Contents

Tables ........................................ page ix
Figures ....................................... xi
Contributors .................................. xiii

Introduction ......................................... 1
  1 Toward a scientific-realistic theory on the origin of human behavior ................. 11
     Manuel Domínguez-Rodrigo

PART I. ON THE USE OF ANALOGY I: THE EarLIEST MEAT EATERS

  2 Conceptual premises in experimental design and their bearing on the use of analogy: A critical example from experiments on cut marks ................................................................. 47
     Manuel Domínguez-Rodrigo

  3 The use of bone surface modifications to model hominid lifeways during the Oldowan ................................................................. 80
     Charles P. Egeland

  4 On early hominin meat eating and carcass acquisition strategies: Still relevant after all these years? ......................................................... 115
     Karen D. Lupo

  5 Meat foraging by Pleistocene African hominins: Tracking behavioral evolution beyond baseline inferences of early access to carcasses ......................................................... 152
     Travis Rayne Pickering and Henry T. Bunn
## Table of Contents

**PART I. ON THE USE OF ANALOGY I: THE PREHISTORIC PAST**

6 Can we use chimpanzee behavior to model early hominin hunting? ....................................... 174
   *Travis Rayne Pickering and Manuel Domínguez-Rodrigo*

**PART II. ON THE USE OF ANALOGY II: THE EARLIEST STONE TOOLMAKERS**

7 The origins of the Oldowan: Why chimpanzees (*Pan troglodytes*) still are good models for technological evolution in Africa. ....... 201
   *Susana Carvalho and William McGrew*

8 What does Oldowan technology represent in terms of hominin behavior? ...................................... 222
   *David R. Braun*

9 Testing cognitive skills in Early Pleistocene hominins: An analysis of the concepts of hierarchization and predetermination in the lithic assemblages of Type Section (Peninj, Tanzania). ..... 245
   *Fernando Diez-Martín, Felipe Cuartero, Policarpo Sánchez Yustos, Javier Baena, Daniel Rubio, and Manuel Domínguez-Rodrigo*

10 The Early Acheulean in Africa: Past paradigms, current ideas, and future directions .............................. 310
   *Fernando Diez-Martín and Metin I. Eren*

**Index** 359
## Tables

1.1. Principal elements for a definition of human behavior .......................... page 15
1.2. A proposed theory for the origin of human behavior ..................... 17
1.3. Hypotheses and their testing premises composing the theory of the emergence of human behavior ................................................... 18
1.4. Refined description of concepts contained in factual hypotheses ..... 30
2.1. Interpretations of the methodological utility of cut marks and of the data on these bone surface modifications from east African Plio-Pleistocene sites ............................................. 52
9.1. Description of several variables used for the analysis of the Peninj lithic material .......................................................... 250
9.2. List and brief description of the replicated experiments for the study of the Peninj materials ...................................................... 254
9.3. List of hammerstones used for the experimental replication in the Peninj study .......................................................... 255
9.4. Variables used in the Peninj experimental program ....................... 256
9.5. Schematic reconstruction of the various reduction models of cores in the Peninj experimental research ........................................ 257
9.6. Mean values of the three lithic samples in the Peninj study .......... 267
9.7. Coefficients of discriminants in the Peninj archaeological and experimental collections .......................................................... 272