LITHIC TECHNOLOGICAL SYSTEMS AND
EVOLUTIONARY THEORY

Stone tool analysis relies on a strong background in analytical and methodological techniques. However, lithic technological analysis has not been well integrated with a theoretical approach to understanding how humans procured, made, and used stone tools. Evolutionary theory has great potential to fill this gap. This collection of essays brings together several different evolutionary perspectives to demonstrate how lithic technological systems are a byproduct of human behavior. The essays cover a range of topics, including human behavioral ecology, cultural transmission, phylogenetic analysis, risk management, macroevolution, dual inheritance theory, cladistics, central place foraging, costly signaling, selection, drift, and various applications of evolutionary ecology.

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CONTENTS

List of Figures and Tables  page vii
Contributors  xiii
Acknowledgments  xvii
Preface  xix

PART I LITHIC TECHNOLOGICAL SYSTEMS AND EVOLUTIONARY THEORY
1 INTERPRETING LITHIC TECHNOLOGY UNDER THE EVOLUTIONARY TENT  3
William Andrefsky, Jr., and Nathan Goodale

PART II CULTURE HISTORY AND PHYLOGENETIC EVOLUTION
2 GRAPHING EVOLUTIONARY PATTERN IN STONE TOOLS TO REVEAL EVOLUTIONARY PROCESS  29
R. Lee Lyman

3 THEORY IN ARCHAEOLOGY: MORPHOMETRIC APPROACHES TO THE STUDY OF FLUTED POINTS  48
Michael Shott

4 INNOVATION AND NATURAL SELECTION IN PALEOINDIAN PROJECTILE POINTS FROM THE AMERICAN SOUTHWEST  61
Todd L. VanPool, Michael J. O’Brien, and R. Lee Lyman

PART III APPLICATIONS OF BEHAVIORAL ECOLOGY TO LITHIC STUDIES
5 A CASE OF EXTINCTION IN PALEOINDIAN ARCHAEOLOGY  83
Charlotte Beck and George T. Jones

6 THE NORTH CHINA NANO LITHIC  100
Robert L. Bettinger, Christopher Morgan, and Loukas Barton
CONTENTS

7 WHEN TO RETOUCH, HAFT, OR DISCARD: MODELING OPTIMAL USE/MAINTENANCE SCHEDULES IN LITHIC TOOL USE 117
Chris Clarkson, Michael Haslam, and Clair Harris

8 PROCUREMENT COSTS AND TOOL PERFORMANCE REQUIREMENTS: DETERMINING CONSTRAINTS ON LITHIC TOOLSTONE SELECTION IN BAJA CALIFORNIA SUR 139
Jennifer M. Ferris

9 A MODEL OF LITHIC RAW MATERIAL PROCUREMENT 156
Raven Garvey

10 ARTIFACTS AS PATCHES: THE MARGINAL VALUE THEOREM AND STONE TOOL LIFE HISTORIES 172
Steven L. Kuhn and D. Shane Miller

11 SIGNALS IN STONE: EXPLORING THE ROLE OF SOCIAL INFORMATION EXCHANGE, CONSPICUOUS CONSUMPTION, AND COSTLY SIGNALING THEORY IN LITHIC ANALYSIS 198
Colin P. Quinn

PART IV CULTURAL TRANSMISSION AND MORPHOLOGY

12 AN ANALYSIS OF STYLISTIC VARIABILITY OF STEMMED OBSIDIAN TOOLS (MATA’A) ON RAPA NUI (EASTER ISLAND) 225
Carl P. Lipo, Terry L. Hunt, and Brooke Hundtoft

13 CULTURAL TRANSMISSION AND THE PRODUCTION OF MATERIAL GOODS: EVOLUTIONARY PATTERN THROUGH MEASURING MORPHOLOGY 239
Nathan Goodale, William Andrefsky, Jr., Curtis Osterhoudt, Lara Cueni, and Ian Kuijt

14 WHAT STEWARD GOT RIGHT: TECHNOLOGY, WORK ORGANIZATION, AND CULTURAL EVOLUTION 253
Nathan E. Stevens

15 EVOLUTION OF THE SLATE TOOL INDUSTRY AT BRIDGE RIVER, BRITISH COLUMBIA 267
Anna Marie Prentiss, Nathan Goodale, Lucille E. Harris, and Nicole Crossland

Index 293
FIGURES AND TABLES

FIGURES

2.1. The transformational model and the variational (Darwinian) model of evolution page 31
2.2. Darwin’s (1859) model of evolutionary pattern 32
2.3. Fred Plog’s (1973) “seriogram” graph of continuous cultural change 33
2.4. Two illustrations of the relationship between projectile point forms and the stratigraphy of Mummy Cave 35
2.5. Percentage stratigraphy graph of 27 projectile point types across 9 stratigraphic units at Mummy Cave 37
2.6. Clade-diversity graph for the Mummy Cave projectile points 38
2.7. Measurement values for each of five variables for all individual points regardless of type per stratigraphic unit at Mummy Cave 39
2.8. Central-tendency graph of the mean for all points regardless of type per stratigraphic unit at Mummy Cave 41
2.9. Central-tendency graph of the mean (vertical line) and one standard deviation (box) for all points regardless of type per stratigraphic unit at Mummy Cave 42
2.10. Coefficient of variation per attribute for all points regardless of type per stratigraphic unit at Mummy Cave 43
3.1. Regression residual of lnLength upon principal component 1, plotted against reduction measure lnLT in Folsom replicas 57
4.1. Models of stimulated variation resulting from (a) increased interaction among members of two or more previously distinct cultural systems and (b) a rapidly shifting selective environment 63
4.2. The influence of stabilizing selection on variation of a culture trait over time 64
4.3. The influence of directional selection on variation of a culture trait over time 64
4.4. The influence of disruptive selection on variation of a culture trait over time 65
4.5. The influence of a shifting selective environment on variation of a culture trait within a population 66
4.6. Development of “adaptive peaks” resulting from selection operating on increased variation associated with stimulated variation 68
4.7. Expectations of the model of initial stimulated variation and subsequent reduction of variation applied to Paleoindian projectile points 70
4.8. Cumulative corrected coefficients of variation for point length and maximum width for Blackwater Draw projectile points 72
4.9. Illustration of the dimensions and attributes recorded for the points in the Eichenberger cast collection 76
4.10. Cumulative corrected coefficients of variation for the eight metric attributes recorded for Paleoindian points represented in the Eichenberger cast collection 77
5.1. Model of proposed movements of Western Stemmed (from west to east) and Clovis (south to west and north) populations 86
5.2. Measurements, attributes, and landmarks of Clovis blades 88
5.3. Distribution of prismatic blades 89
5.4. Distribution of Clovis caches 90
5.5. The relationship between the time spent in the manufacture of a tool and its utility 93
5.6. Curve-estimate model for finding time thresholds at which an optimal forager will switch to a different technological alternative 93
5.7. Locations of high-quality toolstone sources on the Great Plains 95
6.1. Relationship between two technologies 103
6.2. Relationship between two mutually viable technologies 104
6.3. Relationship between manufacturing time and return rate 105
6.4. Location of the Dadiwan site in relation to the five early millet farming complexes of North China 107
6.5. Stratigraphic distribution of major Dadiwan technologies by density per cubic meter 109
6.6. Flake-and-shatter quartz technology 110
6.7. Microblades 111
6.8. Microblade cores showing all specimens recovered from site 112
6.9. Height (platform to base) of complete cryptocrystalline microblade cores 113
6.10. Relationships between size and cryptocrystalline fraction of lithic assemblages 114
7.1. Examples of the experimental tools used in the experiments 120
7.2. Experimental results showing the asymptotic nature of the declining gain curve over 10,000 strokes for all three experimental tool types 122
7.3. Confidence intervals for gain rate for each tool type over the first 2000 strokes 123
7.4. Relative performance declines for each tool type at 200-stroke intervals 124
7.5. Model showing the effect of different manufacturing time (T) on overall gain rate 125
7.6. Model predictions for when to discard each tool type given different known manufacturing times 126
7.7. The effects of maintenance time as well as manufacturing time on gain rate and overall efficiency as represented by the slope of the tangent 127
FIGURES AND TABLES

7.8. Mean cumulative weight of wood removed per 1000 strokes (left y-axis), and mean cumulative weight lost from unretouched flakes per 1000 strokes (right y-axis) 130

7.9. Mean cumulative rate of increase in step terminated scars for the 3 cm used edge (left y-axis) and mean edge rounding rank for the utilized edge (right y-axis) 130

7.10. Average increases in edge angle (in degrees) over the course of the experiment for retouched and unretouched edges 131

7.11. Comparison of edge rounding (upper) and stepped scar formation (lower) on unhafted (broken line) and hafted (solid line) unretouched scrapers 132

8.1. Map of Baja California peninsula 142

8.2. Map of Espíritu Santo Island 143

8.3. Bar chart displaying percentages of flake types for rhyolite (type 1) and chert/quartzite (type 2) 146

8.4. Line graph of complete flake size grade percentages 147

8.5. Line graph of complete flake reduction trajectory 148

8.6. Line graph displaying proportions of edge damage patterns for utilized flake tools by material type 150

8.7. Line graph displaying microchip configuration proportions for edge damage of utilized flake tools by material type 151

9.1. Basic model for establishing the critical use time 163

9.2. The Atuel River drainage, Mendoza Province, Argentina 164

10.1. The marginal value theorem in graphic form 175

10.2. Range of hypothetical artifact utility trajectories 179

10.3. Reformulated MVT 180

10.4. Optimal number of uses after which an artifact should be abandoned, as a function of maximum potential yield and artifact cost. (a) Artifact cost = 10. (b) Artifact cost = 25. (c) Artifact cost = 50. Criterion value for abandonment = average potential yield over entire potential lifetime of artifact (20 uses) - cost 182

10.5. Optimal number of uses after which an artifact should be abandoned, as a function of maximum potential yield and artifact cost. (a) Artifact cost = 10. (b) Artifact cost = 25. (c) Artifact cost = 50. Criterion value for abandonment = average potential yield over first 10 uses of artifact-cost. 183

10.6. Plots of length versus body width for complete fluted points from Tennessee 188

11.1. Signaling theory, the fitness continuum, and the relationship between costly and non-costly signals 206

11.2. A general framework for studying costly signaling behavior with material culture 208

12.1. The Pacific Islands, showing Rapa Nui on the remote southeastern edge 226

12.2. Examples of mata’a from Rapa Nui assemblages 227

12.3. Location of mata’a assemblages on Rapa Nui used in this analysis 229

12.4. Mata’a measurements and class divisions 230

12.5. Mata’a class dimensions 231
12.6. Seriation solution for mata’a classes comprised of stem length/width ratios and shoulder angle measures 232
12.7. Seriation groups for mata’a classes comprised of stem length/width ratios and shoulder angle measures 233
12.8. Seriation solution for classes of mata’a constructed with measures of stem length and width 233
12.9. Seriation groups for classes of mata’a constructed with measures of stem length and width 234
12.10. Seriation solution for qualitative classes of mata’a consisting of stem shape and shoulder shape dimensions 234
12.11. Seriation groups for qualitative classes of mata’a consisting of stem shape and shoulder shape dimensions 235
12.12. Spatial distributions of the mata’a seriation groups on Rapa Nui 236
13.1. Dalton point reduction through use, resharpening, and repair 241
13.2. Map of the southern Levant and early Neolithic sites 242
13.3. An example of an el-Khiam notched point 243
13.4. Direct measurements taken for the NPMI 244
13.5. Image J software plug-ins for NPMI programming 245
13.6. Hierarchical cluster analysis results 246
13.7. Several of the statistically significant clusters 247
13.8. Projectile points made by Ishi 248
14.1. Proposed relationships among behavior, technology, and tradition 257
14.2. Locations of California Central Coast archaeological sites 258
14.3. Proportions of multifunctional tools in California Central Coast assemblages 258
14.4. Changes in California Central Coast ground stone technology throughout the Holocene 259
15.1. Major archaeological sites in the Middle Fraser Canyon 272
15.2. Bridge River site with excavation grid superimposed 273
15.3. History of housepit occupations at the Bridge River site 274
15.4. Stratigraphic profile of Area 1 in Housepit 54 (Stratum V = roof, III = rim, II = floors) 275
15.5. Housepit 24 stratigraphic profile (V = roof, III = rim, II = floor) 275
15.6. Three (left) and four (right)-sided slate tools from Bridge River 277
15.7. Ratio of total slate tools (TST) to excavated volume (V) (Table 15.2 volume/10,000) 281
15.8. Percentages of sawed and chipped tools from BR 2 and 3 contexts at Bridge River 281
15.9. Percentages of ground (G) and not ground (NG) tools during BR 2 and 3 occupations at Bridge River 281
15.10. Total saved and ground slate tools (TSGST) by volume (V) (Table 15.2 volume/10,000) 282
15.11. Number of slate tools (N) per unit of excavated sediment 282
15.12. Percentages of sawed and not sawed tools during BR 2 occupations at Bridge River 283
15.13. Ratio of total sawed edge (TSE) to total edge (TE) for all slate tools in BR 2 occupations 283
FIGURES AND TABLES

15.14. Number of slate tools (N) per unit of excavated sediment (V) (Table 15.2 volume/10,000) 283
15.15. Percentage of sawed and not sawed tools from BR 3 occupations at Bridge River 283
15.16. Percentages of ground (G) and not ground (NG) tools from BR 3 occupations 284
15.17. Ratio of sawed and ground slate tools (SGST) to total slate tools (TST) in BR 3 housepits 284
15.18. Ratio of sawed edge length (TSE) to number of tools (N) with sawed margins 285
15.19. Ratio of total sawed edge (TSE) to total edge (TE) for all slate tools in BR 3 housepits 285
15.20. Ratio of total sawed edge (TSE) to total edge of slate tools only (TEST) 285
15.21. Change in percentages of three- and four-sided tools across BR 2 and 3 occupations 286
15.22. Percentages of three- and four-sided tools in BR 3 occupations at Bridge River 287

TABLES

2.1. Frequencies of projectile points used in analyses and age per stratum at Mummy Cave 34
4.1. Summary information for point length and maximum width for Blackwater Draw projectile points 72
4.2. Cultural-historical types and provenience locations for Paleoindian points in the Eichenberger cast collection 73
4.3. Characters and character states used in the paradigmatic classification 74
4.4. Summary information for the metric attributes of Paleoindian points in the Eichenberger cast collection 75
6.1. Dadiwan site components 110
7.1. Details of individual specimens used in the experiment 120
8.1. Proximal flake cortex frequency 145
8.2. Flake type frequency 146
8.3. Tool categories included in the richness index 149
10.1. Results of Pearson’s correlations between length and body width for six Paleoindian point types from Tennessee 187
10.2. Descriptive statistics for basic shape measurements for six Paleoindian point types from Tennessee 189
11.1. Variables that archaeologists can study within the generalized framework to identify and explain material culture–based costly signaling behavior in the past 208
15.1. Slate tool data (counts based on manufacture attributes) 280
15.2. Slate tool data (summed margin length measurements [cm]) and excavated volume (cubic cm) 280
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The editors would like to acknowledge and thank the late George H. Odell, an old friend and inspiration to researchers studying lithic technological systems around the globe.
This volume is an outgrowth of a symposium organized for the 74th Annual Society for American Archaeology meeting in Atlanta, Georgia, titled Evolutionary Approaches to Understanding Stone Technologies as a Byproduct of Human Behavior. The purpose of the symposium and this volume is to demonstrate the connection between lithic analysis and a body of theory to guide interpretations of past human behavior in studies of lithic technological systems. The hope we had for this volume stemmed from the original symposium and to capture the state of the field of lithic technological organization incorporating a body of theory for guiding interpretation. We view evolutionary theory very broadly and understand that others may have a much narrower view. With this in mind we invited scholars with diverse perspectives on evolutionary thought who also used lithic technological systems as a medium of analysis. Our vision was to begin a conversation about interpreting past human behavior derived from lithic artifacts interpreted through a very wide variety of evolutionary approaches. In doing so we hope that the diverse perspectives on evolutionary thought might be viewed as compatible or complementary rather than exclusionary.

The authors of the various chapters in this volume represent some of the most respected scholars as well as many young contributors to the field of lithic analysis and evolutionary archaeology. We selected this field of scholars in hopes of bringing different perspectives from existing researchers together under one cover and simultaneously adding new opinions on lithics and evolution from an up-and-coming generation of archaeologists.

This book contains many of the same papers that were presented in the original symposium. Although we lost a few authors along the way, we also gained new participants during the journey toward publication. We would like to thank all of the participants in that session and especially those who contributed their ideas, methodologies, and interpretations to be included in this volume.