# CONTENTS

*Acknowledgments* xi

PART ONE
Language and Archaeology 1

**Chapter One**
The Promise and Politics of the Mother Tongue 3

*Ancestors* 3
*Linguists and Chauvinists* 6
*The Lure of the Mother Tongue* 11
*A New Solution for an Old Problem* 15
*Language Extinction and Thought* 19

**Chapter Two**
How to Reconstruct a Dead Language 21

*Language Change and Time* 22
*Phonology: How to Reconstruct a Dead Sound* 24
*The Lexicon: How to Reconstruct Dead Meanings* 32
*Syntax and Morphology: The Shape of a Dead Language* 36
*Conclusion: Raising a Language from the Dead* 38

**Chapter Three**
Language and Time 1:
The Last Speakers of Proto-Indo-European 39

*The Size of the Chronological Window:*
*How Long Do Languages Last?* 39
*The Terminal Date for Proto-Indo-European:*
*The Mother Becomes Her Daughters* 42
*The Oldest and Strangest Daughter (or Cousin?): Anatolian* 43
*The Next Oldest Inscriptions: Greek and Old Indic* 48
*Counting the Relatives: How Many in 1500 BCE?* 50

**Chapter Four**
Language and Time 2:
Wool, Wheels, and Proto-Indo-European 59

*The Wool Vocabulary* 59
*The Wheel Vocabulary* 63
*When Was the Wheel Invented* 65
*The Significance of the Wheel* 72
*Wagons and the Anatolian Homeland Hypothesis* 75
*The Birth and Death of Proto-Indo-European* 81

**Chapter Five**
Language and Place:
The Location of the Proto-Indo-European Homeland 83

*Problems with the Concept of "the Homeland"* 83
*Finding the Homeland: Ecology and Environment* 89
*Finding the Homeland: The Economic and Social Setting* 91
*Finding the Homeland: Uralic and Caucasian Connections* 93
*The Location of the Proto-Indo-European Homeland* 98

**Chapter Six**
The Archaeology of Language 102

*Persistent Frontiers* 104
*Migration as a Cause of Persistent Material-Culture Frontiers* 108
*Ecological Frontiers: Different Ways of Making a Living* 114
*Small-scale Migrations, Elite Recruitment, and Language Shift* 117

**PART TWO**
The Opening of the Eurasian Steppes 121

**Chapter Seven**
How to Reconstruct a Dead Culture 123

*The Three Ages in the Pontic-Caspian Steppes* 125
*Dating and the Radiocarbon Revolution* 126
*What Did They Eat?* 128

*Archaeological Cultures and Living Cultures* 130
*The Big Questions Ahead* 132

**Chapter Eight**
First Farmers and Herders: The Pontic-Caspian Neolithic 134

*Domesticated Animals and Pontic-Caspian Ecology* 135
*The First Farmer-Forager Frontier in the Pontic-Caspian Region* 138
*Farmer Meets Forager: The Bug-Dniester Culture* 147
*Beyond the Frontier: Pontic-Caspian Foragers before Cattle Arrived* 154
*The Gods Give Cattle* 158

**Chapter Nine**
Cows, Copper, and Chiefs 160

*The Early Copper Age in Old Europe* 162
*The Cucuteni-Tripolye Culture* 164
*The Dnieper-Donets II Culture* 174
*The Khvalynsk Culture on the Volga* 182
*Nalchik and North Caucasian Cultures* 186
*The Lower Don and North Caspian Steppes* 188
*The Forest Frontier: The Samara Culture* 189
*Cows, Social Power, and the Emergence of Tribes* 190

**Chapter Ten**
The Domestication of the Horse and the Origins of Riding: The Tale of the Teeth 193

*Where Were Horses First Domesticated?* 196
*Why Were Horses Domesticated?* 200
*What Is a Domesticated Horse?* 201
*Bit Wear and Horseback Riding* 206
*Indo-European Migrations and Bit Wear at Dereivka* 213
*Botai and Eneolithic Horseback Riding* 216
*The Origin of Horseback Riding* 221
*The Economic and Military Effects of Horseback Riding* 222

**Chapter Eleven**
The End of Old Europe and the Rise of the Steppe 225

*Warfare and Alliance:*
*The Cucuteni-Tripolye Culture and the Steppes* 230
*The Sredni Stog Culture: Horses and Rituals from the East* 239
*Migrations into the Danube Valley:*
*The Suvorovo-Novodanilovka Complex* 249
*Warfare, Climate Change, and Language*
*Shift in the Lower Danube Valley* 258
*After the Collapse* 260

**Chapter Twelve**
Seeds of Change on the Steppe Borders:
Maikop Chiefs and Tripolye Towns 263

*The Five Cultures of the Final Eneolithic in the Steppes* 265
*Crisis and Change on the Tripolye Frontier:*
*Towns Bigger Than Cities* 277
*The First Cities and Their Connection to the Steppes* 282
*The North Caucasus Piedmont:*
*Eneolithic Farmers before Maikop* 285
*The Maikop Culture* 287
*Maikop-Novosvobodnaya in the Steppes:*
*Contacts with the North* 295
*Proto-Indo-European as a Regional*
*Language in a Changing World* 299

**Chapter Thirteen**
Wagon Dwellers of the Steppe:
The Speakers of Proto-Indo-European 300

*Why Not a Kurgan Culture?* 306
*Beyond the Eastern Frontier:*
*The Afanasievo Migration to the Altai* 307
*Wagon Graves in the Steppes* 311
*Where Did the Yamnaya Horizon Begin?* 317
*When Did the Yamnaya Horizon Begin?* 321
*Were the Yamnaya People Nomads?* 321

*Yamnaya Social Organization* 328
*The Stone Stelae of the North Pontic Steppes* 336

**Chapter Fourteen**
The Western Indo-European Languages 340

*The End of the Cucuteni-Tripolye Culture and the Roots of the Western Branches* 343
*Steppe Overlords and Tripolye Clients: The Usatovo Culture* 349
*The Yamnaya Migration up the Danube Valley* 361
*Yamnaya Contacts with the Corded Ware Horizon* 367
*The Origins of Greek* 368
*Conclusion: The Early Western Indo-European Languages Disperse* 369

**Chapter Fifteen**
Chariot Warriors of the Northern Steppes 371

*The End of the Forest Frontier: Corded Ware Herders in the Forest* 375
*Pre-Sintashta Cultures of the Eastern Steppes* 385
*The Origin of the Sintashta Culture* 389
*Warfare in the Sintashta Culture: Fortifications and Weapons* 393
*Tournaments of Value* 405
*Sintashta and the Origins of the Aryans* 408

**Chapter Sixteen**
The Opening of the Eurasian Steppes 412

*Bronze Age Empires and the Horse Trade* 412
*The Bactria-Margiana Archaeological Complex* 421
*The Opening of the Eurasian Steppes* 435
*The Srubnaya Culture: Herding and Gathering in the Western Steppes* 437
*East of the Urals, Phase I: The Petrovka Culture* 441
*The Seima-Turbino Horizon in the Forest-Steppe Zone* 443

*East of the Urals, Phase II: The Andronovo Horizon* 448
*Proto-Vedic Cultures in the Central Asian Contact Zone* 452
*The Steppes Become a Bridge across Eurasia* 456

**Chapter Seventeen**
Words and Deeds 458

*The Horse and the Wheel* 459
*Archaeology and Language* 463

*Appendix: Author's Note on Radiocarbon Dates* 467

*Notes* 471

*References* 507

*Index* 547