## Illustrations

## **FIGURES**

- Figure 2.1 The three science revolutions in archaeology and the accumulating conversion from relative to absolute knowledge in tandem with the accumulation of archaeological data. 32
- Figure 2.2 Model of the basic organizing categories of society and their dynamics. 34
- Figure 2.3 Conceptual model of forces of power in human societies that integrates micro- and macrodynamics. 35
- Figure 2.4 Cyclical swings of discourse between humanistic- and science-based interpretations of the world. 43
- Figure 3.1 M. Gimbutas (1963: Figure 2) map of Kurgan Culture migrations. Reproduced by permission of the American Anthropological Association, from *American Anthropologist* 65, no. 4 (1963): 815–36. https://doi.org/10.1525/aa.1963.65.4.02a00030. Not for sale or further reproduction. 58
- Figure 3.2 A processual model of long-distance migration, from Anthony 1990. 59
- Figure 3.3 Yamnaya kurgan cemeteries in the Danube valley, 3100–2800 B.C., from Anthony 2007. 64
- Figure 3.4 The nine regional groups (I–IX) of the Yamnaya culture defined by N. Y. Merpert (1974: Figure 1). In his legend, a = documented border of a culture region; b = supposed border of region; and c = direction of invasion of other culture areas. 67

- Figure 6.1 A Northwest Coast Village. Men are returning from a raid, with bound captives and trophy heads. By François Girard, courtesy Canadian Museum of History, 1-a-42, s95–23505. 115
- Figure 6.2 Guaraní women and children captured by slave hunters. Image by French artist Jean-Baptiste Debret, who lived in Brazil during the early decades of the nineteenth century. From *Voyage pittoresque et historique au Brésil* [A picturesque and historic voyage to Brazil], Imprimerie Nationale Éditions (Arles: Actes Sud, 2014) (Public Domain). 118
- Figure 8.1 Overlapping interaction ranges; after Yasur-Landau 2010: Figure 1.1. 150
- Figure 8.2 Interactions in a harbor scene, tomb of Kenamun (after Davies and Faulkner 1947: pl. 8, additions by Yasur-Landau). (Public Domain) 151
- Figure 9.1 Top left: behavior of the unmodified CDM model at steps 5 k, 100 k, 500 k, and 1,500 k. Top right: Behavior of the wave toy model for corresponding steps. The red dotted lines indicate the eight vertical slices used to calculate Shannon's diversity index values (after Drost and Vander Linden 2018: Figure 5). 169
- Figure 9.2 Plot of Shannon's diversity values for all vertical blocks (after Drost and Vander Linden 2018: Figure 5). 169
- Figure 9.3 Interpolated dates for the dispersal of early farming across Europe. 171
- Figure 9.4 Plot of absolute population growth rate for the Adriatic Neolithic, as inferred from the analysis of the <sup>14</sup>C record. 172
- Figure 9.5 Taxonomic representation of sites by region for initial and secondary phases of Neolithic settlement expressed via correspondence analysis (after Gaastra and Vander Linden 2018: Figure 8). 174
- Figure 9.6 Violin plots of eigenvalues for Dimension 1 for first and second Adriatic Neolithic zooarchaeological assemblages. 176
- Figure 9.7 Violin plots of eigenvalues for Dimension 2 for both first and second Adriatic Neolithic zooarchaeological assemblages. 177
- Figure 10.1 The study area, overlaid with the distribution of Cucuteni-Tripolye sites and the positions of cemeteries discussed in the text. 186
- Figure 10.2 Population expansion and movement over the course of the Neo-Eneolithic period in Romania, Moldova, and Ukraine, expressed as a stacked percentage (simplified to five regions for clarity). 188

- Figure 10.3 Comparison of observed values of  $q_x$  (probability of death for a given age cohort) with a generalized model life table drawn from global ethnographic observations of traditional societies (data from Weiss 1973). 192
- Figure 10.4 Percentage distribution of deaths for a given age cohort  $x(d_y)$ . 193
- Figure 10.5 The spatio-temporal distribution of population growth episodes probably outstripping PNI. 195
- Figure 11.1 A comparison between a population growing at a faster and slower rate to an available resource limit (expressed in population). 206
- Figure 11.2 A growing population with nonrenewable resources: 2a—as population increases resources decrease to an equilibrium point; 2b—the dynamic process of reaching equilibrium. 207
- Figure 11.3 A growing population with nonrenewable resources—as population grows resources decline appropriately reflecting consumption. 208
- Figure 11.4 Surplus population migrating sequentially from areas of higher resources to areas of lower resources. 208
- Figure 11.5 User interface for the N Site Migration Model. 217
- Figure 11.6 Flowchart for the N Site Migration Model. 217
- Figure 11.7 Location of sites concerned in this study: 1—Stena I, IV, 2— Chechelnik, 3—Belyj Kamen, 4—Dobrovody, 5—Talianki, 6— Romanovka, 7—Maidanetske, 8—Chichirkozovka, 9—Vasilkov. 219
- Figure 11.8 Model of Migration combined with growth. 220
- Figure 12.1 Church of T'oros at Anavarza, taken c. 1905 (Gertrude Bell Archive, Newcastle University, Image: C-198). 242
- Figure 13.1 Map of the Near East showing key sites of the Upper Kingdom of Samsi-Addu and the Assyrian trading system, with the location of Elam and Emutbal territories. 251
- Figure 13.2 Map of the Near East showing core distribution of sites with Uruk and Uruk-related materials. 254
- Figure 13.3 Map of the Near East showing main clusters of settlements with Kura-Araxes/Khirbet Kerak materials. 255
- Figure 14.1 Map of the eastern Mediterranean and Aegean, with detail of the southeast Aegean, showing locations of major sites of interest (J. Leidwanger). 271

- Figure 14.2 General plan of Burgaz showing locations of the settlement, harbors, and other features (J. Leidwanger and N. Riddick). 273
- Figure 14.3 Map of 56 sites on the Datça peninsula recorded by Tuna (1983) and Sevimli (2016) ranging in date from the Archaic through the Late Roman period: 1. Bağharımı; 2. Barkaz; 3. Batıraltı; 4. Billiktepe; 5. Bükceğiz; 6. Çeşmeköy; 7. Datça Kalesi; 8. Döşeme Kalesi; 9. Emecik; 10. Gavurdere; 11. Gerenci; 12. Germe; 13. Gökçedere/Kabakkoyu; 14. Göktaş; 15. Gölyeri; 16. Göztepe/Yanıkharman; 17. Gümüş-Ülüklü; 18. Güznetepe; 19. Harıplık; 20. Karaincir; 21. Karfitepe; 22. Kargı; 23. Katıyalı; 24. Kepçemel Burnu; 25. Kiliseyanı; 26. Killik; 27. Killiktepe/Karakuştepe; 28. Kislebükü; 29. Kisletepe; 30. Kisleyanı; 31. Kızılağaç; 32. Kızılağaç kezi; 33. Kızılbükü; 34. Kızılkilise/Karıncalı; 35. Körmen; 36. Kumyer; 37. Maltepe; 38. Mersincik; 39. Mersincik Adası; 40. Mesudiye; 41. Muhaltepe; 42. Murdala; 43. Olgun Boğazı; 44. Palamutbükü Adası; 45. Sakızyakası; 46. Sarılimanı; 47. Sındı/Asartepe; 48. Tekirlikyolu; 49. Yağtaşı-Devtaşı; 50. Yarıkdağ; 51. Yassıdağaltı; 52. Yazıköy Kalesi; 53. Yelimli; 54. Yollucu Adası 274
- Figure 14.4 Boundary stone, perhaps of the harbor at Körmen, inscribed *horos limenos*, in its contemporary context, built sideways into a mosque at Karaköy, about 2 km inland (E. S. Greene). 277
- Figure 14.5 Network visualization (ForceAtlas2 layout) of connections across the Datça Peninsula during the Archaic/Early Classical period. 280
- Figure 14.6 Network visualization (ForceAtlas2 layout) of connections across the Datça Peninsula during the Late Classical/Early Hellenistic period. 282
- Figure 14.7 Network visualization (ForceAtlas2 layout) of connections across the Datça Peninsula during the Late Hellenistic /Early Roman period. 284
- Figure 14.8 Network visualization (ForceAtlas2 layout) of connections across the Datça Peninsula during the Mid-/Late Roman period. 285
- Figure 15.1 Contexts of possible over-water hominin dispersal in Northwest Eurasia, with sites and locations mentioned in the text and modern sea level depicted. Note that, because Lefkada/Leukas has definitely been connected to the mainland during glacials, Middle Palaeolithic sites on it are not depicted. Sites on the other Ionian Islands after Ferentinos et al. 2012. 296
- Figure 15.2 Contexts of possible over-water hominin dispersal in ISEA, with sites and locations mentioned in the text and modern sea level depicted.

  Biogeographic regions (Sahul, etc.) in italic boldface, and biogeographic boundaries as dashed lines. 299

- Figure 15.3 Reconstruction of the palaeogeography of ISEA during a moderate glacial. After Voris 2000 and Hall 2011. Stars indicate Lower and Middle Palaeolithic sites (on Flores, Sulawesi, and Luzon) noted in Fig. 15.2. 304
- Figure 15.4 Reconstruction of the palaeogeography of the Balkan and Aegean during a severe glacial (e.g., MIS 12). After Lykousis 2009. Note that reconstructed rivers (dashed lines) are fully hypothetical. Dashed box indicates the Ionian Islands, whose insularity during severe glacials is debated. Stars indicate possible Lower and Middle Palaeolithic sites (at Plakias and in the Ionian archipelago) noted in Fig. 15.1. 305
- Figure 16.1 Left column (a-d): The deconstruction of the boundaries we experience between brain, body, and the world around us. Right column (a-d): The emergence of sentience, consciousness, agency, and ownership out of our systems for motor control. 323
- Figure 16.2 The interconnections between our body, environment, and culture. The grey background symbolizes our sentience or consciousness that arises from the interactions within this system as a whole. 324
- Figure 16.3 The development of bilateral symmetric organisms and sentience (in grey) from the transition between the Neoproterozoic and the Cambrian Periods, around 541 million years ago, onward. 326
- Figure 16.4 The hand of the author moves a piece of an alternative chess set. Our ability to initiate and control such movements (grasp in the most literal sense) may be more relevant to our being in the world than our ability to appreciate and compute where to place the piece (grasp in a more figurative sense). 328

## TABLES

- Table 8.1 The use of interaction parameters to analyze the various interactions in the Kenamun harbor scene. 152
- Table 10.1 Mean adult age-at-death from selected studies throughout the Near East and southeastern Europe. 189
- Table 10.2 Life table for Neo-Eneolithic inhabitants of Ukraine and Moldova (both sexes; n = 562). 191
- Table 10.3 Life table for Neo-Eneolithic inhabitants of Ukraine and Moldova (females; n = 135, plus ~56 assigned children and indeterminates). 191
- Table 10.4 Life table for Neo-Eneolithic inhabitants of Ukraine and Moldova (males; n = 258, plus ~113 assigned children and indeterminates). 192

## XIV ILLUSTRATIONS

- Table 11.1 Migration researchers by country. 203
- Table 11.2 The decision table for migrants and local populations. 211