

Deconstructing Olduvai: A Taphonomic Study of the Bed I Sites

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Has the Olduvai pendulum stop swinging? Following the initial account of Mary Leaky's excavation at Olduvai (1971), assessments of hominid activity have ranged from Binford's strong insistence that hominids at Olduvai Bed 1 were, at best, passive scavengers (1985) to Potts' meticulous argument that certain levels in Bed 1 did in fact give evidence that the hominids hunted the local fauna (1988). Thus, the pendulum has swung from pole to pole—passive scavenging to active hunting. Likewise, the evidence of the hominids' occupation of the site has gone from opportunistic and transitory (Binford again) to hominids' establishing "home bases" (Isaac 1976). In *Deconstructing Olduvai*, led by the well-known taphonomist, Domínguez-Rodrigo, the authors may have brought the pendulum to hover over active hunting and base camp presence at the FLK *Zinjanthropus* level.

Following initial chapters, the authors devote two data-loaded chapters to substantiate their forthright argument that at the FLK *Zinjanthropus* level, hominids "regularly enjoyed primary and almost exclusive access to fully fleshed carcasses. Further, it seems that FLK *Zinj* served as a focal point on the landscape to which hominids regularly transported and exploited carcasses" (pp. 99–100). Support for this sweeping conclusion is at variance with studies more recent than Binford's, including one published in 2003 that refers to the hunting hypothesis as "out-dated" (O'Connell et al. 2003). The authors attribute the radical difference principally to their "physical attribute" approach. They distinguish between actualistic studies that examine present-day kills for clues to Pliocene-Pleistocene remains, which most paleotaphonomists follow, and their broader "physical attribute" strategy which expands beyond the biotic processes to consider nonbiotic processes such as "weathering, abrasion, polishing, size sorting, and chemical modification" (p. 23).

For example, at FLK *Zinj*, fungi and bacteria produced tooth-like marks, and consequently, the number of tooth marks is far lower than other assessments. Subtracting marks that are due to weathering and abrasion, they find that percussion marks leave distinctive signatures that often parallel each other closely. Hominid cut marks leave a V-shape that often shows microstriations, especially when viewed through a pocket lens. Their work, consequently, shows indisputable evidence that hominids both occupied the level over a period of time and brought meat they hunted to eat at that location. Thus, at that level, they have falsified the hypothesis, pushed by Binford and others, of "carnivore-hominid-carnivore."

Other the other hand, the authors conclude that other levels, DK Levels 2–3, FKL Level 22, FXLNN 1–3, and FLKN 1–6 are, at best, temporal sequences of different remains, or palimpsests. At FLK North 6, for example, the famous "kill site" of an elephant, the modifier "kill" disappears to be replaced by "non-anthropogenic." The artifacts, they find, are few in number and widely scattered, even under the elephant's remains. Among the bones they cannot find a single classic V-shaped cut mark. When examining specimens that others identified as cut marks, they suggest abrasions were the more likely cause. The remaining levels of Bed 1, if they contain tools, are the separate remains of relatively brief activities of carnivores—principally lions, hyenas, leopards—and hominids. FLK North 1–2, to take one level of their meticulous examinations, offers evidence that carnivores contributed the vast majority of the bone assemblage, with hominids responsible for only a marginal amount and at different times than carnivores. (Parenthetically, their procedure apparently allows them to better distinguish the type of prey and the type of predator.) The same holds true for FLK North 3, 4, and 5.

Perhaps their conclusions concerning FLK North North levels constitute the ones most at variance with those arrived at by the Leakeys and later investigators. Four levels of increasing age make up FLK North North. Only Levels 1 and 3 showed evidence of hominid occupation, and both had earned the label "living floor." Level 3, in fact, contains the remains of *Homo habilis*. Both "living floors" the authors interpreted as palimpsests, i.e., the stone tools and *H. habilis*, although found together, may well have been deposited at different times. Of the final level, DK 1–3, only 2–3 warranted close scrutiny, but the conclusion there is likewise that "hominids played a very marginal role in the modification of the assemblage" (258–259).

So, the "present study provides new evidence that FLK *Zinj* was created as a result of hominids selecting a [central place] ... to which they transported carcasses [and raw materials]. . . for butchery" . . . "However this interpretation does not apply to any other Bed 1 site." (p. 269).

The book is clearly a cooperative endeavor. The authors credited with publication on the cover appear in different combinations, with Egeland the sole author of two chapters. They are joined by additional contributors listed in the front matter, Eliz Organista, Rafael Mora, and Igancio de la Torre, who individually assist in three chapters. Among the authors, three reside academically at Complutense University in Madrid, one at Universidad Autónoma de Barcelona, one at University College, London, and one at Indiana

University, Bloomington.

While Chapter 4, the geological and paleoecological overview, has useful maps and a simplified stratigraphy of Bed 1, nowhere is there a plan map showing the spatial locations of the various levels discussed in the text, DK Levels 2–3, FKL Level 22, FXLNN 1–3, and FLKN 1–6. So, the reader, having no place to anchor their mind, drifts from level to level—not a fortunate fate.

What does their clear argument for the defeat of the “carnivore-hominid-carnivore” hypothesis and its replacement with the hominid hunting and occupation indicate? Will the Olduvai pendulum resume its ticking and tocking? Given their employment of the “physical attribute” methodology, in addition to actualistic reasoning, my bet, albeit one laid down by a non-specialist, is that it has ticked its last tock.

However, the impact of the study to me personally is that FLK *Zinj* is a living floor, while FLK North North, Level 3, the location of the remains of *H. habilis*, is not. The authors, no doubt wisely, offer no comment, but fools and non-specialists—especially Redneck ones—enter where experts fear to tread. *Zinjanthropus bosiei* was originally designated by Louis Leakey as the creator of the tools which lay about him; I remember the great excitement we all felt with

this publication. With it, the dilemma of the Boasian model of separate cultural and biological strata was washed away. The two levels were now joined in a basic evolutionary trajectory—brain size, at the species level, increased as the brain adapted to the use of culture.

Of course, Leakey, with *Homo habilis*, went back to the older position that of brain size as the cause of culture, but the evolutionary trajectory suggests otherwise.

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