

Peninj: A Research Project on Human Origins (1995–2005)

Manuel Domínguez-Rodrigo, Luis Alcalà, and Luis Luque (eds.)

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Geographic areas such as South Asia, the Levantine Corridor, and the Balkans, are all now hotbeds of Lower Paleolithic research, and rightly so. Thanks to these projects we are starting to see the real diversity of so-called Mode 1 and Mode 2 industries, and to grasp just how successful they were as adaptive mechanisms. But, it is in East Africa that Domínguez-Rodrigo and his Spanish team are establishing new standards for scientific investigation of the Oldowan/Acheulian trajectory. This European version of the anglo-processual approach explicitly and unabashedly claims the middle-range as its methodology of choice, exuding an enthusiasm and confidence in interpretation that others seldom attempt.

Chapter 1 (Domínguez-Rodrigo and Alcalà) sets the stage for a landscape approach, citing various frames of reference, including ethnographic, experimental, taphonomic, geological, ecological, and biological. The authors' command of the literature goes well beyond routine citation, and includes much critical evaluation. They find common ground between seemingly contradictory studies (their discussion of Blumenshine versus Tappen on page 6 is a striking example), while identifying key areas upon which to focus future research. The chapter ends with a brief introduction to the Peninj region, and the research project as a whole.

Chapters 2 (Luque et al.) and 3 (Luque et al.) provide the geological context of the study region. These are tidy and well-assembled chapters, beginning with the Lake Natron area; then focusing on the Peninj Group as a whole; zooming into sub-units (e.g., Humbu and Moinik formations), and finally to even finer stratigraphic contexts. The figures in these are exceptionally helpful for non-geologists (such as this reviewer) to follow the complex space-time relationships. Chronological issues are discussed extensively throughout.

Chapter 4 (Domínguez-Rodrigo et al.) marks the start of archaeological analyses. In this chapter, the ST Site complex, located directly on the T1 Tuff, is given center stage. It appears to be a unique discovery in Early Pleistocene hominid research, revealing exceptional preservation over a large area—a true paleo-landscape. After detailing the excavation methods and data collection procedures, the authors describe individual sites within the complex. Verified with tables, statistics, and constant reference to middle-range research, their zooarchaeological analysis is candid and convincing—the burden is now on skeptics to empiri-

cally show that hominids did not have primary access to carcasses. The isotopic analysis presented in Chapter 5 (van der Merwe) nicely grounds the archaeological fauna from the T1 Tuff by situating them within “an open savanna, essentially grassland with very few trees. It likely resembled the modern Serengeti Plain” (p. 114).

Given a wealth of paleontological and archaeological finds, a thorough treatment of the ST4 site excavation and its artifacts rightly deserved its own chapter. Like the preceding two, Chapter 6 (Domínguez-Rodrigo et al.) is rich in data, and in middle-range references. The authors understand clearly that unmodeled taphonomic variables can skew direct comparisons between archaeological and referential frameworks; their conclusions are peppered with “might be” or “suggests.” Despite their interpretive caution, counts and distributions of cut-marks, tooth marks, percussion marks, skeletal part profiles, bone orientation, and context all appear to reflect active hominid transport and processing of fully fleshed carcasses. Indeed similar middle-range contexts reflect as much.

Chapter 7 (de la Torre and Mora) discusses the flaked stone artifacts found on the T1 Tuff. Artifact counts, toolstone types, platform details, and measurements are presented throughout the chapter, on a site by site basis. The authors make a substantial contribution in their designation of the technology as primarily discoidal in nature. When compared to the rest of the volume, the lack of middle-range references in this chapter is conspicuous, which occasionally results in interpretive leaps of faith. For instance, the authors argue that the unmodified toolstone found at sites was probably difficult for prehistoric knappers to manipulate due to “irregular morphology” and “vesicular texture” (p. 188). But without experimental demonstration that these two factors alter knapping results in comparison to other “ideal” nodule types, there is no empirical basis for this conclusion. Similarly, the claim that certain core reduction stages are preferred or exhausted simply because they appear more or less organized seems difficult to defend if there is no empirical or quantitative definition of what constitutes “preferred,” “exhausted,” or “organized.” Crucial data—the size/mass of the cores—are not presented, leaving unsubstantiated the linchpin claim that “unifacial centripetal cores are always larger, followed by the bifacial centripetal and multifacial cores” (p. 182). Nevertheless, these hiccups can be easily addressed in future work, and do not take away from a chapter that provides a wealth of interest-

ing and innovative hypotheses. While artistic renderings of some of the lithic tools are a bit nebulous (and perhaps unnecessary), the use of arrows for indicating flake scar direction on technical illustrations is clean and very informative.

Chapters 8 (Diez-Martin et al.), 9 (Domínguez-Rodrigo et al.), and 10 (Domínguez-Rodrigo et al.) report survey and excavation results from Acheulean sites in Peninj region. These chapters are comprehensive field reports detailing stone and bone artifact counts and descriptions, contextual data, and site patterning. The artifact photographs are excellent, the site photographs are revealing, and geological and stratigraphic figures are instructive. All of this permits preliminary conclusions at the end of each chapter, as well as data for comparisons with sites in other regions. Chapter 9 presents a bonus discussion of the well-known phytolith data found on stone tools from the PEES2 site, suggesting some sort of woodworking.

The complexity of behavior documented at Peninj is captivating, because it certainly implies active hunting, intricate knapping, and diverse land-use between 1.5 and 1.2 mya. This complexity is all the more remarkable because Domínguez-Rodrigo and colleagues present compelling links to tangible patterns in the present from those from the past. Throughout the volume the reader is dared to disbelieve, and tacitly encouraged to conduct and publish his/her own tests if something does not sit right. *Peninj* capitalizes on—and was only possible through—the countless East African taphonomic, geologic, and experimental studies that came before it, while pointing to many logical topics for future research. The authors have developed an inspiring methodology. It will be interesting to see the extent to which it is emulated not only in Early Stone Age studies, but in Paleolithic research in general.