Kalambo Falls

Site A and Site C of Kalambo Falls is of particular interest to our study of the Middle Stone Age in two respects. The evidence of this site demonstrates the Levalloisian technique of stone tool crafting; specifically, this type of stone knapping shows that tool makers were able to make flakes in a predictable manner, concerning shape and size. This type of stone tool construction is reflected in the stone industries of the Sangoan and Lupemban. The Sangoan Industry is characterized by heavy-duty core axes and picks, and the Lupemban is characterized by small core axes and lanceolates, as well as by light duty tools. The stratigraphic record at these sites does not reveal conclusively which type of industry is came first, although scholars initially supposed that the Sangoan is older. The second point of interest relates to the ways in which scholars, J.D. Clark in particular, assume that these industries were implemented. The heavy duty Sangoan tools were useful in woodworking. This assumption is related to the ancient paleogeographic context of Kalambo Falls in a woodland habitat, as well as the remains of wood at the site. (Sept, Class Notes, Weeks 11-12). These two points of interest are fundamental to our understanding of modern behavior, for the logical conclusion one can draw is the increased complexity of cultural dependency with the increased complexity of manufacture and variation. This question of cultural complexity will lead us to the discussion of Kalambo Falls that follows, at the particular sites of Sites A and C.

Kalambo Falls was excavated by J.D. Clark, who published a preliminary account of the site in 1954. He was accompanied by John and Lillian Hodges, Dr. N.J. van Warmelo, initially, and was aided by a number of individuals in subsequent years. The excavation began in 1956, from July 7 to October 10, and the sites excavated during this interval were Site A: one large, and two smaller excavations, and Sites B and D, at one excavation a piece. The excavations altogether consist of four major levels: A, B, C, D, and conducted over a period of fourteen years. Obviously, therefore, this was a major excavation, with many extensive studies done on various aspects of this cultural space.

The techniques utilized to carry out these excavations seem to be mainly: cleaning off the overlying sterile sands and clay, to expose the undisturbed surface of the floor of the sites, and later cleaning off what appeared to be disturbed. This enabled the archaeologists to determine the relationship of discovered materials (tools, factory waste, natural stone, and wood) which were subsequently cleaned and plotted.
The Kalambo Falls Prehistoric Site is located in the modern day country of Zambia, in Central Africa. It is "situated on the edge of Tanganyika (Tanzania) Escarpment, near the southeastern corner of Lake Tanganyika, at an altitude of 3772 feet" (Clark, p.1). The modern peoples and game populations of this site area often move across the area from the lake to higher (wetter) parts to lower parts, although this is not a good area for long-term occupation. Clark suggests a short-term stay was probably the case in the past, where the basin would have been a good place to stop in the travels of both man and animal into the Rift.

The elevated part of the area is known Tanganyika Plateau. Situated at an elevation of 4000 to 5000 feet above sea level; the plateau is characterized by ancient sandstone, quartzite, and shale, all of which have been exposed to extensive rifting, beginning in the Tertiary period, but most extensively during the Pleistocene. This rifting has produced deep troughs of Lake Tanganyika, Lake Malawi, and Lake Ruwuka, some found 2000 feet below the plateau (Clark, p. 2). The rifting of the plateau was contemporary with volcanic activity at the north end of Lake Malawi, which subsequently raised the surface of the plateau, which generated the Ufipa Highlands between the Ruwuka rift and Lake Tanganyika, on the southeast. The country at the southeast corner is the reflection of a number of geological processes, all which characterize this area as a dramatic terrain of sharp changes.

The plateau is a woodland habitat with many valleys that are seasonally swampy. The ancient environment would probably be a tropical forest habitat, characterized by a closed canopy, although the highlands would be covered with grass, which is a good area for cattle grazing and the like today. The Kalambo Falls basin is situated between two quartzite ridges, running parallel to the rift scarp. Today, the banks of the basin are covered with a scattering of Zyzigium trees. Overall, the environment sounds captivating, but this is not the only reason why fourteen years of excavation took place here. The sediments of the site reveal a continuum of cultural stages, a succession ranging from the Acheulian period to the present day. The Prehistoric Site of Kalambo Falls represents the most complete, stratigraphic cultural sequence from 60,000 years ago to the present, in this part of Africa. With this in mind, let us look at the sites themselves, A and C.

The high rainfall and clay content during the Pleistocene at Kalambo Falls is probably what destroyed the animal bones at the site, and yet preserved the vegetable remains. "Only at the river or stream beds do the deposits ever dry out sufficiently to destroy these organic remains completely and in the excavations the beds
are always damp enough from the surface down to preserve charcoal, and in lower portions, for wood and other plant remains to have survived in an excellent state of preservation” (Clark, 12).

At Site A, four different excavations, two test pits, and work on the River Face Cliff occurred, although the sites of interest to us are ones that demonstrated the Sangoan industry. First, the artifact groupings were divided on the basis of context: one, occupation on temporary surfaces, or two, in rubbles/gravels. The latter is accumulations of artifacts and debris which naturally occur, that mark channels of the river. These sites do not indicate that they were lived on by humans, although in a similar Lupemban contexts, he/she might have used this surface, when the land was exposed.

According to the Lithology of Excavation A1, the youngest bed in the section of the eastern wall of this site to show Sangoan remains is Bed 10, which is a rubble bed (Rubble Ib), with angular and subangular blocks, and abraded Sangoan and Lupemban artifacts. These artifacts were set in gray clay, and cut out through processes of erosion. Over the western and southern end of the excavation the sand and occupation floors had been cut out by channeling which dates to Sangoan times. At this level there were coarse and fine sands, some gravel lenses and clays, which form the basal deposits of the Ochereous Sands (Clark, 104). At the southeast corner of A1 there were black clays with white sands, and some large sections of tree trunks and wood fragments. Bed 15, was a coarse, grey sand which included a broken core axe and a unifacially flaked cobble of Sangoan/Acheulian types.

Of the lowest channel deposit that contained Sangoan artifacts was deposited in light brown to white sands which became more extensive from east to west. This sand was of a medium grain. In the eastern part, this sand preserved the Acheulian occupation floors, and rested again with the White Sand. This channel fill is called the Ochreous Sands, traced beyond the A4 trench. These areas, although leaving behind a minimal presence of lithic technology, revealed a presence of wood. The wood however shows little sign of manufacture. This wood revealed a date, by radio-carbon dating, of 43,000 years, which is within the time-frame called Sangoan. These levels represent minimal occupation,- all levels were quickly covered by these sands probably after a season or two of occupation. There is also evidence at A1 that the occupiers of this space had used it, at one time, for waterside camping locale. These various occupational spots were all temporarily used, and abandoned shortly thereafter, and yet reveal a dense collection of Sangoan artifacts. The A4 trench, a trench cut primarily for stratigraphic purposes, reveals another assemblage of Sangoan artifacts, as well as wood and associated artifacts lying on the lower black clay bed. The collection at the Pitts
Channel, for example, demonstrates, the Levalloisian technique with several flakes appearing with dorsal trimming. However, these artifacts are not as abundant in other areas of the trench, like Rubble II, as might be expected. Artifacts typologically assignable to all the Kalambo Falls cultural stratigraphic units might be expected; however, Acheulian and Sangoan types are rare, and the included cultural material seems to be, on typological grounds, late in the range of industries exhibiting prepared core methods. The artifacts cluster in the upper and lower stone concentrations in the pits, and are relatively scarce in the intervening sand lenses, indicating that they have naturally accumulated with the rubble. The cultural context of the Red Rubble Bed in the pits has therefore been grouped into that from the upper, and that from the lower portions. Most of the artifacts are at least slightly abraded, with nibbling and chipping on edges and aretes either from water transport or from inclusion in deposits, which makes utilization from human agency difficult to determine” (Clark, p.130).

The A5 and River Face Cliff excavations are other sites that yielded information about the Sangoan. The radio-carbon dates for Ochreous Sands site however do not comply with their stratigraphic context; those from the top of the A4 trench are older than those at the base of the A5. The dated fragments are root fragments of wood, which Clark says usually does not reflect the accurate date of the horizon in which they were found. However, the base may be as old as 50,000 years, and the top may be as young as 38,000 years. "If the C14 dates from A1 and A5 actually pertain to the lower part of the Ocherous Sands then the dates from the upper part of the White Sands in the A5 Extension and A4 suggest that a longer time interval is involved than is apparent geologically” (Clark, p.144). The uppermost layers that indicate an Acheulian industry at Kalambo Falls are discontinuous layers, separated by fine layers, separated by fine sands, where the clay from the eroded bed in A1 was traced to extension A5. (Clark, p.144). The Ocherous Sands that demonstrate the Sangoan industry and the White Sands demonstrate Acheulian artifacts does not seem to appear as a major erosion episode or as a major time break in the River Cliff or A4, although it is more evident at A1, at the southern part. Therefore, we cannot be sure of the distinction of the Sangoan from the Acheulian in such areas. Site A is important because of the evidence found at all of its levels, although for our specific purposes, there is nothing conclusive to be said about whether the Sangoan industry is derived from the Acheulian, for example. Furthermore, this site said little about the wood-working of ancient wood artifacts, as we might expect as a cultural change found during these times.

Site C yields information about the cultural context of artifacts in relation to rubble at the base of fluvatile sands. This site is situated on an erosion surface, "cut into cross-bedded, buff to ocherous sands which are probably the same as those under the
clays near the base of Site D section " (Clark, p.181). Site C provides an illustration of the Lupemban industry: core-axes with older material, i.e. a composite from Rubble I. Only 350 artifacts recovered, including eighteen shaped tools, and the incidence of the prepared core method is low. The blade and blade cores and dorsally prepared flakes with faceted striking platform (seven in all, since two of the utilized flakes have prepared platforms) and flat, discoid, prepared cores are of the upper Lupemban form, but, as at Site D, the parallel-sided and double ended core-axes and those with a core scraper edge worked on the butt, as well as the number of plain platformed flakes, show that a high proportion of the contents of the rubble belong to the lower Lupemban or to the Sangoan (Clark, p.181).

The sequence at Site C is made up of channel deposits, some of which are coarse cross-bedded sands. A layer of sand separates the rubble from the gravel that is with the artifacts, in some parts, and in other gravel is on the rubble. Four distinct rubble lines were located, although these do no relate to rubble site Rubble 1 at Site A. The artifacts found in the rubble lines are Lupemban. Also, small bits of charcoal was found in between rubble lines 2 and 3. It has been suggested, due to the nature of the streambed at the site, it is possible the site was used for living space, perhaps only temporarily.

Although there was a difference in tool-making, it certainly does not appear that with either the Sangoan or the Lupemban industries that a lot was going on as far as dynamic, punctuated events of cultural change. In fact, at Site A, the Acheulian and Sangoan artifacts were not always so easy to distinguish, and at Site C there doesn't seem to be a huge transition from the Sangoan. Thus, I am not so sure what this says about the increased modernity of the Middle Stone Age Peoples, as far as I can tell, the jury is still out.