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978-1-107-02646-9 - Lithic Technological Systems and Evolutionary Theory

Edited by Nathan Goodale and William Andrefsky

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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.

Nathan Goodale is Assistant Professor of Anthropology at Hamilton College. He is the author of articles and book chapters dealing with lithic technology and evolutionary theory in several journals and edited volumes, including *Evolution: Education and Outreach*, *American Antiquity*, *Journal of Archaeological Science*, *Complex Hunter-Gatherers* (2004), and *Lithic Technology* (Cambridge University Press, 2008).

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PREFACE

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.