that I could find, was there an explanation of what the difference between the two facies was.

On this aspect of the volume I was less convinced. While stratigraphically the sub-phases do show distinct vertical separation, we do not know what intervals of time are represented. Also, many of the sub-phases come from temporary land surfaces, or channel lag deposits, they were very local, and had small sample sizes. Although Clark defends his belief in the integrity of these temporally successive sub-variants it is clear from the text that his expectation was that where stratigraphic superpositioning occurred, variants would be present, and they would show evolutionary development over time. This was the ethos of the time, and I do not wish to be too condemnatory here. What was done, was done fairly in the context of its own time. The text openly states that much of the analysis of lithics was done in the early 1960s, and was conducted when it was implicitly believed that each tool was made to look exactly the way it did, and that form was inextricably linked to function (chapter 2 Clark and Kleindienst). It is not surprising that changes in the numerical frequency of tool types, and apparent changes in such things as retouching patterns, were seen as reflecting genuine shifts in human behaviour. But there are aspects of the methodologies that concern me. For example, retouched and unretouched Levallois points and laminar artefacts are frequently depicted in the illustrations. Yet the methodology appears to require the convergent retouched examples to be interpreted as convergent scrapers or awls. Sheppard and Kleindienst (1996) assert that the Levallois technique has little 'impact' on the site. Based on my own experience of Fauresmith sites in South Africa, remove the Lupemban core axes and lanceolates and the Lupemban here looks very Fauresmith like. In terms of identifying how much meaningful 'cultural' change is truly present in the sequence, and what it really reflects, I think we will have to wait for a new generation of researchers to examine the lithic assemblages with new eyes.

The next three claims of the volume are more quickly dealt with. Chapter 3 reviews the pollen work done in the early 1960s. In correcting some errors in the original work it makes the point that little was known of the floral history of the African Pleistocene at that time, and in effect not much has changed. More helpful are the organic remains associated with some of the Acheulean horizons. Seeds, vegetation, wood, and even bark were preserved to give a picture of the localised environment. The Acheulean knappers lived within a savannah-woodland environment, which was possibly cooler than present day. Claims were made in the 1960s that a number of these wooden pieces showed signs of deliberate working. Chapter 8, by Clark, details these wooden objects which were interpreted originally as either having been shaped by tools or by fire. Clark makes a strong defence of this interpretation, but I suspect the jury is still out for the most part on these items, particularly since clearly shaped points and cut marks are absent. One clear area where more recent research has made a profound impact on the interpretation of the assemblages is in site formation. Chapter 7 by Schick makes it abundantly clear why the Acheulean and Sangoan surfaces cannot be considered undisturbed occupation horizons as they were originally believed to have been. Clark makes explicit reference to this throughout his chapters. But what I was not so clear about was whether the assemblages were in place but winnowed, had moved a little and were winnowed, or were far removed from their original place. It sows the seeds of doubt concerning the identification of hearths in the sediments (Clark advocates an ability to manage fire if not necessarily control and create it). Schick and her students searched extensively for refits but found none. (Curiously refits are mentioned elsewhere (A1/1956/V) but no further details are given!)

In looking back over this first part of Volume III, does it make the contribution that Clark wanted it to make? In terms of the big picture I would say yes - definitely. But in terms of detail and specifics (other than stratigraphic) I would have to say no. Not that it is wrong in these details, merely that the

results of the methodology used make it difficult to judge it fairly in comparison with more recent work.

The next six chapters go into detail on different aspects of the site's archaeology. These sections demonstrate clearly Clark's desire to see the data contribute meaningfully to the modern dialogue. They include senior scholars at the forefront of their discipline, as well as up and coming younger scholars whose work has already made a profound impact. (Chapter 7, by Schick, and chapter 3 by Taylor, Marchant, and Hamilton have already been discussed.) Chapters 9 - 12 deal with aspects of the stone tool assemblages and concentrate mostly on the Acheulean. In chapter 9 Derek Roe applies his world famous methodology to the morphology of the bifaces, picks, cleavers, and knives found in the Sangoan and in the Acheulean. Despite Roe's concerns that the research was conducted over twenty years ago the results are valid today. His method remains the most widely used system of comparing bifaces and cleavers between sites. Roe takes the opportunity to iron out some difficulties not addressed in the original work, and his shape diagrams are modified to deal with greater diversity. His researches suggest little difference in the overall pattern of the Acheulean between the different phases and sub-phases. Two other important conclusions from Roe's research are that raw material type (hard quartzite, soft quartzite, silicified mudstone - detailed by Clark and Kleindienst in chapter 2) does not really influence artefact morphology - they make what they want out of whatever they want. Additionally, real differences exist between the Acheulean bifaces and the Sangoan core axes. This is interesting as this conclusion is matched by a study on biface allometry by Gowlett, Crompton, and Yu (chapter 12). Allometry is the study of the influence of shape on size change. Their researches show the Kalambo Falls Acheulean bifaces are similar to other African Acheulean/late Acheulean sites when comparing biface shape with weight. But when the Sangoan is brought into the equation - these artefacts are clearly much thicker and heavier than they could be. The extra weight is seen as a deliberate response to function - ie, Clark's original

hypothesis about the Sangoan as a forest technology with heavy cutting tools is seen as a distinct possibility. You need heavy axes to chop down big trees.

Chapters 10 (Toth) and 11 (Edwards) are experimental chapters, the former on making big flake blanks to transform into bifaces and cleavers, the latter on the manufacture of the Kalambo Falls bifaces themselves. For me these were disappointing chapters; Toth's because it was too short - there were intriguing possibilities sketched out in brief but not developed. Edwards's chapter was the weakest in my opinion. Not because of any lack of ability or talent on the part of the researcher - quite the opposite, he clearly has bags of it. It suffered from a humanistic outlook that is in my opinion wholly unwarranted. Judgements based on the aesthetic qualities of bifaces are dangerous. Just what makes a human is a subject hotly debated in a number of disciplines not just archaeology. To what extent *Homo erectus* was able to express its humanity in its tools a question best left alone for the moment, we do not as yet know what to ask in these questions, let alone understand the answer.

The volume concludes with two useful overviews, an especially important one by Clark (chapter 13) on the site in its broader African ESA/MSA context, and one by Roe (chapter 14) fitting the site into its Old World Palaeolithic context. There are appendices on dating (D), possible patterns in the exploitation of vegetable foods (an intriguing appendix by Clark, A), clay eating (Clark appendix B), and materials used in the conservation of wood (C). There is a very short section on the analysis of lithic debitage from a small selected sample (appendix E) which appears almost to have been added as an afterthought.

Glancing back over the second part of the volume we can now ask of this section, and indeed of the volume as a whole, was Clark's ambition to make it contribute to contemporary understandings realised? Again, I think in terms of the big picture the answer to both is yes. There is a lot of thought provoking material here, a lot of new and stimulating ideas, and clarity concerning some of the older

issues. But the positive answer must also be a qualified one. There is a tension in the work that is not properly resolved, that of how far data analysed from the perspective of thirty to forty years ago can really contribute in a meaningful way, in particular the details of lithic analysis. This tension is not properly resolved, a situation of which I believe Clark was very conscious.

Many people will wish to see Volume III as the jewel in the crown - a fitting end to a glittering career. I think this would be a mistake, Clark's career was too big to be defined by just one site - even if it was Kalambo Falls. This is a volume more about

potential than anything else, that and setting the record straight. What is a fitting testament to Clark is that he refused to make Volume III just a historical description. He evidently wanted it to count towards today's archaeology, even if at times, in my opinion, it was not able fully to do so. Even more appropriate is the fact that it was dug and recorded in such a way that a new generation will one day return to his archive, look through his eyes and understand why he saw what he did in the way that he did, and then re-appraise the site with new eyes. Now that is a fitting testament to a great archaeologist.

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