WORLD PREHISTORY AND ARCHAEOLOGY

PATHWAYS THROUGH TIME

WORLD PREHISTORY AND ARCHAEOLOGY

PATHWAYS THROUGH TIME

THIRD CANADIAN EDITION

MICHAEL CHAZAN
UNIVERSITY OF TORONTO

PEARSON
Toronto

Editor-in-Chief: Michelle Sartor
Sponsoring Editor: Joel Gladstone
Marketing Coordinator: Ariel Kroon
Project Manager: Marissa Lok
Senior Developmental Editor: Paul Donnelly
Media Editor: Lila Campbell
Media Producer: Simon Bailey
Production Services: Mohinder Singh/Aptara®, Inc.
Permissions Project Manager: Daniela Glass
Photo Permissions Research: Stephen Merland, PreMediaGlobal
Text Permissions Research: Anna Waluk, EPS
Art Director: Zena Denchik
Cover Designer: Suzanne Duda, Central Design
Interior Designer: Miguel Acevedo
Cover Image: Comb, Canadian Museum of Civilization, GbTo-23:850, S88-838

Credits and acknowledgments for material borrowed from other sources and reproduced, with permission, in this textbook appear on the appropriate page within the text.

10 9 8 7 6 5 4 3 2 1 [WC]

Library and Archives Canada Cataloguing in Publication

Chazan, Michael
World prehistory and archaeology: pathways through time/Michael Chazan.—Third Canadian edition.
Includes bibliographical references and index.
ISBN 978-0-205-89670-7 (pbk.)

1. Prehistoric peoples—Textbooks. 2. Anthropology, Prehistoric—Textbooks.
3. Archaeology—Textbooks. I. Title.

GN470.C43 2013 930.1 C2013-905672-6

PEARSON

ISBN 978-0-205-89670-7

FOR **MICHELLE**

BRIEF CONTENTS

PART ONE

THE PAST IS A FOREIGN COUNTRY: GETTING FROM HERE TO THERE 2

CHAPTER 1 **GETTING STARTED IN ARCHAEOLOGY 6**

CHAPTER 2 **PUTTING THE PICTURE TOGETHER 32**

PART TWO

HUMAN EVOLUTION 56

CHAPTER 3 **EARLY HOMININS 64**

CHAPTER 4 **FROM *Homo erectus* TO NEANDERTHALS 90**

CHAPTER 5 **THE ORIGIN OF MODERN HUMANS 118**

CHAPTER 6 **THE PEOPLING OF AUSTRALIA AND THE NEW WORLD 148**

PART THREE

PERSPECTIVES ON AGRICULTURE 180

CHAPTER 7 **TOWERS, VILLAGES, AND LONGHOUSES 190**

CHAPTER 8 **MOUNDS AND MAIZE 216**

CHAPTER 9 **A FEAST OF DIVERSITY 240**

PART FOUR

THE DEVELOPMENT OF SOCIAL COMPLEXITY 262

CHAPTER 10 **COMPLEXITY WITHOUT THE STATE 270**

CHAPTER 11 **CITIES, PYRAMIDS, AND PALACES: Early States of Mesopotamia, Egypt, and the Aegean 302**

CHAPTER 12 **LOCATING THE SOURCE OF AUTHORITY: Early States in Asia 338**

CHAPTER 13 **FROM CITY TO EMPIRE: Social Complexity in Mesoamerica 362**

CHAPTER 14 **BRINGING THE FOUR PARTS TOGETHER: States and Empire in the Andes 394**

EPILOGUE **BRINGING IT BACK HOME** 418

APPENDICES 427

GLOSSARY 434

REFERENCES 442

NAME INDEX 464

SUBJECT INDEX 469

CONTENTS

List of Boxed Features xv
Preface xvii
About the Author 1

PART ONE

THE PAST IS A FOREIGN COUNTRY: GETTING FROM HERE TO THERE 2

Introduction: Questions of Time and Ethics 3

1 GETTING STARTED IN ARCHAEOLOGY 6

1.1 Reading the Landscape 8
Survey Design 8
Geological Factors 9
Recovery Methods and GIS 9

1.2 Excavation 10
Horizontal Excavation 11
Vertical Excavation 12
Controlling Horizontal and Vertical Space 14
Recovery Methods 16
Recording Methods 17

1.3 Artifacts and Ecofacts 17

▲ **FROM THE FIELD:** The Author on His Fieldwork at Wonderwerk Cave, South Africa 18

1.4 Biases in Preservation 19

▲ **CANADIAN RESEARCH:** Arctic Explorers of the Nineteenth Century 20

1.5 Quantification and Sampling 20
Counting Bones 21
Counting Artifacts 22

1.6 Creating a Chronology 23

● **TOOLBOX:** Ethnoarchaeology 24

1.7 Comparison 26

● **TOOLBOX:** Radiocarbon Dating 27

1.8 Conservation and Display 28

1.9 Cultural Resource Management 28

● **ARCHAEOLOGY IN THE WORLD:** Community Archaeology 29

Summary 30 *Key Terms 30*
Review Questions 30
Canadian Archaeologists 30

2 PUTTING THE PICTURE TOGETHER 32

2.1 Origins of Archaeology 34

● **ARCHAEOLOGY IN THE WORLD:** A Brief History of Canadian Archaeology 36

2.2 The Emergence of Archaeology 37
Organizing Time 37
The Establishment of Human Antiquity 37
Imperial Archaeology 38

2.3 Developing Method and Theory 39
Stratigraphic Method and Culture History 39
V. Gordon Childe 40

▲ **CANADIAN RESEARCH:** Ste. Marie Among the Hurons 41

2.4 Archaeology as Science 42
Developing Scientific Methods 42
The New Archaeology 42
Systems Theory 44
Cultural Resource Management 44

● **TOOLBOX:** Faunal Analysis and Taphonomy 46

2.5 Alternative Perspectives 46
Postprocessual Archaeology 47
Gender and Agency 49

● **TOOLBOX:** Archaeoacoustics 50

▲ **FROM THE FIELD:** Why Do I "Do" Archaeology?, by Joe Watkins 51
Evolutionary Archaeology 52

2.6 Archaeology at the Trowel's Edge 52

Summary 54 *Key Terms 54*
Review Questions 54
Canadian Archaeologists 55

PART TWO

HUMAN EVOLUTION 56

Introduction: Our Place in Nature 57

3 EARLY HOMININS 64

3.1 The Fossil Record 66
The Early Hominin Radiation 67

3.2 Setting the Scene 69
The East African Rift Valley 69
● **ARCHAEOLOGY IN THE WORLD:** Fraud—Piltdown and Kama-takamori 70
Lower Paleolithic 71

▲ **FROM THE FIELD:** Early Hominins in the Nihewan Basin, by Chen Shen 72
● **TOOLBOX:** Stone Tools 74

3.3 The Origin of Tool Use 75
Tool Use by Animals 75
▲ **CANADIAN RESEARCH:** Primate Tool Use 77
The Archaeological Evidence 77

3.4 Hunting and Sharing Food 78
Were They Hunters? 79
● **TOOLBOX:** Dating Early Hominin Sites 80
Living Floors and Base Camps 83
The Use of Fire 85

3.5 The Expansion of the Hominin World 86
Ubeidiya and Dmanisi 86
East Asia 87
Summing Up the Evidence 88
Summary 88 *Key Terms* 89
Review Questions 89
Canadian Archaeologists 89

4 FROM *Homo erectus* TO NEANDERTHALS 90

4.1 Defining the Ice Age 92

4.2 Before the Neanderthals 94
The Initial Occupation of Western Europe 94
The Acheulian in Europe and Asia 94
Beyond Stone Tools 97
▲ **CANADIAN RESEARCH:** Davidson Black and Zhoukoudian 97

4.3 Neanderthals 99
Neanderthal Genetics 101
Chronology and Ecology 102
● **ARCHAEOLOGY IN THE WORLD:** Religion and Evolution 103

4.4 Aspects of Neanderthal Culture and Adaptation 104
Stone Tools 104
Hunting 108
● **TOOLBOX:** *Chaîne Opératoire* and the Levallois Method 109
Site Organization and the Use of Fire 111
Treatment of the Dead 111
● **TOOLBOX:** Geoarchaeology and Micromorphology 112
Artwork 113

▲ **FROM THE FIELD:** Understanding the Neanderthal Way of Life, by Ariane Burke 114
Neanderthal Society 114
Summary 116 *Key Terms* 117
Review Questions 117
Canadian Archaeologists 117

5
THE ORIGIN OF MODERN HUMANS 118

5.1 What Is a Modern Human? 120

5.2 Early Modern Humans in Africa 121
The African Middle Stone Age 121
Comparing the Middle Stone Age and the Middle Paleolithic 125

5.3 Early Modern Humans in the Middle East 125
The Archaeological Record 126
Chronology 126
Assessing the Middle Eastern Pattern 126
● **TOOLBOX:** Luminescence Dating 127

5.4 The Arrival of Modern Humans in Europe and the Fate of the Neanderthals 128
The Fossil Record 129
Genetic Evidence 129
● **ARCHAEOLOGY IN THE WORLD:** Modern Human Origins and Questions of Race 130
Archaeological Evidence 131
The Last Neanderthals 132
Summing Up the Evidence 132

5.5 The Upper Paleolithic 133
Chronology 133
Stone and Bone Tools 134
Human Burials 134
Artwork 135
● **TOOLBOX:** Use–Wear Analysis 136
▲ **FROM THE FIELD:** The Strange Case of the Grimaldi Figurines, by Michael S. Bisson 138
Site Structure 143
Subsistence 143

5.6 Explaining the Upper Paleolithic 144
▲ **CANADIAN RESEARCH:** Rock Art in Canada 145
Summary 146 *Key Terms 146*
Review Questions 146 *Canadian Archaeologists 147*

6
THE PEOPLING OF AUSTRALIA AND THE NEW WORLD 148

6.1 Modern Humans in East Asia 150

6.2 Australia 151
Dating the Earliest Human Occupation 153
Megafauna Extinction 154
Rock Art 156
Voyaging On 156
● **TOOLBOX:** Experimental Archaeology 158

6.3 The New World 159
Clovis First 159
● **TOOLBOX:** Radiocarbon Calibration 162
Pre-Clovis 163
● **ARCHAEOLOGY IN THE WORLD:** Repatriation of Indigenous Burial Remains 166
Early Arrival Model 166
The Solutrean Hypothesis 168
▲ **FROM THE FIELD:** Mawlukhotepun—Working Together, by Susan Blair 169
The Skeletal Evidence 170
Clovis Adaptations and Megafauna Extinction 170
▲ **CANADIAN RESEARCH:** Early Adaptations in the Northeast 172
Beyond Clovis 172
The Arctic 175
Summary 177 *Key Terms 178*
Review Questions 178
Canadian Archaeologists 178

PART THREE

PERSPECTIVES ON AGRICULTURE 180

Introduction: Definitions of Agriculture 181

7
TOWERS, VILLAGES, AND LONGHOUSES 190

7.1 Setting the Scene 192
● **ARCHAEOLOGY IN THE WORLD:** Political Borders and Archaeology 193

7.2 Stage 1: Kebaran and Geometric Kebaran 194
Technology 194
Settlements 194

▲ **FROM THE FIELD:** The Author on His Fieldwork at Wadi Mataha 195
Domestication 196

7.3 Stage 2: The Natufian 196
Technology 196
Settlements 197
Domestication 197

7.4 Stage 3: The Early Neolithic 198
Technology 198
Settlements 199
● **TOOLBOX:** Harris Matrix 201
Ritual 202

7.5 Stage 4: Late Neolithic 205
● **TOOLBOX:** Paleoethnobotany 206
Technology 207
Settlement and Ritual 207

▲ **CANADIAN RESEARCH:** Settlement Archaeology in the Wadi Ziqlab, Jordan Place 208
Domestication 209

7.6 Assessing the Neolithic Revolution 209

7.7 The Spread of Agriculture to Europe 210
Summing Up the Evidence 213
Summary 213 *Key Terms 214*
Review Questions 214 *Canadian Archaeologists 214*

8
MOUNDS AND MAIZE 216

8.1 Plant Domestication in Mesoamerica 219

8.2 Maize Agriculture in the American Southwest 221
● **TOOLBOX:** AMS Radiocarbon Dating 222
The Formative Period 224
Summing Up the Evidence 225

8.3 Eastern North America 225
● **TOOLBOX:** Hand-Built Pottery 226
The Indigenous Domestication of Plants 226
The Adena and Hopewell 230
Intensification of Maize Agriculture 232
▲ **CANADIAN RESEARCH:** The Princess Point Complex 232
The People Behind the Transition 233
● **ARCHAEOLOGY IN THE WORLD:** Who Owns the Past? 234

▲ **FROM THE FIELD:** "Towns They Have None": In Search of New England's Mobile Farmers, by Elizabeth S. Chilton 236
Summing Up the Evidence 237
Summary 237 *Key Terms 238*
Review Questions 238
Canadian Archaeologists 238

9
A FEAST OF DIVERSITY 240

9.1 Africa 242
Villages of Hunter–Gatherers 243
Pastoralists 244
The First Farmers 244
▲ **FROM THE FIELD:** Ethiopian Farmers Yesterday and Today, by Catherine D'Andrea 245
Summing Up the Evidence 246

9.2 New Guinea 246
▲ **CANADIAN RESEARCH:** Ethnoarchaeology of Baking in Highland Ethiopia 247
Clearing Forests and Draining Swamps 248
● **TOOLBOX:** Pollen, Phytoliths, and Starch Grains 249

9.3 The Andes 250
Domestication in the Andean Highlands 251
Coastal Villages 253
The Cotton Preceramic 253
The Role of El Niño 254
Summing Up the Evidence 255

9.4 East Asia 255
Early Pottery 255
The First Farmers 256
● **TOOLBOX:** Residue Analysis 257
The Development of Farming Societies 257
Summing Up the Evidence 258
● **ARCHAEOLOGY IN THE WORLD:** Archaeology and the Environment 259

9.5 Questioning the Neolithic 259
Summary 260 *Key Terms 260*
Review Questions 261
Canadian Archaeologists 261

PART FOUR

THE DEVELOPMENT OF SOCIAL COMPLEXITY 262

Introduction: Defining Social Complexity 263

10 COMPLEXITY WITHOUT THE STATE 270

10.1 Northwest Coast 272
The Ethnographic Record 273
The Archaeological Record 273
Surplus 274
Displaying Status 275
Household Archaeology 277
▲ **CANADIAN RESEARCH:** The World's Longest-Lived Corporate Group 278
Summing Up the Evidence 279

10.2 Stonehenge 279
The Development of Stonehenge 280
A Constructed Landscape 282
The Context of Stonehenge 282
What Did Stonehenge Mean? 283
Summing Up the Evidence 285

10.3 Pueblo Bonito, Chaco Canyon 285
The Development of Pueblo Bonito 285
▲ **FROM THE FIELD:** Cultural Resource Management Archaeology in the Southwest, by Dr. Sarah Herr 286
The Function of Pueblo Bonito 288
Evidence for Elites 289
The Chacoan Network 289
● **TOOLBOX:** Remote Sensing 290
The Rise and Fall of Chaco Canyon 291
Summing Up the Evidence 291
● **TOOLBOX:** Dendrochronology 292

10.4 Cahokia 293
The Layout of the Site 293
Evidence of Inequality 294
Feasting 295
Summing Up the Evidence 296

10.5 Great Zimbabwe 296
The Layout of the Site 296
The Organization of Great Zimbabwe Society 297
Summing Up the Evidence 298

10.6 Comparative Perspectives 298
● **ARCHAEOLOGY IN THE WORLD:** The Trade in African Antiquities 299
Summary 300 *Key Terms* 301
Review Questions 301
Canadian Archaeologists 301

11 CITIES, PYRAMIDS, AND PALACES: EARLY STATES OF MESOPOTAMIA, EGYPT, AND THE AEGEAN 302

11.1 Mesopotamia 304
The Physical Setting 304
● **ARCHAEOLOGY IN THE WORLD:** The Fate of Iraq's Antiquities 306
Chronology 307
Uruk 307
▲ **CANADIAN RESEARCH:** 3D Modelling of Tell 'Acharneh, Syria 308
Government 308
Surplus and Specialization 309
Inequality 309
The Development of Writing 311
Warfare and Expansion 313
Summing Up the Evidence 314

11.2 Egypt 314
The Setting 314
Chronology 315
Government and Writing 317
● **TOOLBOX:** Tracking Trade Routes 318
The Pyramids 320
▲ **FROM THE FIELD:** The Author on His Fieldwork Excavating at Giza 324
The City 324
Summing Up the Evidence 325
● **TOOLBOX:** Archaeology and Genetics 326

11.3 Africa Beyond the Nile Valley 327

11.4 The Aegean 328
Setting and Chronology 328
Comparing Palaces 329
Violence and Warfare 332
The Eruption of Santorini and Its Impact 333
Summing Up the Evidence 334
Summary 335 *Key Terms 335*
Review Questions 336
Canadian Archaeologists 336

12
LOCATING THE SOURCE OF AUTHORITY: EARLY STATES IN ASIA 338

12.1 The Indus Valley 341
The Setting and Chronology 341
The City 342
● **TOOLBOX:** Space Syntax 343
Writing 345
Government 345
▲ **CANADIAN RESEARCH:** Material Signs of Status in the Harappan 346
Summing Up the Evidence 346

12.2 China 347
The Three Dynasties 347
The Basis of Authority in Early China 349
▲ **FROM THE FIELD:** Doing Regional Archaeological Settlement Patterns Survey in Northeast China, by Christian E. Peterson 350
Conflict and Consolidation 352
Summing Up the Evidence 353

12.3 Beyond the Chinese Boundary: Japan, Central Asia, and Cambodia 353
Mirrors and Keyhole-Shaped Tombs: The Origins of the State in Japan 353
● **ARCHAEOLOGY IN THE WORLD:** Archaeology and Development 354
Mummies of the Tarim Basin 355
The Archaeology of Angkor 357
● **TOOLBOX:** Underwater Archaeology 358
Summing Up the Evidence 360
Summary 360 *Key Terms 361*
Review Questions 361
Canadian Archaeologists 361

13
FROM CITY TO EMPIRE: SOCIAL COMPLEXITY IN MESOAMERICA 362

13.1 The Origins of Urbanism and Social Complexity 365
▲ **CANADIAN RESEARCH:** The Gender of Tomb 7 at Monte Albán 366

13.2 Teotihuacán 366
● **TOOLBOX:** Human Osteoarchaeology 371
Summing Up the Evidence 372

13.3 The Maya 372
The Setting and Chronology 372
The City 373
Government 375
● **TOOLBOX:** Geophysical Methods 376
Inequality 376
Maya Hieroglyphics 378

▲ FROM THE FIELD: The Field School Experience, by Joëlle Chartrand 380
Ritual, Violence, and Warfare 380
The Maya Collapse 382
Summing Up the Evidence 383

13.4 The Aztec Empire 383
● ARCHAEOLOGY IN THE WORLD: Archaeology and Tourism 384
The History of the Aztecs 385
Aztec Economy 387
Ritual and Human Sacrifice 389
Summing Up the Evidence 391
Summary 392 *Key Terms 392*
Review Questions 393
Canadian Archaeologists 393

14
BRINGING THE FOUR PARTS TOGETHER: STATES AND EMPIRE IN THE ANDES 394

14.1 Chavín de Huántar 396
The Setting and the Temple 397
The Chavín Horizon 399
Summing Up the Evidence 400

14.2 Nasca and Moche 400
Nasca 400
Moche 402
Summing Up the Evidence 403

14.3 The Inca Empire 403
▲ FROM THE FIELD: Discovering a Ceremonial Site of the Ancient Moche People, by Katrina Joosten 404
Inca Society 405
Building Empire 407
● TOOLBOX: Metallurgy 408
● ARCHAEOLOGY IN THE WORLD: Ancient Agriculture and Modern Development 410
▲ CANADIAN RESEARCH: Excavating in the Peruvian Desert 412
Summing Up the Evidence 413
● TOOLBOX: Tracking Ancient Diseases 415
Summary 416 *Key Terms 416*
Review Questions 416
Canadian Archaeologists 417

Epilogue BRINGING IT BACK HOME 418
Appendices 427
Glossary 434
References 442
Name Index 464
Subject Index 469

LIST OF BOXED FEATURES

TOOLBOX

- Ethnoarchaeology 24
- Faunal Analysis and Taphonomy 46
- Stone Tools 74
- *Chaîne Opératoire* and the Levallois Method 109
- Luminescence Dating 127
- Experimental Archaeology 158
- Harris Matrix 201
- AMS Radiocarbon Dating 222
- Pollen, Phytoliths, and Starch Grains 249
- Remote Sensing 290
- Tracking Trade Routes 318
- Space Syntax 343
- Human Osteoarchaeology 371
- Metallurgy 408
- Radiocarbon Dating 27
- Archaeoacoustics 50
- Dating Early Hominin Sites 80
- Geoarchaeology and Micromorphology 112
- Use–Wear Analysis 136
- Radiocarbon Calibration 162
- Paleoethnobotany 206
- Hand-Built Pottery 226
- Residue Analysis 257
- Dendrochronology 292
- Archaeology and Genetics 326
- Underwater Archaeology 358
- Geophysical Methods 376
- Tracking Ancient Diseases 415

FROM THE field

- The Author on His Fieldwork at Wonderwerk Cave, South Africa 18
- Why Do I "Do" Archaeology?, by Joe Watkins 51
- Early Hominins in the Nihewan Basin, by Chen Shen 72
- Understanding the Neanderthal Way of Life, by Ariane Burke 114
- The Strange Case of the Grimaldi Figurines, by Michael S. Bisson 138
- Mawlukhotepun—Working Together, by Susan Blair 169
- The Author on His Fieldwork at Wadi Mataha 195
- "Towns They Have None": In Search of New England's Mobile Farmers, by Elizabeth S. Chilton 236
- Ethiopian Farmers Yesterday and Today, by Catherine D'Andrea 245
- Cultural Resource Management Archaeology in the Southwest, by Dr. Sarah Herr 286
- The Author on His Fieldwork Excavating at Giza 324
- Doing Regional Archaeological Settlement Patterns Survey in Northeast China, by Christian E.Peterson 350
- The Field School Experience, by Joëlle Chartrand 380
- Discovering a Ceremonial Site of the Ancient Moche People, by Katrina Joosten 404

ARCHAEOLOGY in the world

- Community Archaeology 29
- A Brief History of Canadian Archaeology 36
- Fraud—Piltdown and Kama-takamori 70
- Religion and Evolution 103
- Modern Human Origins and Questions of Race 130
- Repatriation of Indigenous Burial Remains 166
- Political Borders and Archaeology 193
- Who Owns the Past? 234
- Archaeology and the Environment 259
- The Trade in African Antiquities 299
- The Fate of Iraq's Antiquities 306
- Archaeology and Development 354
- Archaeology and Tourism 384
- Ancient Agriculture and Modern Development 410

CANADIAN research

- Arctic Explorers of the Nineteenth Century 20
- Ste. Marie Among the Hurons 41
- Primate Tool Use 77
- Davidson Black and Zhoukoudian 97
- Rock Art in Canada 145
- Early Adaptations in the Northeast 172
- Settlement Archaeology in the Wadi Ziqlab, Jordan Place 208
- The Princess Point Complex 232
- Ethnoarchaeology of Baking in Highland Ethiopia 247
- The World's Longest-Lived Corporate Group 278
- 3D Modelling of Tell 'Acharneh, Syria 308
- Material Signs of Status in the Harappan 346
- The Gender of Tomb 7 at Monte Albán 366
- Excavating in the Peruvian Desert 412

PREFACE

Archaeology is the study of how humans have created the world we live in—a voyage of exploration into the human past. The goal of this voyage is to gain new perspectives and insights into who we are and how our world came into being. As is true of all sciences, archaeology is not a search for absolute and final answers. Archaeologists develop knowledge of the past that can be continuously questioned and improved upon. The goal of this book is to involve students in the current state of archaeological research—to reveal how archaeologists work and what they know. The fascination of archaeology is found in the continual process of human self-discovery. This book will help connect students to that process and show them not only the discoveries that have been made, but also the challenges that remain.

New to This Edition

The third Canadian edition includes expansions of existing chapters and updated information throughout.

- Recent discoveries are examined, including the genetics of Neanderthals and related populations, early symbolic artifacts from South Africa, the Iceman and its implications for Neolithic Europe, and the Harappan city of Dholavira.
- Expanded coverage of both the practice and the legislation of cultural resource management (CRM) archaeology is included in Chapter 1, "Getting Started in Archaeology," and Chapter 2, "Putting the Picture Together."
- The archaeology of complex societies in East Asia has been expanded and grouped in Chapter 12, "Locating the Source of Authority: Early States in Asia." This chapter now includes material on the expansion of the Chinese state, the Silk Route, the development of state societies in Japan, and the development of Angkor.
- The Epilogue now focus on the recent past including the archaeology of the slave trade, with examples from Gorée, Senegal and Annapolis, Maryland, and the archaeology of industrialization, with examples from Lowell, Massachusetts and Ludlow, Colorado.
- Expanded coverage of the Maya civilization includes the discoveries from the Preclassic period at the site of San Bartolo, the use of LiDAR at Caracol, and the painted murals at Calakmul.
- Expanded coverage of Canadian archaeology includes Archaic sites (in Chapter 6, "The Peopling of Australia and the New World") and historic archaeology (in the Epilogue).
- Enhanced electronic resources include enhanced maps, podcasts custom-recorded for this text in the eText, access to selected articles from the journal *Antiquity* and *Proceedings of the National Academy of Sciences* chosen for each chapter by the author, and a gallery of 3D objects and animations.

In archaeology, it is not enough to raise questions; one must also think of methods for providing the answers. People often think of archaeology as a random accumulation of artifacts or a series of chance discoveries. In practice, archaeology is a far more active and creative undertaking. Certainly, the excitement of discovery

plays an essential role. Even in the most carefully planned project, the possibility always exists that the next shovel of soil will lead to an unexpected revelation. In this third Canadian edition, you will read about the surprising genetic evidence of a new species contemporary with Neanderthals, early ages for the origin of millet domestication in China, and the impressive murals at the early Maya site of San Bartolo—as well as the earliest evidence for fire on an archaeological site from my own research in South Africa.

Much of the excitement of archaeology comes from asking questions and finding answers. In this edition, you will also read about the application of new perspectives and methods, such as the use of surveying to understand the development of social complexity in China and the role metallurgical analyses play in elucidating the ancient technologies of the Andes.

In working on this book, I have been struck by three characteristics of archaeology today. The first is that archaeology is a truly global discipline. One can no longer remain up-to-date simply by relying on the information emerging from a small number of centres of research. The challenge today is to keep abreast of a torrent of information coming from archaeologists all over the world. In writing this book, I am painfully aware that there is likely to be information I have missed and vital insights I have failed to incorporate. However, thanks to a wealth of resources available through university library websites, research that in the past would have taken weeks to conduct can now be completed in minutes with a few clicks of the mouse.

The second characteristic of archaeology today is that it often involves deploying methods from the study of natural sciences. In many cases, research requires collaboration between natural scientists and archaeologists. One of the most important skills for an archaeologist today is to be able to collaborate with specialists in other fields. Collaboration is a tricky business that requires trusting our partners and stretching our perspectives, but the result is a significant increase in scientific capacity.

The third characteristic of contemporary archaeology is that there is increased engagement with the modern world. Archaeologists around the globe today find themselves enmeshed in complex issues ranging from community identity to the tourist industry. The recognition of the fragility and importance of the archaeological record is central to contemporary archaeology.

Preparing the third Canadian edition has involved some reorganization and expansion of coverage. However, the main outcome of the revision is a book with a stronger conceptual core: Archaeology is presented as a dynamic, scientifically rigorous, and socially engaged inquiry into the remains of the human past that survive in the world today.

Organization

Part One of this book, "The Past Is a Foreign Country: Getting from Here to There," presents an introduction to archaeological method and theory. The first chapter, "Getting Started in Archaeology," begins in the field and discusses how archaeologists locate and excavate sites. From the field, we move into the laboratory to look at how the remains recovered in an excavation are analyzed. Archaeology involves not only conducting field and laboratory work, but also developing a framework for thinking about the past. In Chapter 2, "Putting the Picture Together," we consider how well we know the past and how much we can learn about it. This chapter presents a brief history of the ways archaeologists have thought about the past.

From here, we turn to what we currently know about prehistory. The next three parts of the text examine human evolution, agricultural beginnings, and the

development of political complexity, respectively. Part Two, "Human Evolution," covers the period from the first evidence of tool manufacture to the spread of modern humans (*Homo sapiens*) throughout the globe. Human evolution involves the interaction between changes in human anatomy and changes in the way humans lived and in the tools they used. The four chapters in this part follow the process of biological evolution, while tracking the geographical spread of human populations and developments in the way they lived.

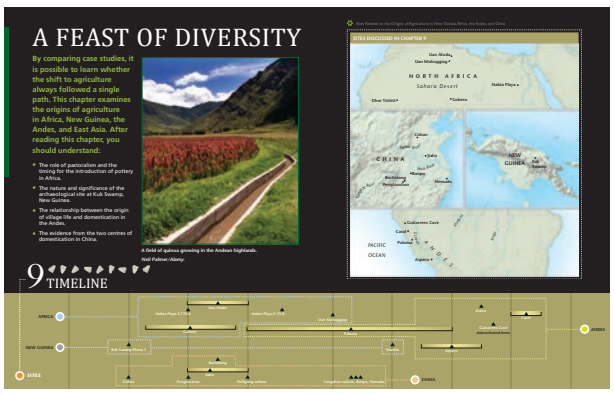
Part Three, "Perspectives on Agriculture," examines the shift to an agricultural way of life. The development of agricultural societies demanded a profound reorientation of the way humans related to plants and animals, along with equally significant changes in society and technology. Because the transition to agriculture took place independently in several distinct regions, it is possible to take a comparative approach to the origins of this new way of life to gain a broad understanding of the process. Chapter 7, "Towers, Villages, and Longhouses," presents the archaeological record pointing to the beginnings of agriculture in the Middle East and the spread of agriculture into Europe. Chapter 8, "Mounds and Maize," focuses on the origin of maize (corn) agriculture in Mesoamerica and its spread into North America. The adoption of maize agriculture in Eastern North America is particularly interesting and complex, as maize was integrated into an existing indigenous agricultural system. Chapter 9, "A Feast of Diversity," broadens the comparative perspective by briefly considering a number of other civilizations in Africa, China, New Guinea, and Peru. It becomes clear that the development of agriculture often spanned a period of several thousands of years and that the process differed significantly among regions.

Following the adoption of agriculture, societies in many parts of the world expanded in scale and increased in population, which in turn led to increased social inequality. Power and access to resources came to be controlled by a smaller segment of people, resulting in the emergence of state societies. Finally, Part Four, "The Development of Social Complexity," covers many of the world's most spectacular and enigmatic archaeological sites, including Stonehenge, the pyramids at Giza, and the cities of the Maya. As with agriculture, social complexity developed independently in a number of regions. Thus, it is again possible to use a comparative approach to gain a broad understanding of this process.

The first chapter of Part Four—Chapter 10, "Complexity without the State"—considers the monumental sites of Stonehenge, Pueblo Bonito, Cahokia, and Great Zimbabwe, constructed by societies that were characterized by emerging social inequality. The remaining chapters present case studies of early states and empires and are organized geographically. Coverage has been expanded to include Japan and Angkor. Coverage of early states in China, Mesoamerica, and the Andes has also been expanded. The text concludes with an epilogue entitled "Bringing It Back Home," in which we look at the traces of the past in our familiar world.

Pedagogy

Every chapter contains a number of pedagogical elements to guide students through the text. Each chapter opener includes satellite location maps and timelines to orient students in time and place to the sites discussed. Learning objectives help students focus their reading of each chapter. Key terms, concepts, and place names are defined or described when they first appear within the text; they are also defined in the margin of the page.



Subsequently, they are all listed together in a section at the end of each chapter called *Key Terms*, along with a *Chapter Summary* and a list of *Review Questions.* Each chapter contains dozens of stunning illustrations and photographs to engage students in the subject matter, demonstrate key concepts, and visually convey the spectacular nature of our stops along the pathways through time.

Distinctive Features

The main purpose of this book is to present an integrated picture of prehistory as an active process of discovery. From this perspective, we cannot relegate methodological issues to the opening chapters alone. After students are introduced to archaeological method in the first two chapters, the question of *how* we know the past comes up on numerous occasions throughout the remaining text. A number of features have been developed to draw together an integrated presentation of prehistory.

TOOLBOX

Ethnoarchaeology

Ethnoarchaeology refers to research carried out by archaeologists living with and observing communities in order to make a contribution to archaeology. Archaeologists bring to the study of modern cultures an intense interest in the material aspects of human lives. Ethnoarchaeological research covers a wide range of domains, including subsistence, technology, ideology, and site formation.

Much of our understanding of stone tool manufacture comes from ethnoarchaeological studies of societies that still use stone tools or have used them recently. Among the stone tool techniques studied by ethnoarchaeologists are ground stone axe manufacture in Papua New Guinea, flint knapping in Australia, obsidian tool manufacture and use in Ethiopia, and stone bead manufacture in India. All of these studies provide insight into the process of tool manufacture and the way tools are used. Ethnoarchaeological studies have also provided insight into how people think about the tools they are making. For example, on the basis of ethnoarchaeological research in Australia, Brian Hayden has questioned whether people making stone tools ever think about making a specific type of tool. Interestingly, in the group Hayden worked with, the focus of attention was on the type of edge produced, and the actual form of the tool was of little importance.

Ethnoarchaeological research also can provide a reminder of the limitations of the archaeological record. In 1974 and 1975, Robert and Priscilla Janes lived for 22 weeks with the Slavey Dene people in the Northwest Territories (Janes 1983). The Slavey Dene spend most of the year in Fort Norman, but move to seasonal camps during the late winter or early spring. The Janes' research examined the structure of one of these camps. According to David and Kramer (2001), the Janeses' experience living with the Slavey Dene led them to recognize the "potential immensity of the gap . . . between the results of field archaeology and the richness of a living culture" (288). This gap is particularly wide in the case of hunter–gatherer societies, which made most artifacts out of perishable material.

In some cases, ethnoarchaeologists do not simply make observations, but rather collaborate with members of local communities to carry out experiments. During the 1970s, Peter Schmidt and his colleagues collaborated with members of a Haya community from northeastern Tanzania to smelt iron by traditional methods (Schmidt 1997). Because the Haya had not practised traditional smelting for over 50 years, this project was guided by Haya elders who remembered participating in smelting operations as children. The resulting smelt was only partially successful, but it did provide an opportunity to carefully document the functioning of the iron furnace, as well as the processes involved in producing charcoal and in mining the clay used to build the furnace. The furnace produced in the experiment served as an important point of reference for the interpretation of archaeologically excavated furnaces.

Despite the obvious value of ethnoarchaeological research, some archaeologists have reservations about the use of ethnographic analogies in archaeology. Martin Wobst (1978) has written of the "tyranny of the ethnographic record," which leads archaeologists to assume that the cultures they are investigating were similar to ethnographically known cultures. A slavish adherence to analogy can dull our awareness of those aspects of past societies that are unique and different from characteristics of societies living in the present. The use of ethnographic analogy is also not helpful in studying long-term processes of cultural change that last hundreds, thousands, or even tens of thousands of years and that are of particular interest to archaeologists.

ADDITIONAL READING: Nicholas David and Carole Kramer. 2001. *Ethnoarchaeology in Action.* Cambridge: Cambridge University Press.

FIGURE 1.17 Richard Lee conducting fieldwork with San hunter–gatherers in Botswana.
Richard Lee.

ARCHAEOLOGY in the world

Community Archaeology

There is a general trend in archaeology toward including local communities in the process and the benefits of archaeological research (McGuire 2008). In recent years, some archaeologists have taken this idea a step further and worked to develop a truly community-based archaeology, in which the archaeologists relinquish to the local community at least partial control over their program of research (Marshall 2002). In many cases, archaeologists are trying to react with sensitivity to painful histories of colonialism and disenfranchisement. In a project at the site of Quseir in Egypt, Stephanie Moser and her colleagues (2002) have developed some guidelines for the practice of Community Archaeology. They identify the following components for community archaeology projects:

1. communication and collaboration
2. employment and training
3. public presentation
4. interviews and oral history
5. development of educational resources
6. creation of a photographic and video archive
7. community-controlled merchandising

Moser and her colleagues make it clear that not all circumstances will fit this template and that Community Archaeology must be sensitive to local conditions. However, the range of topics included gives a good sense of the complexity of adopting a community-driven approach. The project at Quseir addresses elements of economic development, including employment and training, as well as merchandising; aspects of local identity through the development of archives and oral history; and initiatives related to education. Some archaeologists, while appreciating the importance of a community-based approach, stress the complexities involved in such an undertaking. One of the most difficult problems is the definition of the community that is at the very root of Community Archaeology (Chirikure and Pwiti 2008). In many areas of the world, the definitions of communities are deeply contested. However, this issue can feed into the process of Community Archaeology as archaeologists are drawn into discussions of the construction of local identities.

Community engagement is increasingly a significant component of many archaeological projects in Canada. The Tla'amin-Simon Fraser University Archaeology and Stewardship Program (www.slammonfirstnation.com/archaeology/) is a field school and research project that sets out explicit goals that go well beyond the scope of traditional archaeological research:

1. sustaining collaborations between the university and the Tla'amin First Nation
2. identifying, documenting, and investigating heritage sites
3. training university students and Tla'amin youth in archaeology and heritage stewardship
4. increasing awareness and knowledge about Tla'amin history
5. facilitating exchanges of information and experience among Tla'amin Elders, youth, and the university
6. advancing Tla'amin goals of self-governance, self-determination, and self-representation

FIGURE 1.21 Tla'amin cultural knowledge holder and project liaison Siemthut (Michele Washington) and her daughter help screen for artifacts at one of the project's excavation sites.
Courtesy of Georgia Combes and Dana Lepofsky.

• Toolbox

Toolboxes introduce aspects of archaeological methods that are particularly relevant to the material covered. There are two *Toolboxes* per chapter. *Toolboxes* are critical for achieving the aim of this book: to integrate prehistory with an introduction to archaeological methods. Examples of *Toolboxes* in this third Canadian edition include "Archaeoacoustics" (Chapter 2), "Faunal Analysis and Taphonomy" (Chapter 2), "*Chaîne Opératoire* and the Levallois Method" (Chapter 4), "Experimental Archaeology" (Chapter 6), "Archaeology and Genetics" (Chapter 11), "Underwater Archaeology" (Chapter 12), "Space Syntax" (Chapter 12), and "Human Osteoarchaeology" (Chapter 13).

• Archaeology in the World

Despite the stereotype of the archaeologist as a cloistered academic, archaeology is very much a discipline that takes place in the real world. Issues such as control over human burial remains, the antiquities trade, and the preservation of threatened cultural resources are every bit as important to the field as trowels and levels. Archaeology is not only the study of what happened in the past, but also the examination of the role of the past in today's world.

To emphasize the significance of the role of the past in the present, every chapter includes a boxed feature called *Archaeology in the World*. These boxes pinpoint ethical issues relevant to the archaeology of the periods discussed in the chapter. Through reading these features, students will see that archaeology plays a role in the present. *Archaeology in the World* topics include "Religion and Evolution" (Chapter 4), "Repatriation of Indigenous Burial Remains" (Chapter 6), "The Trade in African Antiquities" (Chapter 10), and "The Fate of Iraq's Antiquities" (Chapter 11). This third Canadian edition includes new features on "Community Archaeology" (Chapter 1), "Political Borders and Archaeology" (Chapter 7), "Who Owns the Past?" (Chapter 8), "Archaeology and the Environment" (Chapter 9), "Archaeology and Development" (Chapter 12), "Archaeology and Tourism" (Chapter 13), and "Ancient Agriculture and Modern Development" (Chapter 14).

• From the Field

A primary goal of this text is to draw students into the process of archaeological research. Rather than sitting on the sidelines observing the game, students should be on the playing field. This does not mean that this book is suitable only for future

archaeologists; rather, it is meant to provide the tools to give any student a lifelong engagement with archaeology, whether through travelling, visiting museums, reading, or joining in a research project. Toward that end, we have also included in each chapter a feature called *From the Field,* in which people—including students—who are actively involved in archaeological research write an informal report about a project relevant to the chapter subject.

Two new *From the Field* segments in this third Canadian edition are "Why Do I "Do" Archaeology," by Joe Watkins (Chapter 2) and "Cultural Resource Management Archaeology in the Southwest," by Sara H. Herr (Chapter 10). Other *From the Field* segments include "Early Hominins in the Nihewan Basin," by Chen Shen (Chapter 3); "Understanding the Neanderthal Way of Life," by Ariane Burke (Chapter 4); "The Strange Case of the Grimaldi Figurines," by Michael S. Bisson (Chapter 5); "Mawlukhotepun—Working Together," by Sue Blair (Chapter 6); "Towns They Have None": In Search of New England's Mobile Farmers," by Dr. Elizabeth S. Chilton (Chapter 8); "Ethiopian Farmers Yesterday and Today," by Catherine D'Andrea (Chapter 9); "Doing Regional Archaeological Settlement Patterns Survey in Northeast China," by Christian E. Peterson (Chapter 12); "The Field School Experience," by Joëlle Chartrand" (Chapter 13); and "Discovering a Ceremonial Site of the Ancient Moche People," by Katrina Joosten (Chapter 14). I have also contributed features on my own fieldwork experiences in South Africa, Jordan, and Egypt. I hope that these sections will inspire some readers to consider volunteering on an excavation or enrolling in a field school. No words can replace the experience of uncovering the buried remains of the human past.

FROM THE field

The Author on His Fieldwork at Wonderwerk Cave, South Africa

Wonderwerk Cave is a spectacular site located in the Northern Cape Province of South Africa, on the edge of the Kalahari. Although this is a remote area, our living conditions are quite good. We stay in small brick chalets built near the site, and most of the roads are tarred. The view from the cave is of an immense open space, a flat grassland that reaches to the horizon. A nice part of working at the site is that not only do we lack Internet access, but also we have to walk out to the main road to even get cell phone reception—a welcome break from my heavily connected life in Canada. However, this remote place is also the nexus of an international research team, as well as a diverse range of community interests. My role at Wonderwerk seems more like that of a ringmaster in a circus than that of an archaeologist.

It might be best to begin by explaining how I ended up working at this site. In the late 1990s, I was completing a project in Israel with my colleagues Liora Horwitz and Naomi Porat. Liora is a faunal analyst, Naomi is a geologist, and I am an archaeologist who specializes in stone tools, so we make a good team. We began looking for a new project that would allow us to continue to study the shift from the Lower Paleolithic to the Middle Paleolithic, or, as they are known in Africa, the Earlier to the Middle Stone Age. By chance, Liora was off to South Africa to visit family, which included a visit to her uncle's farm in the Free State. En route, she stopped off in Kimberley, a diamond-mining city that is home to Peter Beaumont. Peter is famous for excavating sites of the time range we were interested in, and before I knew it, I was off to South Africa for an unforgettable tour with Peter. The wealth of sites he showed us and the extent of the excavations he had carried out were simply staggering. We resolved to develop a project to analyze the collections from Peter's excavations at Wonderwerk Cave housed at the McGregor Museum, carry out small-scale field projects to document the stratigraphy on the site, and collect samples for geological and botanical analysis.

Nine years later we are still hard at work. Our research team has swelled to over 15 members from South Africa, England, Israel, Canada, and the United States. Our most exciting result is the dating of the base of the deposit at Wonderwerk to 2 million years ago. The stone tools from this stratum provide the earliest evidence for hominin cave occupation in the world. My job as the codirector of this project is not simply to analyze stone tools, but also to coordinate the activities of all the scientists working at the site. This is a fascinating undertaking, since each member of the team comes to the project with his or her own perspective, and meshing these perspectives is a tremendous challenge. We have also found ourselves involved in ongoing discussions with the local community. Wonderwerk Cave is a candidate for World Heritage status and a critical element of the tourism development in this area. Wonderwerk is also integrated into the local school curriculum, and all children from the area schools visit the site during their primary years. Combining the educational, tourism, and scientific potentials of this site is every bit as complex as the analysis of Earlier Stone Age stone tools. Days at Wonderwerk tend to be a bit unpredictable and are almost always interesting. A day that begins with conversations with local Tswana chiefs might also involve careful excavation and complex discussions of stratigraphy and geophysics. One couldn't ask for much more. ▲

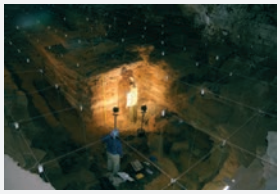


FIGURE 1.12 Taking samples for paleomagnetic dating of the early hominin occupation at Wonderwerk Cave, South Africa.
Michael Chazan.

• Canadian Research and Canadian Archaeologists

Canadian content is integrated throughout the book. In some cases, particularly the coverage of the Arctic in Chapter 6 and the Northwest Coast in Chapter 10, sections not found in the U.S. edition cover aspects of the archaeology of Canada. The research of Canadian researchers working around the world is also included in every chapter, augmented by a brief history of Canadian archaeology in Chapter 2. Furthermore, two special features are dedicated to the unique contributions of Canadian archaeology: *Canadian Research* boxes, which contain a brief essay that covers a research project by a Canadian archaeologist, and *Canadian Archaeologists*, which includes a listing of some Canadian archaeologists and a link to their websites, are found in each chapter. I hasten to add that this is not a comprehensive listing of Canadian archaeologists. My focus has been on providing information about Canadian archaeologists whose research is particularly relevant to the chapter.

CANADIAN research

Arctic Explorers of the Nineteenth Century

The Arctic explorers of the Franklin Expedition were the astronauts of the mid-nineteenth century. Setting out in 1845, the HMS *Erebus* and HMS *Terror* ventured into a forbidding environment that Europeans thought of as the ultimate unknown. The expedition ended not in the triumphant discovery of the Northwest Passage, but in tragedy, with all hands lost to an unknown fate.

In 1981, Owen Beattie of the University of Alberta began a project combining methods from archaeology and forensics to untangle the mystery of the fate of the Franklin Expedition. Beattie and his colleagues disinterred the frozen corpses of three sailors who died early in the voyage of the expedition. The analysis of these bodies, together with a collection of artifacts left behind by the expedition, cast a chilling new light on the fate of these explorers.

When he analyzed bone, tissue, and hair samples, Beattie found that they held highly elevated levels of lead; these men were suffering from lead poisoning. They probably did not die from the lead poisoning, but this affliction would have left them vulnerable to pneumonia and other diseases. The source of the lead was the seemingly innocuous lead solder that had been applied to the insides of the tin cans the expedition had used to carry its provisions. Beattie suggested that lead poisoning contributed to the weakening of the crew, ultimately leaving them unable to survive the rigours of the Arctic environment. ●

REFERENCE: Owen Beattie and John Geiger. 1998. *Frozen in Time: The Fate of the Franklin Expedition.* Vancouver: Greystone Books.

The Cover Image

This bone comb was found at the Garden Island site in Prince Rupert Harbour, British Columbia, in a level dated to 800 AD. The animal on the bridge of the comb is either a wolf or a bear. The tongue, ears, and eye are carved with particular care. George MacDonald points out that these are organs involved in communication and that the emphasis on these aspects of the animal might reference beliefs in the abilities of animals to communicate (MacDonald 1983). Whereas animals, particularly bears, can understand everything people say, people have only limited understanding of the language of animals.

A Final Note

Australian aboriginal societies speak of the *dreamtime* as the time when their ancestors walked the land. The actions of ancestors are inscribed in the land and experienced in the landscape. Archaeology explores the "scientific dreamtime"—the time of our ancestors that we discover through archaeological research. This book is an introduction to the current state of archaeology. It is not a simple catalogue of finds, but rather an attempt to give coherence to the vast expanses of human experience studied by archaeologists. Our hope is that readers will keep in mind the uncertainty that characterizes the study of prehistory. What is meant by "uncertainty"? Archaeology is a constant process of questioning and improving our understanding of the past. As in any science, all claims can and should be questioned. Archaeology is a report on the current state of the human endeavour to understand our own past. We invite you to join this endeavour, in which we reveal the present state of archaeological knowledge and introduce you to the methods used to gain that knowledge. We hope that these tools will enable you to actively engage in thinking about humanity from the perspective of archaeology, to think about processes that stretch over millennia and are global in scale, and to walk the pathways of our own "scientific dreamtime."

Support for Instructors and Students

The following teaching and learning resources are available to enhance the experience of both instructors and students.

• MySearchLab with eText

A website that provides engaging experiences that personalize learning, MySearchLab contains an eText that is just like the printed text. Students can highlight and add notes to the eText online or download it to an iPad or Android tablet. MySearchLab also offers self-grading practice quizzes; discipline-specific media and readings; access to a variety of academic journals, and Associated Press news feeds; along with a wide range of writing, grammar, and research tools to help hone writing and research skills.

• Instructor's Resource Manual

For each chapter in the text, this valuable resource provides a chapter outline, preview questions, lecture topics, research topics, and questions for classroom discussion.

• Test Item File

The test bank includes between 75 and 100 questions per chapter in four formats: multiple choice, true/false, fill-in-the-blank, and essay questions. The Test Item File is also available online through Pearson Canada's MyTest platform.

• MyTest

This is an online tool that allows instructors to create their own personalized exams, edit any or all of the existing test questions, and add new ones. Other special features of this program include random generation of test questions, creation of alternate versions of the same test, scrambling question sequences, and test previews before printing.

• PowerPoint® Presentations

These PowerPoint slides combine text and graphics for each chapter to help instructors convey archaeological principles in a clear and engaging way.

Most of these instructor supplements are also available for download from a password-protected section of Pearson Canada's online catalogue (vig.pearsoned.ca). Navigate to your book's catalogue page to view a list of supplements that are available. See your local Pearson representative for details and access.

• CourseSmart for Instructors

CourseSmart goes beyond traditional expectations, providing instant, online access to the textbooks and course materials you need at a lower cost for students. And even as students save money, you can save time and hassle with a digital eTextbook that allows you to search for the most relevant content at the very moment you need it. Whether it's evaluating textbooks or creating lecture notes to help students with difficult concepts, CourseSmart can make life a little easier. See how when you visit www.coursesmart.com/instructors.

• CourseSmart for Students

CourseSmart goes beyond traditional expectations, providing instant, online access to the textbooks and course materials you need at an average savings of 60 percent. With instant access from any computer and the ability to search your text, you'll find the content you need quickly, no matter where you are. And with online tools like highlighting and note-taking, you can save time and study efficiently. See all the benefits at www.coursesmart.com/students.

• Technology Specialists

Pearson's Technology Specialists work with faculty and campus course designers to ensure that Pearson technology products, assessment tools, and online course materials are tailored to meet your specific needs. This highly qualified team is dedicated to helping schools take full advantage of a wide range of educational resources, by assisting in the integration of a variety of instructional materials and media formats. Your local Pearson Canada sales representative can provide you with more details on this service program.

• Pearson Custom Library

For enrollments of at least 25 students, you can create your own textbook by choosing the chapters that best suit your own course needs. To begin building your custom text, visit www.pearsoncustomlibrary.com. You may also work with a dedicated Pearson Custom editor to create your ideal text—publishing your own original content or mixing and matching Pearson content. Contact your local Pearson representative to get started.

• peerScholar

Firmly grounded in published research, peerScholar is a powerful online pedagogical tool that helps develop your students' critical and creative thinking skills. peerScholar facilitates this through the process of creation, evaluation, and reflection. Working in stages, students begin by submitting a written assignment. peerScholar then circulates their work for others to review, a process that can be anonymous or not depending on your preference. Students receive peer feedback and evaluations immediately, reinforcing their learning and driving the development of higher-order thinking skills. Students can then re-submit revised work, again depending on your preference. Contact your Pearson representative to learn more about peerScholar and the research behind it.

Acknowledgments

In writing this book, I have drawn on practically every experience I have had as an archaeologist. First, I would like to thank some of my teachers. The late James Sauer taught me much of what I know about pottery and showed me that archaeology has the potential to build bridges across the chasms produced by conflict. Andrew Moore and Frank Hole supported me as I stepped out of the classroom and into research and provided me with the freedom that I now try to give my own students. Learning to be an archaeologist takes place in the field as much as in the classroom. I have had the opportunity to work with project directors who somehow had the patience to put up with a novice. I am very grateful to Avi Gopher, Nigel Goring-Morris, and François Valla for teaching me how to excavate a Neolithic site; to Ofer Bar-Yosef, Liliane Meignen, and Bernard Vandermeersch for showing me why the Paleolithic is fascinating; and to Mark Lehner for the incredible experience of working at the Giza pyramids. I would also like to thank my friend Zahi Hawass for making it possible for me work in Egypt.

My views of archaeology have been greatly enriched by my association with research groups in France and Israel. Catherine Pèrles warmly welcomed me into the Prehistory and Technology Research Group of the Centre Nationale de la Recherche Scientifique in Meudon, outside of Paris. During my year at Meudon, I learned from researchers Eric Boëda, Anne Delagnes, Jacques Pelegrin, and Valentine Roux, among others, how to look at technology as an aspect of human behaviour. In Jerusalem, I have long enjoyed a connection with faculty at the Hebrew University, where I have been welcomed by Na'ama Goren-Inbar, Anna Belfer-Cohen, Erella Hovers, and Nigel Goring-Morris. Most recently, I have developed a number of collaborative projects with colleagues, including Francesco Berna, James Brink, Joel Janetski, Paul Goldberg, Liora Kolska-Horwitz, Ari Matmon, Hervé Monchot, David Morris, and Naomi Porat, among others. I thank them for their patience, as I sometimes have had to balance my responsibilities to these projects with the excitement of writing this book.

I have been lucky to find an ideal home in the city of Toronto and wonderful colleagues and students at the University of Toronto. Much of this book stems from the courses that I teach at the university, as well as from courses I taught at Tufts and Brandeis before coming to this city. The dynamism of the University of Toronto is built on an appreciation of diversity that I hope is reflected in the book. I am particularly grateful to the graduate students who have worked with me including Carla Parslow, Alexandra Sumner, Sarah Stewart, Emma Humphrey, Jayne Wilkins, and Danielle Macdonald.

The actual process of developing the first U.S. edition was facilitated by the people at Allyn & Bacon, who believed that we could pull off the project. I never imagined the amount of effort that goes into such a book. I want to thank Jennifer Jacobson, who shepherded me through that first edition with a skill that combined patience and enthusiasm.

I would like to thank the team at Pearson Canada for making the third Canadian edition of this book happen: Joel Gladstone, Sponsoring Editor; Paul Donnelly, Senior Developmental Editor; Marissa Lok, Project Manager; Lila Campbell, Copy Editor; and Daniela Glass, Permissions Project Manager.

Carla Parslow, Peter Pope, and Ron Williamson provided assistance with the new Canadian material. I would also like to thank the Canadian reviewers who provided excellent overall input as well as specific insight on portions of the text during development. This edition and future editions of this text are improved by your feedback.

Michael S. Bisson, McGill University

A. Catherine D'Andrea, Simon Fraser University

Lis Mack, University of Saskatchewan

Hugh McKenzie, Grant MacEwan University

Peter Timmins, University of Western Ontario

Pamela R. Willoughby, University of Alberta

Since *World Prehistory and Archaeology: Pathways Through Time* is used as a course text, I hope that instructors and students may wish to contact me. I would appreciate receiving questions, comments, and criticisms at mchazan@chass.utoronto.ca.

I would like to take the opportunity to thank my parents, who have been a constant source of inspiration and support. I am delighted to have shared this project with my wife, Michelle Fost, and our children, Gabriel and Nathan. This has been, in every sense, a team effort.

Michael Chazan
mchazan@chass.utoronto.ca

ABOUT THE AUTHOR

Michael Chazan is an Associate Professor in the Department of Anthropology and the Director of the Archaeology Centre at the University of Toronto. He earned his Ph.D. in anthropology at Yale University. Before coming to Toronto, Dr. Chazan was a postdoctoral fellow with the *Centre National de la Recherche Scientifique* in Paris and at the Hebrew University in Jerusalem. Among his field experience are excavations in New Jersey, France, Israel, Jordan, Egypt, and South Africa. Dr. Chazan's publications include a monograph on the Lower Paleolithic site of Holon, Israel, co-authored with Liora Kolska-Horwitz.
Dr. Chazan is currently engaged in a project on the Earlier Stone Age of South Africa. The project pulls together an international team of researchers to study a series of spectacular sites located in the Northern Cape Province.