

ABSTRACT OF THE DISSERTATION
A Landscape Perspective on the Oldowan
from Olduvai Gorge, Tanzania
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The Oldowan Industrial Complex is the oldest known stone tool technology dating from around 2.6 -1.6 Mya. The lithic artifacts recovered by Mary and Louis Leakey during their 1960-1963 excavations at Olduvai Gorge, Tanzania define the technology, which is typically thought of as simplistic. The first new sample of lithic artifacts to be recovered from Olduvai Gorge in over three decades is described. A systematic technological analysis of the artifacts grouped by spatially discrete landscape groupings revealed variation in assemblage characteristics between spatial groupings. Different production modes and production techniques are identified in synchronous lithic assemblages in the Olduvai Sub-basin, suggesting that variable production modes and production techniques are part of what defines behavioral or regional variants within an Industrial Complex.

The landscape scale of the sample lends itself to behavioral interpretations concerning issues of land use and technological organization that are not achievable with a more spatially restricted

sample. Examining the possible impact that varying scales of investigation may have upon a study, two different scales of investigation were applied. Different types of behaviors are visible on different spatial scales. Raw material diversity is more apparent on a broader spatial scale, technological diversity is more apparent on a narrower scale. This may be an indication of the relationship of technological strategies to resource distribution and that technological selection occurs on a scale commensurate with plant and animal resource and risk distribution.

In an attempt to explain the variability evidenced by the spatial distribution of Oldowan artifacts on a landscape scale, models are formulated to explain the spatial distribution of artifact assemblages and are tested against the archaeological record for goodness of fit. The results and implications suggest that the Oldowan is not solely the simplistic technology it has been perceived as, but rather a mosaic of technological strategies, and that simple behavioral models cannot accurately account for the complexity of the Oldowan, which lies in its integration with landscape ecology.