The Acheulian Site of Gesher Benot Ya'aqov Volume IV: The Lithic Assemblages

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Gesher Benot Ya'aqov (GBY), an open-air, water-logged, Middle Pleistocene locality with excellent preservation and stratigraphy, is one of the world's most important Lower Paleolithic sites. Goren-Inbar et al. present the GBY's lithic assemblages in their fourth volume on the site (Volumes 1 [Goren-Inbar et al. 2002], 2 [Alperson-Afil and Goren-Inbar 2010], and 3 [Rabinovich et al. 2012] dealt with the wood assemblage, fire, and mammalian taphonomy, respectively). One cannot help but admire the GBY team's dedication to full, systematic publication of the excavations and data. The four volumes, when taken together, are a veritable site encyclopedia that, in a perfect world, would be produced for every major archaeological field research project.

Chapter 1 introduces the volume, the site, and the site's modern geography, climate, vegetation, fauna, and geology. Chapter 2 presents a brief history of the area surrounding GBY, and a detailed history of research at the site. This reviewer thoroughly enjoyed reading about all the major players' work at the site, including that by Dorothy Garrod, Moshe Stekelis, David Gilead, Naama Goren-Inbar, to name a few. Chapter 3 expands upon GBY's geography, geology, stratigraphy, and chronology. Here, the use of color images—which are present throughout the volume—is a boon for the reader's understanding of the site context. Chapter 3 also discusses the lithic raw materials used by hominins at the site, including basalt, flint, and limestone, as well as these toolstones' provenance, geographical distribution, and weathering. Chapter 4 is the last preparatory chapter, which describes field and laboratory methods used at GBY. This chapter is thorough—even presenting procedures for how stratigraphic cross-sections were drawn! The authors also explain their reasoning for using "3D technology" for illustrating the artifacts. This reviewer is currently less convinced that the time or cost of 3D scanning is worth the trouble unless a question actually requires it. While the 3D scans of artifacts presented throughout the volume do look nice, high-resolution photographs would have also served.

Chapter 5, 6, 7, and 8 present the core, so to speak, of the volume, reporting on the context of the lithic assemblages, the flint artifacts, the basalt artifacts, and limestone artifacts. These four chapters present data galore in 271 tables (!), and are almost entirely descriptive, resulting in inductive conclusions typical of excavation and assemblage site reports. Stone tool implements are mostly described as Bordes (1961) types, the use of which has been debated (and rightly criticized) *ad nauseam* elsewhere (e.g., Bisson 2000; Dunnell 1971). The presentation of the lithic artifacts by each raw material kind was an excellent idea—Chapters 6, 7, and 8 are reflections of each other that allow for easy comparison between toolstones. Indeed, any undergraduate or graduate class on quantitative methods could easily use these chapters' data in student problem sets.

Chapter 9 summarizes the lithic assemblage descriptions and sets forth the central conclusions of the authors. Among these, the principal finding that different lithic raw materials appear to been exploited by different reduction sequences and selected for different tools is quite interesting. And the authors point the way forward—likely towards an experimental approach—when they state "while we are now able to describe the reduction sequences of each of the raw materials and the particulars of their morpho-typo-technological characteristics, we are still far from a comprehensive understanding of the particular reasons for these selections" (page 402). I am not persuaded that the relationship between raw material and reduction sequence or tool type is due to the "different properties of each raw material" (page 402), as this direct relationship has been shown time and again to collapse when tested archaeologically or experimentally (see Eren et al. 2014 and references therein). Add in the ingredient of hominin knapping skill, however, and then I believe we will be getting somewhere. Other conclusions, such as those about knapping conservatism over time or percussor use, are more robustly supported.

With respect to volume presentation, beyond the excellent figure and table quality, the book is full of little conveniences. Seven appendices provide additional information and data, and a detailed index helps in the finding of specific details. And the authors and publishers made the book "user-friendly" in multiple ways. As one example, it did not go unnoticed by this reviewer that the same map of excavated areas was presented multiple times throughout the volume (e.g., Figures 3.12, 4.8, 5.10, 5.17), negating the need to flip back and interrupt one's reading to find the referenced figure. This same repeat presentation was also use for the schematic illustrations of reduction sequences.

On balance, Goren-Inbar et al.'s efforts have produced an achievement. And while this volume, along with the previous three, certainly contributes to our understanding of human evolution and Paleolithic archaeology, what most excites this reviewer has yet to be realized. By producing and publishing so much raw data, other researchers can

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explore GBY for themselves and more fully integrate it into the Lower Paleolithic world. In this sense, Goren-Inbar's work on GBY is not only an achievement, but a lasting one.

REFERENCES

Alperson-Afil, N. and Goren-Inbar, N. 2010. *The Acheulian Site of Gesher Benot Ya'aqov* Volume II: *Ancient Flames and Controlled Use of Fire*. New York: Springer.

Bisson, M.S. 2000. Nineteenth century tools for twenty-first century archaeology? Why the Middle Paleolithic typology of François Bordes must be replaced. *Journal of Archaeological Method and Theory* 7(1), 1–48.

Bordes, F. 1961. *Typologie du Paléolithique ancien et moyen*. Bordeaux: Imprimeries Delmas.

Dunnell, R.C. 1971. *Systematics in Prehistory*. The Free Press.

Eren, M.I., Roos, C.I., Story, B.A., von Cramon-Taubadel, N., and Lycett, S.J. 2014. The role of raw material differences in stone tool shape variation: an experimental assessment. *Journal of Archaeological Science* 49, 472–487.

Goren-Inbar, N., Werker, E., and Feibel, C.S. (eds.). 2002. *The Acheulian Site of Gesher Benot Ya'aqov* Volume I: *The Wood Assemblage*. Oxford: Oxbow Books Limited.

Rabinovich, R., Gaudzinski-Windheuser, S., Kindler, L., and Goren-Inbar, N. 2012. *The Acheulian Site of Gesher Benot Ya'aqov* Volume III: *Mammalian Taphonomy*. New York: Springer.