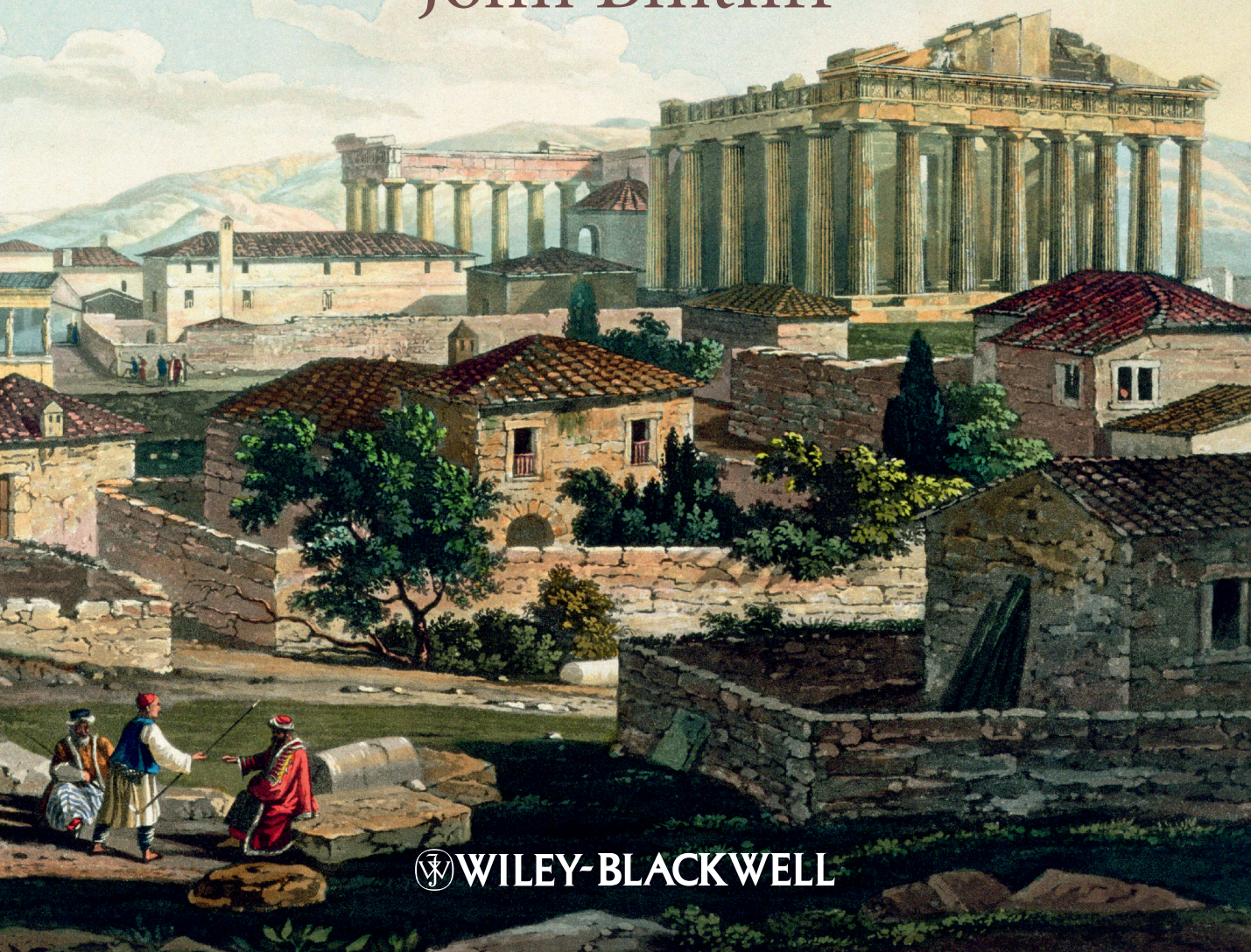


THE COMPLETE

ARCHAEOLOGY *of*
GREECE

From Hunter-Gatherers to the 20th Century A.D.

John Bintliff



WILEY-BLACKWELL

The Complete Archaeology of Greece

The Complete Archaeology of Greece

From Hunter-Gatherers to the 20th Century AD

John Bintliff

 **WILEY-BLACKWELL**

A John Wiley & Sons, Ltd., Publication

This edition first published 2012
© 2012 John Bintliff

Blackwell Publishing was acquired by John Wiley & Sons in February 2007. Blackwell's publishing program has been merged with Wiley's global Scientific, Technical, and Medical business to form Wiley-Blackwell.

Registered Office

John Wiley & Sons, Ltd, The Atrium, Southern Gate, Chichester, West Sussex, PO19 8SQ, UK

Editorial Offices

350 Main Street, Malden, MA 02148-5020, USA

9600 Garsington Road, Oxford, OX4 2DQ, UK

The Atrium, Southern Gate, Chichester, West Sussex, PO19 8SQ, UK

For details of our global editorial offices, for customer services, and for information about how to apply for permission to reuse the copyright material in this book, please see our website at www.wiley.com/wiley-blackwell.

The right of John Bintliff to be identified as the author of this work has been asserted in accordance with the UK Copyright, Designs and Patents Act 1988.

All rights reserved. No part of this publication may be reproduced, stored in a retrieval system, or transmitted, in any form or by any means, electronic, mechanical, photocopying, recording or otherwise, except as permitted by the UK Copyright, Designs and Patents Act 1988, without the prior permission of the publisher.

Wiley also publishes its books in a variety of electronic formats. Some content that appears in print may not be available in electronic books.

Designations used by companies to distinguish their products are often claimed as trademarks. All brand names and product names used in this book are trade names, service marks, trademarks or registered trademarks of their respective owners. The publisher is not associated with any product or vendor mentioned in this book. This publication is designed to provide accurate and authoritative information in regard to the subject matter covered. It is sold on the understanding that the publisher is not engaged in rendering professional services. If professional advice or other expert assistance is required, the services of a competent professional should be sought.

Library of Congress Cataloging-in-Publication Data

Bintliff, J. L. (John L.)

The complete archaeology of Greece : from hunter-gatherers to the 20th century AD / John Bintliff. – 1st ed.

p. cm.

Includes bibliographical references and index.

ISBN 978-1-4051-5418-5 (hardback) – ISBN 978-1-4051-5419-2 (paperback) 1. Greece—Antiquities.

2. Greece—Civilization. 3. Architecture, Ancient—Greece. 4. Art, Ancient—Greece. 5. Excavations (Archaeology)—Greece. I. Title.

DF77.B626 2012

949.5—dc23

2011049091

A catalogue record for this book is available from the British Library.

Set in 10/12pt Bembo by SPi Publisher Services, Pondicherry, India

This book is dedicated to
THE PEOPLE OF GREECE
for whom 'Philoxenia' (kindness to strangers)
has always been an essential quality
of Aegean life

Contents

List of Figures and Tables	ix
List of Color Plates	xxii
Acknowledgments	xxv
Introduction	1
Part I The Landscape and Aegean Prehistory	9
1 The Dynamic Land	11
2 Hunter-Gatherers: The Palaeolithic and Epipalaeolithic in Greece	28
3 Early Farming Communities: Neolithic Greece	46
4 Complex Cultures of the Early Bronze Age	83
5 The Middle to Early Late Bronze Age on Crete: The Minoan Civilization	123
6 The Middle to Early Late Bronze Age on the Cyclades and the Mainland	155
7 The Mature Late Bronze Age on the Mainland and in the Wider Aegean: The Mycenaean Civilization	181
Part II The Archaeology of Classical, Hellenistic, and Roman Greece in its Longer-term Context	207
8 The Greek Early Iron Age and the Concept of a “Dark Age”	209
9 The Archaeology of the Archaic Era: Demography, Settlement Patterns, and Everyday Life	234
10 The Built Environment, Symbolic Material Culture, and Society in Archaic Greece	252

11	The Archaeology of Classical Greece: Demography, Settlement Patterns, and Everyday Life	265
12	Symbolic Material Culture, the Built Environment, and Society in Classical Greece	285
13	The Archaeology of Greece in Hellenistic to Early Roman Imperial Times: Demography, Settlement Patterns, and Everyday Life	310
14	Symbolic Material Culture, the Built Environment, and Society in Hellenistic and Early Roman Greece	337
15	The Archaeology of Greece from Middle Roman Imperial Times to Late Antiquity: Demography, Settlement Patterns, and Everyday Life	351
16	Symbolic Material Culture, the Built Environment, and Society in Middle to Late Roman Greece	369
Part III The Archaeology of Medieval and post-Medieval Greece in its Historical Context		379
17	The Archaeology of Byzantine Greece: Demography, Settlement Patterns, and Everyday Life	381
18	Symbolic Material Culture, the Built Environment, and Society in the Byzantine Aegean	402
19	The Archaeology of Frankish-Crusader Society in Greece	416
20	The Archaeology of Ottoman and Venetian Greece: Population, Settlement Dynamics, and Socio-economic Developments	436
21	Material Culture, the Built Environment, and Society in Ottoman and Venetian Greece	459
22	The Archaeology of Early Modern Greece	478
	Index	498

List of Figures and Tables

The author and publisher gratefully acknowledge the permission granted to reproduce the copyright material in this book

Figures

- | | | |
|-----|---|----|
| 0.1 | German excavations at the Heroon in Olympia, 1880. In the foreground are Richard Borrmann and Wilhelm Dörpfeld.
© bpk, Berlin. | 3 |
| 1.1 | Distribution of the major modern olive-production zones with key Bronze Age sites indicated. The shading from A to C indicates decreasing olive yields, D denotes no or minimal production. Major Bronze Age sites are shown with crosses, circles, and squares. C. Renfrew, <i>The Emergence of Civilization</i> (Study in Prehistory), London 1972, Figure 18.12. © 1972 Methuen & Co. Reproduced by permission of Taylor & Francis Books UK. | 12 |
| 1.2 | Major geological zones of Greece.
H. C. Darby <i>et al.</i> , <i>Naval Geographical Intelligence Handbook, Greece</i> , vol. 1. London: Naval Intelligence Division 1944, Figure 4. | 13 |
| 1.3 | Average annual rainfall in Greece.
H. C. Darby <i>et al.</i> , <i>Naval Geographical Intelligence Handbook, Greece</i> , vol. 1. London: Naval Intelligence Division 1944, Figure 59. | 16 |
| 1.4 | The vertical zonation of crops in the Mediterranean lands.
J. M. Houston, <i>The Western Mediterranean World</i> . London 1964, Figure 28. Courtesy of J. M. Houston. | 18 |
| 1.5 | Vegetation sequence in Greece, from Mediterranean lowland (right) to inner mountain peaks (left).
Modified from J. Kautzky, <i>Natuurreisgids Griekenland. Vasteland en Kuststreken</i> . De Bilt 1995, diagram on p. 23. | 19 |
| 1.6 | Soils of Greece.
H. C. Darby <i>et al.</i> , <i>Naval Geographical Intelligence Handbook, Greece</i> , vol. 1. London 1944, Figure 7. | 22 |
| 1.7 | Cross-section of the infill of the Plain of Troy, Northwestern Anatolia, since the last glacial era. Note the dominance of marine deposits and of river sediments laid down in a former sea inlet almost to the innermost part of the plain, and the late and superficial progradation (advance) of the modern dry land plain alluvia. | 23 |

- Author after J. C. Kraft *et al.*, “Geomorphic reconstructions in the environs of ancient Troy,” *Science* 209 (1980), 776–782, Figure 3. Reproduced by permission of American Association for the Advancement of Science.
- 2.1 Peneios River open valley terraces, Thessaly, with archaeologists recording lithic finds from Palaeolithic hunter-gatherer activity. 31
Courtesy of Curtis Runnels.
- 2.2 Key Mesolithic sites in Greece. 34
N. Galanidou and C. Perlès (eds.), *The Greek Mesolithic. Problems and Perspectives*. London 2003, Figure 1.1.
- 2.3 Upper Mesolithic stone-tool assemblage from Franchthi Cave. Most of the small tools or microliths (right) are related to fishing: tools for preparing nets and traps for the capture of fish and then their processing for eating and storage. Shellfish collection and processing would also benefit from some of these small tools but also from some larger tools (left). The curved trapezoidal arrows however (upper right) could also be used for the land game, red deer and boar, identified in the Cave deposits. Many of the larger cutting and scraping tools (left) would be useful for processing land animals. Plant remains include wild fruits, nuts, and cereals, but no specific tools can yet be associated with these. 36
C. Perlès, *The Early Neolithic in Greece*. Cambridge University Press 2001, Figures 2.4 and 2.5.
- 2.4 Mesolithic settlement system in the Argolid. 38
C. Runnels *et al.*, “A Mesolithic landscape in Greece: Testing a site-location model in the Argolid at Kandia,” *Journal of Mediterranean Archaeology* 18 (2005), 259–285, Figure 2.
- 2.5 The setting of the Klithi Cave and other sites in the Epirus upland and lowland region with likely seasonal moves of game animals. Arrowed routes between uplands and lowlands mark migrations of deer, cattle and horse. Routes purely within the uplands those of ibex and chamois. Low glacial sea levels made Corfu island part of the mainland. 41
G. Bailey (ed.), *Klithi: Palaeolithic Settlement and Quaternary Landscapes in Northwest Greece*, vol. 2. Cambridge University Press 1997, Figure 30.25.
- 3.1 The spread of Neolithic farming and herding during the Holocene (our current Interglacial, ca. 10,000 BP [before present] till now). Dates are in years BC. 48
L. Louwe Kooijmans, *Between Geleen and Banpo. The Agricultural Transformation of Prehistoric Society, 9000–4000 BC*. Amsterdam, Archaeology Centre, Amsterdam University 1998, Figure 2.
- 3.2 Early Neolithic house from Nea Nikomedeia (left) and Middle Neolithic house from Sesklo acropolis (right). 53
D. R. Theochares, *Neolithikos politismos. Suntomi episkopisi tis neolithikis ston helladiko choro*. Athens 1993, Figures 19 and 48.
- 3.3 The author’s model for fissive and corporate community settlement systems. 54
J. L. Bintliff, “Emergent complexity in settlement systems and urban transformations.” In U. Fellmeth *et al.* (eds.), *Historische Geographie der Alten Welt. Festgabe für Eckart Olshausen*. Georg Olms Verlag, Hildesheim 2007, 43–82, Figure 7.
- 3.4 Reconstruction of the Upper Town at Sesklo. D. R. Theochares, *Neolithikos politismos. Suntomi episkopisi tis neolithikis ston helladiko choro*. Athens 1993, Figure 43. 56
- 3.5 Plan of excavated areas at Dhimini and reconstruction drawing. 57
D. Preziosi and L. A. Hitchcock, *Aegean Art and Architecture*. Oxford University Press 1999, Figures 7 and 8.
- 3.6 Distribution map of EN tells of the Thessalian Eastern Plain and Central Hill Land. 61
The Thiessen polygon analysis suggests territory packing.
C. Perlès, *The Early Neolithic in Greece*. Cambridge University Press 2001, Figure 7.9.

- 3.7 Characteristic tableware pottery forms from the Neolithic sequence of Thessaly. 68
Phase 1 = EN, 2 = MN, 3–4 = early then late LN, 5 = FN. Note that in the last three phases a wide range of undecorated domestic and cookwares are in use, not shown here.
J.-P. Demoule and C. Perlès, “The Greek Neolithic: A new review.” *Journal of World Prehistory* 7/4 (1993), 355–416, Figure 8. London: Springer Verlag.
- 3.8 Characteristic stone tools of the Greek Neolithic. 70
J.-P. Demoule and C. Perlès, “The Greek Neolithic: A new review.” *Journal of World Prehistory* 7/4 (1993), 355–416, Figure 6. London: Springer Verlag.
- 3.9 The spread of exotic lithic raw materials (obsidian, andesite and honey flint) and the location of the emery source on Naxos. 71
C. Perlès, “Systems of exchange and organization of production in Neolithic Greece.” *Journal of Mediterranean Archaeology* 5 (1992), 115–164, Figure 1.
- 3.10 Middle Neolithic double figurine from Thessaly. 75
Drawing by Professor Lauren Talalay, University of Michigan.
- 4.1 Olive and wine presses from the rural mansion of Vathypetro, Late Minoan Crete. 84
Photos J. Lesley Fitton.
- 4.2 Proposed Early Helladic settlement hierarchy for the Argolid Survey: size of circle reflects site extent and implied political status. 87
M.H. Jameson *et al.* (eds.), *A Greek Countryside. The Southern Argolid from Prehistory to the Present Day*. Stanford 1994, Figure 6.9. © 1994 Board of Trustees of the Leland Stanford Jr. University.
- 4.3 Monumental structure (“House of the Tiles”) at Lerna. 88
D. Preziosi and L. A. Hitchcock, *Aegean Art and Architecture*. Oxford University Press 1999, Figure 17.
- 4.4 (Upper) Male status graves with weapons (Schwert = sword, Dolch = dagger, Lanze = lance, and Rasiermesser = razor-knives) in the EH2 R Grave tumuli at Nidri, Levkas. (Lower) Precious metal in the same graves (Silber = silver, Werkzeug = symbolic craft-tools). 90
I. Kilian-Dirlmeier, *Die Bronzezeitlichen Gräber bei Nidri auf Leukas*. Bonn 2005, Abb. 95–96. Courtesy of Römisch-Germanischen Zentralmuseums Mainz.
- 4.5 A Mesara communal tomb or tholos, Early and Middle Minoan. Whether the stone roof was a corbelled dome, or flat, is still disputed. 98
S. Hood, *The Minoans. Crete in the Bronze Age*. London 1971, Figure 127. Reconstruction drawn by Martin E. Weaver. Plan drawn by Patricia Clarke.
- 4.6 The Agiofarango Valley in Minoan times. 99
J. L. Bintliff, *Natural Environment and Human Settlement in Prehistoric Greece*. Oxford British Archaeological Reports 1977, Chapter 8, Figure 9.
- 4.7 Selected Early Minoan wares, emphasizing the significance of drinking sets. 101
K. Branigan (ed.), *Cemetery and Society in the Aegean Bronze Age*. Sheffield 1998, Figures 1.5 and 8.1. Reproduced by permission of Continuum International Publishing Group.
- 4.8 Early Cycladic boats. 105
C. Broodbank, *An Island Archaeology of the Early Cyclades*. © Cambridge University Press 2000, Figure 23.
- 4.9 Travel ranges in the Early Cycladic Aegean from major island foci. The chief centers indicated, north to south, are Aghia Irini (Kea), Chalandriani (Syros), Grotta Aplomata (Naxos), and Daskaleio (Keros). 106
C. Broodbank, *An Island Archaeology of the Early Cyclades*. © Cambridge University Press 2000, Figure 85.

- 4.10 Typical ceramic and metal pot forms of Early Cycladic 2. 108
C. Broodbank, *An Island Archaeology of the Early Cyclades*. © Cambridge University Press 2000, Figure 60.
- 4.11 The fortified enclosure site at Chalandriani, Syros. 109
O. Dickinson, *The Aegean Bronze Age*. © Cambridge University Press 1994, Figure 4.5.
- 4.12 Cycladic symbolic culture. Typology of figurines by period, oldest at the top of the sequence. 115
C. Renfrew, *The Emergence of Civilization* (Study in Prehistory). London 1972, Figure 11.8.
© 1972 Methuen & Co. Reproduced by permission of Taylor & Francis Books UK.
- 5.1 The Vrokastro Survey in Eastern Crete shows the progressive infill of the Cretan landscape 126
between the Final Neolithic and First Palace period (above) and the Second Palace
period (facing page).
J.B. Hayden, J. A. Moody, and O. Rackham, "The Vrokastro Survey Project, 1986–1989.
Research design and preliminary results." *Hesperia* 61/3 (1992), 293–353, Figures 16 and 17.
Reproduced by permission of American School of Classical Studies at Athens © 1992.
- 5.2 The mature plan of the major palace at Phaistos. 129
D. Preziosi and L. A. Hitchcock, *Aegean Art and Architecture*. © Oxford University
Press 1999, Figure 62.
- 5.3 The reconstructed small palace within the country town of Gournia. 129
J. L. Fitton, *Minoans. Peoples of the Past*. London 2002, Figure 54.
- 5.4 A possible settlement hierarchy in Palatial Crete. The following centers are suggested 130
to have possessed palaces, large or small, in the First and/or Second Palace period:
Khania, Monastiraki, Phaistos, Knossos, Arkhanes, Galatas, Malia, Gournia, Petras, Zakro.
E. Adams, "Social strategies and spatial dynamics in Neopalatial Crete: An analysis
of the North-Central area." *American Journal of Archaeology* 110 (2006), 1–36.
Reproduced by permission of Archaeological Institute of America (Boston).
- 5.5 Knossos palatial fresco taken to represent public ceremonies in the outer West Court. 133
J. Driessen, "The King Must Die: Some Observations on the Use of Minoan
Court Compounds." In J. Driessen, *et al.* (eds.), *Monuments of Minos*, Austin: University
of Texas at Austin Press, 2002, 1–14. Courtesy of J. Driessen.
- 5.6 Knossos palatial fresco taken to represent public ceremonies in the inner Central Court. 133
J. Driessen, "The King Must Die: Some Observations on the Use of Minoan
Court Compounds." In Driessen, Laffineur, Schoep eds., *Monuments of Minos*, Austin:
University of Texas at Austin Press, 2002, 1–14. Courtesy of J. Driessen.
- 5.7 The early First Palace (Protopalatial) court-complex at Malia set against its New Palace 134
(Neopalatial) successor.
I. Schoep, "Looking beyond the First Palaces: Elites and the agency of power
in EMIII-MMII Crete." *American Journal of Archaeology* 110 (2006), 37–64, Figure 3.
Reproduced by permission of Archaeological Institute of America (Boston).
- 5.8 Malia palace and town. 135
I. Schoep, "Social and political organization on Crete in the Proto-Palatial Period:
The case of Middle Minoan II Malia." *Journal of Mediterranean Archaeology* 15 (2002),
101–132, Figure 1.
- 5.9 Carved serpentine cup, known as the Chieftain's Cup, found at the Minoan site 137
of Ayia Triada on Crete.
© Roger Wood/CORBIS.
- 5.10 Clay archive records in Minoan Linear A script. 143
P. M. Warren, *The Making of the Past. The Aegean Civilizations*. Ekdotiki Athenon SA,
Athens 1975, 37. Heraklion Museum, Crete. Photo: Ekdotiki Athenon, Athens.

5.11	Typical painted fine wares of First Palace date. O. Dickinson, <i>The Aegean Bronze Age</i> . © Cambridge University Press 1994, Figure 5.8.	144
5.12a	Scene on Isopata engraved ring gem showing ritual dancing in a natural setting with a small floating figure. Drawn by V.-P. Herva after Platon and Pini 1984: no. 51, from V.-P. Herva, “Flower lovers, after all? Rethinking religion and human–environment relations in Minoan Crete.” <i>World Archaeology</i> 38 (2006), 590, Figure 2.	147
5.12b	Engraved ring gem. Offerings to a seated female figure before a mystical tree. Clyde E. Keeler, <i>Apples of Immortality from the Kuna Tree of Life</i> . New York 1961/ Hathi Trust Digital Library.	147
6.1	Major and minor settlements on the Middle Cycladic Cyclades. C. Broodbank, <i>An Island Archaeology of the Early Cyclades</i> . © Cambridge University Press 2000, Figure 109.	156
6.2	The development of the Middle then Late Cycladic town at Phylakopi. T. Whitelaw, “A tale of three cities: Chronology and Minoisation at Phylakopi in Melos.” In A. Dakouri-Hild and S. Sherratt (eds.), <i>Autochthon. Papers Presented to O. T. P. K. Dickinson</i> . Oxford 2005, 37–69, Figure 1.	158
6.3	Minoan cultural radiations. C. Broodbank, <i>An Island Archaeology of the Early Cyclades</i> . © Cambridge University Press 2000, Figure 121.	160
6.4	The present-day outline of Thera island with the location of the Bronze Age town at Akrotiri. J. Chadwick, <i>The Mycenaean World</i> . Cambridge 1976, Figure 4.	162
6.5	Middle Helladic gray Minyan ware goblet. © Trustees of the British Museum.	164
6.6	Middle Helladic village at Malthi, Peloponnese. E. Vermeule, <i>Greece in the Bronze Age</i> . Chicago 1964, Figure 14.	165
6.7	From left to right, development over time of male dress and gifts in the Shaft Graves. Areas shaded black are in gold. I. Kilian-Dirlmeier, “Beobachtungen zu den Schachtgräbern von Mykenai.” <i>Jahrbuch des Römisch-Germanischen Zentralmuseums Mainz</i> 33 (1986), 159–198, Figures 14–16. Courtesy of Römisch-Germanischen Zentralmuseums Mainz.	172
6.8	Plan of the late “Treasury of Atreus” tholos at Mycenae. W. Taylour, <i>The Myceneans</i> . London 1966, Figure 43.	174
6.9	The great settlement mound or Toumba at Thessaloniki. Author.	176
7.1	Mycenaean krater (LH3) depicting an octopus, from Ialysos (modern Trianda), Rhodes, Aegean Sea, h. 41 cm. © Trustees of the British Museum.	182
7.2	The earliest clear palace plan at Pylos, LH3A period (left) shows some resemblance to a Minoan “court-complex,” whilst the later palace, LH3B period (right) has more controlled access and is less permeable to the public. U. Thaler, “Constructing and reconstructing power.” In J. Maran <i>et al.</i> (eds.), <i>Constructing Power: Architecture, Ideology and Social Practice</i> . Hamburg 2006, 93–116, Tafel 16, 1–2.	183
7.3	A first attempt to model the settlement hierarchy for the Mycenaean Plain of Argos: primary, secondary, and tertiary settlements are shown as triangles then larger and smaller circles. J. L. Bintliff, <i>Natural Environment and Human Settlement in Prehistoric Greece</i> . Oxford 1977, Appendix A, Figure 1a.	186
7.4	The palace at Pylos in LH3B: the Great Megaron reconstructed.	188

- Watercolor by Piet de Jong, digitally edited by Craig Mauzy. Courtesy of Department of Classics, University of Cincinnati.
- 7.5 View and partial plan of Mycenaean fortress at Gla, Central Greece. 190
Photo R. V. Schoder, SJ, © 1989 Loyola University of Chicago. Plan from R. V. Schoder, SJ, *Ancient Greece from the Air*. London: Thames and Hudson 1974, 79.
- 7.6 Mycenaean-style chamber tomb construction. 193
S. Hood, *The Minoans. Crete in the Bronze Age*. Thames and Hudson, London 1971, Figure 29. Drawn by Patricia Clarke.
- 7.7 Mycenaean ceramic findspots abroad. Shaded areas and black squares mark areas 196
and settlements with important concentrations, isolated dots mark small findspots. Black circles denote key Mycenaean centers in the Aegean homeland.
G.-J. van Wijngaarden, *Use and Appreciation of Mycenaean Pottery in the Levant, Cyprus and Italy*. Amsterdam 2002, Figure 2.
- 7.8 Halstead's model for the Mycenaean palatial economy. 198
P. Halstead, "The Mycenaean palatial economy: Making the most of the gaps in the evidence." *Proceedings of the Cambridge Philological Society* 38 (1992), 57–86, Figure 4. © Cambridge University Press.
- 8.1 Characteristic fine ware, early Iron Age (Protogeometric style), a grave assemblage 210
from the Kerameikos cemetery in Athens.
© Trustees of the British Museum.
- 8.2 Lefkandi elite mansion and/or cult burial structure, ca. 1000 BC, with subsequent 211
cemetery to its east.
A. Snodgrass, *An Archaeology of Greece. The Present State and Future Scope of a Discipline*. Stanford 1987, Figure 54. Reproduced by permission of University of California Press Books.
- 8.3 (Upper) The EIA to Archaic evolution of settlement foci in Boeotia. Known and 216
hypothesized (question mark) nucleated settlements in later Geometric and Archaic times. By Classical times these multiple local foci have become separated into city-states (solid triangles) and their dependent villages (solid circles). Possible agricultural territories are marked by the polygons. (Lower) Territorial analysis of the historically and archaeologically located rural villages in the territory of Classical Athens, also showing urban (intramural) administrative units (rural and urban "demes"). Possible agricultural territories are marked by the polygons.
J. L. Bintliff, "Territorial behaviour and the natural history of the Greek polis." In E. Olshausen and H. Sonnabend (eds.), *Stuttgarter Kolloquium zur historischen Geographie des Altertums*, vol. 4. Amsterdam 1994, 207–249. Published there as Figure 20 on Plate XXXIX, and Figure 36 on Plate LVI.
- 8.4 Settlement-chamber migration of nucleations in the Valley of the Muses. Askra is the sole 219
nucleation in Early Bronze Age and Greco-Roman to Byzantine times, site VM4 is the sole village in Middle-Late Bronze Age, Frankish/Crusader, and Early Ottoman times, and the modern village is the only nucleation from Late Ottoman times to today.
Author.
- 8.5 Settlement plan of Emborio on the island of Chios in the Early Iron Age. 222
A. Snodgrass, *An Archaeology of Greece. The Present State and Future Scope of a Discipline*. Stanford 1987, Figure 57. Reproduced by permission of University of California Press Books.
- 8.6 Elaboration of houses at Zagora during Late Geometric times. 224

- F. Lang, *Archaische Siedlungen in Griechenland: Struktur und Entwicklung*. Berlin 1996, Figures 55–56. © Wiley-VCH Verlag GmbH & Co. KGaA, Weinheim.
- 8.7 Eighth-century wooden temples of apsidal form underlying a later rectangular stone temple at Eretria. 229
J. Whitley, *The Archaeology of Ancient Greece*. Cambridge 2001, Figure 7.6.
- 9.1 Map of the distribution of city-states or poleis in Classical Greece. The remaining areas were organized in “ethne” (tribal or confederate states) and/or kingdoms. 235
A. Snodgrass, *Archaic Greece. The Age of Experiment*. London 1980, Figure 43 (after Kirsten 1956). Courtesy of Professor A. Snodgrass.
- 9.2 Early scene of a hoplite phalanx piped into battle ca. 675 BC. 239
Chigi jug, detail of warriors, c. 640 BC. Rome, Museo di Villa Giulia. © 2011. Photo Scala, Florence. Courtesy of the Ministero per i Beni e le Attività Culturali.
- 9.3 Reconstruction of the city of Old Smyrna in the late Archaic period. 241
R. Cook, “Old Smyrna, 1948–1951.” *Annual of the British School at Athens* 53 (1958–1959), 1–181.
- 9.4 Reconstruction of the Panhellenic sanctuary at Delphi in about 160 AD. 244
Model by Hans Schleif, scale 1:200. General view showing Temple of Apollo and Theater from the south. Metropolitan Museum of Art, New York. Dodge Fund, 1930 (30.141.2). Photo © 2011 Metropolitan Museum of Art/Art Resource/Scala, Florence.
- 9.5 Waves of population and urbanization over time in the Aegean, from intensive and extensive survey data. 246
J. L. Bintliff, “Regional survey, demography, and the rise of complex societies in the Ancient Aegean: Core–periphery, Neo-Malthusian, and other interpretive models.” *Journal of Field Archaeology* 24 (1997), 1–38, Figure 10, revised.
- 9.6 Greek colonization in Late Geometric–Archaic times. 248
A. A. M. van der Heyden, *Atlas van de antieke wereld*. Amsterdam 1958, Map 3.
- 10.1 The development of male kouros statues from Early to Late Archaic times. 253
Colossal marble kouros from Cape Sounion (left). © De Agostini/SuperStock. Funerary kouros of Kroisos, Paros marble, ca. 525 BC, from Anavyssos (right). © The Art Archive/National Archaeological Museum Athens/Gianni Dagli Orti.
- 10.2 Proto-Corinthian ceramic, fine ware from the final eighth to seventh centuries BC. 254
© Trustees of the British Museum.
- 10.3 Black-Figure Attic vase, typical fine ware from the late sixth to early fifth centuries BC. 255
Museum of Fine Arts, Boston/Henry Lillie Pierce Fund/The Bridgeman Art Library.
- 10.4 Red-Figure Attic calyx krater depicting Hercules wearing a laurel wreath with Athena and other Greek heroes, typical fine ware from the fifth to fourth centuries BC. 256
Niobid Painter (ca. 475–450 BC). Louvre, Paris/The Bridgeman Art Library.
- 10.5 Late Archaic temple of Aphaea on the island of Aegina. 258
A. A. M. van der Heyden, *Atlas van de antieke wereld*. Amsterdam 1958, 30.
- 10.6 The proto-historic dispersed plan of Athens with the later city wall. 260
I. Morris, “The early polis as city and state.” In J. Rich and A. Wallace-Hadrill (eds.), *City and Country in the Ancient World*. London 1991, 25–58, Figure 2. © 1991 Routledge. Reproduced by permission of Taylor & Francis Books UK.
- 11.1 The Athenian Acropolis in Hellenistic times. Key Periclean monuments: immediately at the head of the entrance ramp is the Propylaea gate-complex, to its far right on a projecting wing the tiny temple of Athena Nike, then in the raised centre of the citadel 268

- is the temple of Athena Parthenos, and to its left adjacent to the perimeter wall the complex temple called the Erechtheion (dedicated to Athena and Poseidon Erechtheios). Reconstruction drawing courtesy of Professor M. Korres.
- 11.2 The site of LSE1. (Top left) Local surface pottery density around the site (gridded in white). (Right and lower) Sherd foci for Classical, Roman, and Late Roman times. Elements taken from J. L. Bintliff and P. Howard, "A radical rethink on approaches to surface survey and the rural landscape of Central Greece in Roman times." In F. Kolb and E. Müller-Luckner (eds.), *Chora und Polis*. München 2004, 43–78, Figures 11, 22, 23, and 24. 278
- 11.3 (Upper) Surface survey of Thespieae city shows its maximum extent of 70–100 ha during the Classical to Early Hellenistic era. (Lower) Total rural survey south of the city revealed an inner ring of small rural cemeteries (C), then a ring of large to medium-sized farms (MF, LF) and hamlets (H), followed by small farms (F), and finally a large hamlet (Askris Potamos). Upper: author. Lower: J. L. Bintliff *et al.*, *Testing the Hinterland: The Work of the Boeotia Survey (1989–1991) in the Southern Approaches to the City of Thespiiai*. Cambridge 2007, Figure 9.4. 280
- 11.4 Domestic ceramics of the Classical era. B. A. Sparkes, "The Greek kitchen." *Journal of Hellenic Studies* 82 (1962), 121–137, composite from Plate IV pots 1, 2, 3, 5; Plate V pots 2, 6, 7; Plate VI pots 2, 5. 282
- 12.1 The decorative scheme of the Parthenon. M. D. Fullerton, *Greek Art*. Cambridge 2000, Figure 35. © Cambridge University Press. 288
- 12.2 The Doric architectural order. A. W. Lawrence and R. A. Tomlinson, *Greek Architecture*. New Haven 1996, xiv, unnumbered figures. 290
- 12.3 The Ionic architectural order. A. W. Lawrence and R. A. Tomlinson, *Greek Architecture*. New Haven 1996, xv, unnumbered figures. 291
- 12.4 Red-Figure Attic vase showing a household scene. © Trustees of the British Museum. 292
- 12.5 The Cnidos Aphrodite. Marble. Roman, ca. 180 AD. Slightly altered copy of the Aphrodite of Cnidos by Praxiteles, ca. 350 BC. Vatican Museums, Rome, inv. no. 474. akg-images/Nimatallah. 293
- 12.6 The Garlanded Youth (Diadumenos) by Polycleitos. Marble, h. 186 cm. Fifth century BC. Ancient copy from Delos. akg-images/De Agostini Picture Library. 294
- 12.7 A series of house blocks on the North Hill, Olynthus. N. Cahill, *Household and City Organization at Olynthus*. New Haven: Yale University Press 2002, Figure 7. 298
- 12.8 A typical Olynthus house plan. M. H. Jameson, "Domestic space in the Greek city-state." In S. Kent (ed.), *Domestic Architecture and the Use of Space*. © Cambridge University Press 1990, Figure 7.6. 299
- 12.9 An example of Cahill's Olynthus house analysis. N. Cahill, *Household and City Organization at Olynthus*. New Haven: Yale University Press 2002, Figure 16. 302
- 12.10 Access analysis for the settlement at Trypetos, Crete. R. C. Westgate, "House and society in Classical and Hellenistic Crete." *American Journal of Archaeology* 111 (2007), 423–457, Figure 12. Reproduced by permission of Archaeological Institute of America (Boston). 304

- 12.11 Atene deme's thin eroded soil allows Classical farm foundations to stand on the modern surface. Three farms, numbered, are shown with circular threshing-floors and estate boundaries. 306
H. Lohmann, *Atene. Forschungen zu Siedlungs- und Wirtschaftsstruktur des klassischen Attika*. Köln 1993, Figure 36.
- 13.1 (Top) Rural settlement decline in the region of Boeotia, Central Greece belonging to the ancient cities of Thespieae and Haliartos (located in the Southeast and Northwest of the maps). Many rural farms and hamlets disappear between Classical-Hellenistic and LH-ER times, many more cease to be flourishing settlements (low ceramic finds indicate site shrinkage or temporary rather than permanent use = "probable/possible" occupation). J. L. Bintliff, "The Roman countryside in Central Greece: Observations and theories from the Boeotia Survey (1978–1987)." In G. Barker and J. Lloyd (eds.), *Roman Landscapes. Archaeological Survey in the Mediterranean Region*. London 1991, 122–132, Figures 2 and 4. (Below) Surface collections from the small town of Askra show severe contraction between Classical Greek and Early Roman times. Open circles denote sample areas lacking finds of the mapped period, grayscale shading increases in darkness with higher density of dated finds for the mapped phase. J. L. Bintliff and A. M. Snodgrass, "Mediterranean survey and the city." *Antiquity* 62 (1988), 57–71, Figures 2b and 2c. 314
- 13.2 Early Roman Greece, its provinces, colonial foundations by Caesar (colonies césariennes) and Augustus (fondations augustéennes), and privileged indigenous cities (libres, pérégrines). R. Étienne *et al.*, *Archéologie historique de la Grèce antique*. Paris 2000, Figure 137. 316
- 13.3 Pella: palace/acropolis to north, agora center, and wealthy mansions to its south. M. Lilimpaki-Akamati and I. M. Akamatis (eds.), *Pella and Its Environs*. Athens 2004, Figure 8. 320
- 13.4 The gridplan of the Roman colony of Corinth was set within the pre-Roman city-walls. Also marked is the acropolis (far southwest) and the former Long Walls (to the north running to the coast), together with the Roman agricultural land-division for the colonists around the city. R. Étienne *et al.*, *Archéologie historique de la Grèce antique*. Paris 2000, Planche XIV.3. 324
- 13.5 Development of Thessaloniki from a secondary center within the Macedonian Hellenistic state, to the capital of the Roman province of Macedonia. D. V. Grammenos (ed.), "Roman Thessaloniki." Thessaloniki, Archaeological Museum Publications, 2003, 124. 327
- 13.6 Argos: Roman bath complex. M. Piérart and G. Touchais, *Argos. Une ville grecque de 6000 ans*. Paris 1996, 79. 328
- 13.7a Drawings. A typical assemblage of Hellenistic date. Top: (left to right) table cups, jug, and serving bowls. Lower: (left to right) cookpot, unguentaria (oil-flasks), casserole, and amphorae. Courtesy of Mark van der Enden. 331
- 13.7b Early Roman ceramics. Upper left: tablewares. Upper right: amphorae and cooking ware. Below, unguentaria, kitchen, and other plain wares. Philip Bes after H. S. Robinson, *Pottery of the Roman Period. Chronology* (= *The Athenian Agora*, Vol. 5). Princeton 1959, with permission of Professor J. Camp. 332
- 14.1 Plan of the Aegai palace. R. Étienne *et al.*, *Archéologie historique de la Grèce antique*. Paris 2000, Figure 113. 338
- 14.2 Access diagram for three houses in Delos. Note the focus on entry toward the display courts with adjacent mosaic-floored entertainment rooms and the marginalization of family and service suites. 339

- R. C. Westgate, "House and society in Classical and Hellenistic Crete." *American Journal of Archaeology* 111 (2007), 423–457, Figure 1. Reproduced by permission of Archaeological Institute of America (Boston).
- 14.3 The Baroque: defeated Barbarians from the Attalid dedication on the Parthenon. 344
Left: National Archaeological Museum of Venice. Right: © 2011. DeAgostini Picture Library/Scala, Florence.
- 14.4 A Roman entrepreneur from Delos, first century BC, in Classicizing physique, a 347
"pseudo-athlete."
© Erin Babnik/Alamy.
- 15.1 Sequence of landscape change in the countryside of Thespieae, Boeotia 356
in MR–LR times. Villas (V) and putative villa-estate hamlets (H) concentrate
in the southwest and west districts, with an increase in site area
over time.
Redrawn from J. L. Bintliff *et al.*, *Testing the Hinterland: The Work of the Boeotia
Survey (1989–1991) in the Southern Approaches to the City of Thespieai*.
Cambridge 2007, Figures 9.10 and 9.15.
- 15.2a The fortified hilltop of Aghios Constantinos represents a class of walled 359
villages typical for the Balkans in the fifth to seventh centuries AD.
- 15.2b The Late Roman wall of Athens. 362
Author.
- 15.3 Marble sarcophagus from Thessaloniki, third century AD. 364
Archaeological Museum of Thessaloniki, inv. no. MΘ 1247. © Hellenic
Ministry of Culture and Tourism/Archaeological Receipts Fund.
- 15.4 A Late Roman ceramic assemblage. Upper left: tablewares. Right 365
upper and lower: kitchen and other domestic wares. Below left: storage
and transport amphorae.
Philip Bes after K. W. Slane and G. D. R. Sanders, "Corinth: Late Roman horizons."
Hesperia 74/2 (2005), 243–297. Reproduced with permission of American
School of Classical Studies at Athens.
- 16.1 The fifth-century palace in the Old Agora, Athens, lying outside the new city 370
wall on its right.
J. M. Camp, *The Archaeology of Athens*. New Haven 2001, Figure 224.
- 16.2 The "Theseion" (Hephaisteion) converted to a church, Athens. 372
J. M. Camp, *The Archaeology of Athens*. New Haven 2001, Figure 231.
- 16.3 Image of the victorious Christian emperor Justinian. Byzantine, early sixth century 374
AD ivory diptych relief, made in Constantinople.
The Art Archive/Musée du Louvre, Paris/Gianni Dagli Orti.
- 17.1 (Upper) Generalized distribution of major foci of settlement in Byzantine and 386
Frankish Boeotia, from extensive and localized intensive survey, compared with
(Lower) the distribution of Greco-Roman cities (triangles) and villages (circles) in Boeotia.
A high proportion of settlements are in use in both eras, but their names changed in
the intervening period.
J. Bintliff, "Reconstructing the Byzantine countryside: New approaches from
landscape archaeology." In K. Blanke *et al.* (eds.), *Byzanz als Raum*. Wien 2000,
37–63, Figures 11 and 12.
- 17.2 The Byzantine Empire in 1025. 389
C. Mango (ed.), *Oxford History of Byzantium*. Oxford 2002, 178 (unnumbered figure).
© Oxford University Press.

17.3	(a) Deserted medieval villages (black circles) in the region of ancient Tanagra city, Boeotia. (b) The chronology of their surface finds. A. Vionis, "Current archaeological research on settlement and provincial life in the Byzantine and Ottoman Aegean." <i>Medieval Settlement Research</i> 23 (2008), 28–41, Figures 5 and 13.	392
17.4	Chronology of church construction in Messenia. E. Sigalos, <i>Housing in Medieval and Post-Medieval Greece</i> . Oxford 2004, Figure 187.	393
17.5	The fragmented territorial powers of the Aegean in 1402 (Venice, Genoa, Serbia, Bulgaria, the Ottomans). Albanian colonization is also indicated. Residual pockets under Byzantine rule are in black. A. Ducellier, <i>Byzance et le monde orthodoxe</i> . Paris 1986, 8, bottom figure. By permission of Éditions Armand Colin.	396
18.1	Saint Demetrius mosaic, Thessaloniki (ca. 620 AD). E. Kourkoutidou-Nicolaidou and A. Tourta, <i>Wandering in Byzantine Thessaloniki</i> . Athens 1997, Figure 191. Photo © Kapon Editions.	403
18.2	The center of the town of Corinth in the eleventh to twelfth centuries. C. Mango (ed.), <i>Oxford History of Byzantium</i> . Oxford 2002, 200 (unnumbered figure). © Oxford University Press.	410
18.3	Mistra: general town plan. Citadel = 16, Upper Town = Kastro, Lower Town = Mesokhorion, Extramural Settlement = Katochorion. S. Runciman, <i>Mistra: Byzantine Capital of the Peloponnese</i> . London: Thames and Hudson Ltd 1980, 94. Drawn by Hanni Bailey.	413
18.4	The "Laskaris House," an aristocratic mansion at Mistra. N. V. Georgiades, <i>Mistra</i> , 2nd edn. Athens 1973, Figure 6. Drawn by A. K. Orlandos. The Archaeological Society at Athens.	414
19.1	Distribution of Frankish-era feudal towers and urban centers in Boeotia. The now destroyed tower on the Athens' Acropolis is also marked. P. Lock, "The Frankish towers of Central Greece." <i>Annual of the British School at Athens</i> 81 (1986), 101–123, Figure 1.	420
19.2	Castle settlement at Geraki, Peloponnese. E. Sigalos, <i>Housing in Medieval and Post-Medieval Greece</i> . Oxford 2004, 202.	422
19.3a	Astypalaia town with its focal Venetian castle. E. Sigalos, <i>Housing in Medieval and Post-Medieval Greece</i> . Oxford 2004, Figure 7.	424
19.3b	Plan of the old town on Antiparos centering on the lord's castle or tower. E. Sigalos, <i>Housing in Medieval and Post-Medieval Greece</i> . Oxford 2004, Figure 12.	424
19.4	The Frankish Athenian Acropolis. Lower right, the Propylaea converted into an impressive palace for the Dukes of Athens. The Parthenon, already a Byzantine church, was rededicated as a Catholic cathedral to the Virgin Mary. The entire hill was massively refortified. On the left are the ruins of the older temple of Athena and next to them the Erechtheum. © Dimitris Tsalkanis, www.ancientathens3d.com.	426
19.5a	The Frankish dynastic church of Saint Sophia, Andravida, Elis, Western Peloponnese. Photo Tasos D. Zachariou.	427
19.5b	Plan from R. Traquair, "Frankish Architecture in Greece." <i>Journal of the RIBA</i> 31 (1923), 34–48 and 73–83 (also monograph, London 1923).	427
19.6	Boeotian settlements in 1466 by ethnicity and size after the Ottoman tax records (translated by Prof. M. Kiel). J. L. Bintliff, "The two transitions: Current research on the origins of the traditional village in Central Greece." In J. L. Bintliff and H. Hamerow (eds.), <i>Europe Between Late Antiquity and the Middle Ages</i> . Oxford 1995, 111–130, Figure 11.	430

20.1	Settlement size and ethnicity from the Ottoman tax defter for Boeotia in 1570, locatable and approximately-locatable villages only shown (Ottoman texts translated by Prof. M. Kiel). J. L. Bintliff, "The two transitions: Current research on the origins of the traditional village in Central Greece." In J. L. Bintliff and H. Hamerow (eds.), <i>Europe Between Late Antiquity and the Middle Ages</i> . Oxford 1995, 111–130, Figure 12.	440
20.2	Maximum expansion of the deserted village of Zaratova (Frankish era)/Panaya (Ottoman era), occurs in the fifteenth to sixteenth centuries AD or Early Ottoman phase. The spread of dated finds covers some 11 ha. J. L. Bintliff, "Reconstructing the Byzantine countryside: New approaches from landscape archaeology." In K. Blanke <i>et al.</i> (eds.), <i>Byzanz als Raum</i> . Wien 2000, 37–63, Figure 16. Table source: <i>ibid.</i> , Figure 17.	442
20.3	The decline of Boeotia between 1570 and 1687 is vividly revealed by the shrinking number and size of settlements by the latter tax date (Ottoman archives translated by Prof. M. Kiel). J. L. Bintliff, "Reconstructing the Byzantine countryside: New approaches from landscape archaeology." In K. Blanke <i>et al.</i> (eds.), <i>Byzanz als Raum</i> . Wien 2000, 37–63, Figure 13.	446
20.4	Eighteenth-century Ottoman complex behind the Tower of the Winds, Athens, in the early nineteenth century. Painting from Theodore de Moncel, <i>Vues pittoresques des monuments d'Athènes</i> . Paris 1845. © 2011 The British Library Board. All rights reserved. 648.a.28.	453
20.5	Eighteenth-century Ottoman complex behind the Tower of the Winds, Athens, today. Author.	453
21.1	Town house in Ioannina. E. Sigalos, <i>Housing in Medieval and Post-Medieval Greece</i> . Oxford 2004, Figure 60.	464
21.2	A ruined overhang-house, main street, Ottoman Livadheia. E. Sigalos, <i>Housing in Medieval and Post-Medieval Greece</i> . Oxford 2004, Figure 167.	466
21.3	The Venetian-era monastic church at Arcadi, Crete. Shutterstock Images/Paul Cowan.	467
21.4	Seventeenth-century Venetian palace in Corfu (The Nobles' Lounge). Author.	467
21.5	Ottoman-period painting of a çiftlik with peasant houses, towerhouse, and church. E. Sigalos, <i>Housing in Medieval and Post-Medieval Greece</i> . Oxford 2004, Figure 137.	468
21.6a	Ottoman-period rural elite mansion: towerhouse type, Lesbos. E. Sigalos, <i>Housing in Medieval and Post-Medieval Greece</i> . Oxford 2004, Figure 18.	469
21.6b	Rural elite mansion: <i>archontiko</i> type, Epiros. Historic photograph. E. Sigalos, <i>Housing in Medieval and Post-Medieval Greece</i> . Oxford 2004, Figure 58.	469
21.7	Aalen's model for rural farm evolution on Kephallenia, developing through phases A to C. E. Sigalos, <i>Housing in Medieval and Post-Medieval Greece</i> . Oxford 2004, Figure 31.	470
21.8	Middle Period (Late Ottoman) wealthy house in Mount Pelion. E. Sigalos, <i>Housing in Medieval and Post-Medieval Greece</i> . Oxford 2004, Figure 50.	471
21.9	Interior of a peasant single-story longhouse (<i>makrinarí</i>) in early nineteenth-century Attica (by Stackelberg). The house form is a longhouse variant with a central semi-division wall along its length (<i>kamara</i>). Note the limited possessions and the dining mode of low table and central large shared dish, and the absence of high chairs or benches. A. Dimitisantou-Kremezi, <i>Attiki. Elliniki paradosiaki architektoniki</i> . Athens 1984, Figure 49.	474
22.1a	Historic photograph of Thespies-Erimokastro longhouse-village, Boeotia, ca. 1890. © EFA/P. Jamot.	483

22.1b	Deserted village of Rhadon. House ruins and two churches. Late Ottoman to mid-nineteenth century. E. Sigalos, <i>Housing in Medieval and Post-Medieval Greece</i> . Oxford 2004, Figure 43.	483
22.2	Neoclassical village house in Messenia. Courtesy E. Sigalos.	485
22.3	Neoclassical Main Building of Athens University, late nineteenth century. Wikipedia image.	489
22.4a	Surviving remains from the late nineteenth and early twentieth centuries of the Lake Copais Company's establishment, Haliartos. Offices and barns for the produce of the drained lake. Author.	492
22.4b	Surviving remains from the late nineteenth and early twentieth centuries of the Lake Copais Company's establishment, Haliartos. The "bungalow villas" for the clerical-supervisor class of expatriates. Author.	492

Tables

5.1	Hypothetical food-sustaining radii for Bronze and Iron Age towns in the dry-farming Mediterranean.	131
11.1	Residual Analysis for site LSE1. Actual = recorded density, Predicted = expected density from surrounding fields for this district of the <i>chora</i> . 500-sherd sample.	279
11.2	Changing site sizes (ha) and functions in the south <i>chora</i> of Thespieae city, Boeotia, together with the size of the contemporary city of Thespieae.	279
19.1	Better-quality tableware on typical Italian rural sites (after Blake), for comparison with the Greek evidence.	428
20.1	Economic and demographic records from the Ottoman defters for the village of Panaya (site VM4). M. Kiel, "The rise and decline of Turkish Boeotia, 15th–19th century." In J. L. Bintliff (ed.), <i>Recent Developments in the History and Archaeology of Central Greece</i> . Oxford 1997, 315–358.	443

List of Color Plates

The author and publisher gratefully acknowledge the permission granted to reproduce the copyright material in this book

- 0.1 Map of Greece and the Aegean Sea with ancient regions and major ancient sites indicated.
A. A. M. van der Heyden, *Atlas van de antieke wereld*. Amsterdam 1958, Map 1.
- 1.1 Earthquake and volcanic arcs in the Southern Aegean. Active volcanic areas in recent geological time shown in red.
W. L. Friedrich, *Fire in the Sea. The Santorini Volcano: Natural History and the Legend of Atlantis*. Cambridge 2000, Figure 2.3.
- 1.2 Greek landscape types 1. (a) Rocky islands and sea, Aegina. (b) Large fertile alluvial plains of Northern Greece.
(a) Author. (b) © Ekdotiki Athenon, Athens.
- 1.3 Greek landscape types 2. (a) Dry Pleistocene plains of Southern Greece with soft limestone hills leading to hard limestone mountains, Plain of Argos. (b) Deep soft limestone hill land, Plain of Sparta.
Author.
- 1.4 Zonal vegetation map of Greece
Modified from J. Kautzky, *Natuurreisgids Griekenland. Vasteland en Kuststreken*. De Bilt 1995, map on p. 21.
- 5.1 Jumping bull fresco from Knossos, restored, h. 86 cm, Minoan, sixteenth century BC.
© akg-images/Erich Lessing.
- 6.1 Scene from the Miniature Fresco including a sea battle, and a town with emerging soldiers and residents. Akrotiri, Thera, Late Cycladic period.
National Archaeological Museum, Athens. © akg-images/John Hios.
- 8.1 Late Geometric elite burial marker vase with funeral scene. The abundant figures mark a clear break to preceding Protogeometric and Early-Middle Geometric ceramic decoration. Dipylon series, Kerameikos cemetery, Athens.
The Art Archive/National Archaeological Museum, Athens/Gianni Dagli Orti.
- 9.1 (a) Silver stater from Aegina, late 6th century BC; obverse: turtle; reverse: abstract design.
(b) Athenian silver five-drachma coin, “owl,” ca. 480 BC; obverse: head of Athena; reverse: owl. Silver stater, with a turtle and Goddess Athena tetradrachm of Athens.
Both images © The Trustees of the British Museum.
- 11.1 The Athenian Empire (green) and its enemies (yellow) during the Peloponnesian Wars, 457–404 BC.
A. A. M. van der Heyden, *Atlas van de antieke wereld*. Amsterdam 1958, Map 6.
- 11.2a Offsite sherd densities in the outer countryside; sherds per hectare. Rural sites marked by blue circles and numbered.

- J. L. Bintliff, "The Leiden University Ancient Cities of Boeotia Project: 2005 season at Tanagra." *Pharos. Journal of the Netherlands Institute in Athens* 13 (2006), 29–38, Figures 2–4.
- 11.2b Offsite sherd densities in the innermost countryside of the ancient city of Tanagra, Boeotia; sherds per hectare. Rural sites marked by blue circles, numbers or function. Tanagra city marked by its city wall in red. Author.
- 12.1a Classical sculpture group, Harmodius and Aristogeiton, the "Tyrant Slayers," Roman marble copy, after a Greek bronze original of the fifth century BC.
Naples, Museo Archeologico Nazionale. © akg-images/De Agostini Picture Library.
- 12.1b Restored and coloured cast of the Peplos Kore.
© Museum of Classical Archaeology, Cambridge.
- 13.1a The Empire of Alexander the Great, 336–323 BC.
A. A. M. van der Heyden, *Atlas van de antieke wereld*. Amsterdam 1958, Map 7.
- 13.1b The Hellenistic Successor Kingdoms: the Ptolemies in Egypt, Seleucids in the central Near East, the Antigonids in Macedonia and the Attalids in Pergamum.
A. A. M. van der Heyden, *Atlas van de antieke wereld*. Amsterdam 1958, Map 8.
- 14.1a "The Deer Hunt": mosaic floor from the andron of the House of the Abduction of Helen, Pella, fourth century BC.
© World History Archive/Alamy.
- 14.1b "Tomb of Philip" at Vergina, Greece (ancient Aigai, principal city of the Macedonian kings), discovered in 1978, if not for Philip II then possibly the grave of Alexander IV, murdered in 311 BC. View from the outside.
© akg-images/Hervé Champollion.
- 15.1 The conquests of Justinian.
F. Delouche (ed.), *Illustrated History of Europe*. London 1993, Figure 2, p. 96.
- 16.1a The later fifth-century AD basilica church of Acheiropiitos, Thessaloniki, view and plan.
E. Kourkoutidou-Nicolaidou and A. Tourta, *Wandering in Byzantine Thessaloniki*. Athens 1997, Figures 219 and 220. © Kapon Editions.
- 16.1b The Acheiropiitos church, interior photo: it retains its original marble floors, pillars, and mosaics.
E. Kourkoutidou-Nicolaidou and A. Tourta, *Wandering in Byzantine Thessaloniki*. Athens 1997, Figure 223. © Kapon Editions.
- 16.2 A military saint from the fifth-century AD mosaics of the Rotunda, Thessaloniki.
E. Kourkoutidou-Nicolaidou and A. Tourta, *Wandering in Byzantine Thessaloniki*. Athens 1997, Figure 59. © Kapon Editions.
- 17.1 Early to Middle Byzantine ceramic forms. From left to right: Slav ware from the Olympia cemetery; Cretan painted ware; Green-and-Brown Painted Ware; Fine Sgraffito Painted Ware; Slip-Painted Ware. Courtesy of A. Vionis.
- 18.1 Plan of the Middle Byzantine double-churches at the monastery of Osios Loukas, Central Greece. Upper: the Panaghia. Lower: the Katholikon. The Katholikon has two entrance halls, the outer numbered 135–137. The crossing of the cross plan with the main dome is marked in the two churches by numbers 139 and 134. The most exclusive sacred areas are the two apse groups to the east (right of the image) shielded by screens.
J. Lowden, *Early Christian & Byzantine Art*. London 1997, Figure 133. Courtesy of Professor J. Lowden.
- 18.2 The domed centre of the Katholikon of Osios Loukas, ca. 1011–1030 AD, interior view looking east toward the screened apse.
© akg-images/Paul Ancenay.
- 18.3a Middle Byzantine mosaic of Holy Luke in the Katholikon church at Osios Loukas.
© akg-images/Paul Ancenay.

- 18.3b Late Byzantine Resurrection fresco, Chora monastic church, Constantinople (Istanbul), fourteenth century AD.
© Godong/Robert Harding.
- 19.1 The Crusader feudal estate centre at Klimmataria. Plan with ceramics of all periods at the site plotted by type. The central tower is in purple, the internal courtyard to its right.
E. Sigalos, *Housing in Medieval and Post-Medieval Greece*. Oxford 2004, 202.
- 19.2 Late Byzantine-Frankish ceramics. (a) Zeuxippos ware bowl and fragment of Green and Brown Sgraffito. (b) Proto-Majolica dish.
Courtesy of A.Vionis.
- 20.1 The sixteenth-century Mediterranean territories of the Ottoman Empire.
F. Delouche (ed.), *Illustrated History of Europe*. London 1993, Figure 4.
- 20.2a Sixteenth-century Iznik ware tulip mug.
© Chris Hellier/CORBIS.
- 20.2b Eighteenth-century Kütahya plate.
Courtesy of A.Vionis.
- 20.3 Ottoman-Venetian era ceramics. (a) Polychrome painted Majolica jug from Pesaro, Italy, mid-eighteenth to early nineteenth century. (b) Aegean imitation of Italian Majolica jug and Late Green and Brown Sgraffito pottery fragment.
Courtesy of A.Vionis.
- 21.1a Distribution of vernacular house types in Greece based on a survey of published surviving historic buildings. Note the dominance of the longhouse-style (Agricultural) for the southern Mainland, Frankish-Venetian styles (Aegean-Venetian) on the islands and Ottoman for the northern Mainland.
E. Sigalos, *Housing in Medieval and Post-Medieval Greece*. Oxford 2004, Figure 82.
- 21.1b The traditional single-story or one-and-a-half-story longhouse is the commonest form within the category Agricultural of the distribution map. A seventeenth-century example is illustrated here from Boeotia.
N. Stedman, "Land-use and settlement in post-medieval central Greece: An interim discussion," in P. Lock and G.D.R. Sanders (eds.), *The Archaeology of Medieval Greece*. Oxford: Oxbow, 1996, p. 189, Figure 2.
Courtesy of the author.
- 22.1 The growth of the Modern Greek State.
Wikipedia image.
- 22.2a Early Modern Aegean decorated wares. Left to Right: Polychrome Sgraffito jug (from West and Northern Greece), late eighteenth to late nineteenth century; Çanakkale Ware dish (Northwest Turkey), eighteenth to mid-nineteenth century. Courtesy of A.Vionis.
- 22.2b Early Modern Aegean decorated wares. Left to Right: Transfer-printed dish (from Syros/Europe), late eighteenth to early twentieth century; Grottaglie Ware bowl (Southern Italy), late eighteenth to early twentieth century, Benson Collection, Zurich and Montefioralle.
- 22.3a Traditional meets modern rural housing. Outside of abandoned longhouse on the main street of Aghios Thomas village, Boeotia.
Author.
- 22.3b Traditional meets modern rural housing. A modern villa and behind it the original family longhouse of the plot still in secondary use along the same street, Aghios Thomas village, Boeotia.
Author.
- 22.4 Traditional female costume of Tanagra village, Boeotia. Dora Stratou Dance Theatre, Athens
www.grdance.org.
- 22.5a An Achilles statue in the garden of the Achilleion, Corfu.
Author.
- 22.5b Village cemetery at Asi Gonia, Crete.
www.imagesofgreece.co.uk.

Acknowledgments

First and foremost to my family, Elizabeth, David, Esther, and Aileen, for suffering my mental absence of several years as I wrote this book.

Then the following helped with advice on chapters or through sending me offprints and references: Fred Aalen, Polyxena Adam-Veleni, Sue Alcock, Penelope Allison, Stelios Andreou, Pamela Armstrong, Effie Athanassopoulos, Marc Bajema, John Bennet, Leslie Beaumont, Philip Bes, Andrew Bevan, Sebastiaan Bommeljé, Joe Carter, John Casey, Bill Cavanagh, John Cherry, Jan-Paul Crielaard, Jim Crow, Jack Davis, Oliver Dickinson, Peter Doorn, Panagiotis Doukellis, Jan Driessen, Archie Dunn, Nikos Efstratiou, Harry Fokkens, Hamish Forbes, Michaelis Fotiadis, Lynn Foxhill, Kevin Greene, Catherine Grandjean, Timothy Gregory, Paul Halstead, Mogens Hansen, Alan Harvey, K.-J. Hölkeskamp, Mamoru Ikeguchi, Jorrit Kelder, Machiel Kiel, Jost Knauss, Johannes Koder, Frank Kolb, Kostas Kotsakis, Franziska Lang, Gunnar Lehmann, Quentin Letesson, Philippe Leveau, Luuk de Ligt, Peter Lock, Hans Lohmann, Nino Luraghi, Christina Marangou, Ian Morris, Joseph Maran, Peter Marzolf, Chris Mee, Maarten Mouliou, Stelios Mouzakis, Christel Müller, Frits Naerebout, Richard Osborne, Tassos Papacostas, John Papadopoulos, Kostas Papagiannopoulos, Catherine Perlès, David Pettegrew, Jeroen Poblome, Andrew Poulter, Marcus Rautman, Reinder Reinders, Athanasios Rizakis, Wil Roebroeks, David Romano, Jim Roy, Curtis Runnels, Jerry Rutter, Erwin Sabelberg, Yannis Saitas, Guy Sanders, Paul Sant Cassia, Friedrich Sauerwein, Kostas Sbonias, Ilse Schoep, Graham Shipley, Eleni Simoni, Jean-Pierre Sodini, Natascha Sojc, Anthony Snodgrass, Tony Spawforth, Andrew Stewart, Vladimir Stissi, Lauren Talalay, Thomas Tartaron, Peter Tomkins, Vangelis Tourloukis, Dimitris and Eleni Tsougarakis, Sofia Voutsaki, Vance Watrous, Ruth Westgate, James Whitley, Eleni Zavvou.

Finally immense gratitude to Rinse Willet for many days work on the figures, to Aileen for her valiant attempts to improve its prose, and to the always encouraging Wiley-Blackwell editors Julia Kirk and Rosalie Robertson.

Introduction

This book results from my own exposure, through surface survey in many regions of Greece since the early 1970s, to the incredible richness and variety of Greek archaeology beyond the traditional foci of the Classical Greek and Bronze Ages. As a doctoral student, traveling frequently on the bus from Athens to Navplion in the Peloponnese, I was struck by the diversity of historic landscapes, monuments, and ruins which I passed through. Isolated Byzantine churches far from any village, or the crumbling Medieval castellated walls of the Acrocorinth, seemed to hint at another kind of Greek archaeology from that found in popular textbooks. Since then, so much has developed in our archaeological understanding of the whole span of Greek Prehistory and History, from the Palaeolithic to the Early Modern era, that it seemed to me timely to make a first attempt at a synthesis of the key points both for the student and for the general reader fascinated by Greece, its past, its landscape, and its people.

David Clarke, in his iconoclastic textbook for a more truly scientific “New Archaeology,” *Analytical Archaeology* (1968), admitted candidly that inventing, and at the same time composing a guide to, a new form of archaeology was rash, premature, but necessary. In humility, and with a nod to this book’s reviewers, I feel in the same position regarding this first book, to my knowledge, which treats “The Archaeology of Greece” quite literally. Understandably,

in the scope of 22 chapters, coverage of each phase can only paint the general picture. Period specialists might regret the inevitable superficiality, but hopefully not find erroneous oversimplification. However, my aim is to give the reader, within one volume, an understanding of the development of human society in Greece from the earliest human traces up till the early twentieth century AD. For the contemporary visitor to Greece, whether you are there for a beach-based holiday, or a cultural tour, or as a student, I would like to think that this volume can give you a basis for contextualizing your casual or detailed encounters with museums, Bronze Age palaces, Classical city walls or great intercity sanctuaries, Roman stadia, Byzantine churches, isolated Frankish towers, Ottoman mosques, and traditional villages, without forgetting those ubiquitous broken potsherds that you can find in the open fields or on the shore.

The archaeology of Greece is an ever-expanding tree but with more limited roots (MacKendrick 1962, Snodgrass 1987, McDonald and Thomas 1990, Étienne and Étienne 1992, Schnapp 1993, Morris 1994, Fitton 1996, Shanks 1997, Étienne *et al.* 2000, Whitley 2001, Morris 2004). Its foundation is the investigation of Classical Greece, emanating from Renaissance and Enlightenment scholarship during the fifteenth to eighteenth centuries AD. But precocious beginnings can be dated to Roman times, when the new rulers of the Mediterranean toured the

Aegean Sea to discover that Classical tradition of which they saw themselves as inheritors. An interest in Greek antiquity could link the intellectual Cicero, one of many members of the Roman elite who were educated in Greece, and those Roman former slaves who resettled Corinth a century after its Roman destruction in the second century BC and pillaged Classical cemeteries for items for the Italian antiquities trade. The Romanized Greek travel-writer Pausanias, in the second century AD, represents the ancient model for Baedeker's Early Modern handbook of sites worthy to be visited by foreigners, focusing on major monuments and works of art, with selective historical titbits to bring them to life (Elsner 1992, Alcock *et al.* 2001).

Ancient Greece and Rome were of fundamental importance for European national identities and a sense of special providence in the time of European world hegemony in the seventeenth to nineteenth centuries (Morris 2004), each civilization providing complementary origin myths for the assumed superior qualities of Western civilization and empires. Apart from the surviving ancient texts, objects of Greco-Roman culture were attributed the same qualities of exceptional sophistication, even as works of genius whenever there was clear artistic merit (not merely temples and sculptures, but vases with painted scenes, and coins). Greek archaeology was essentially synonymous with Classical Greece and with an approach linking ancient texts with Art History, mostly focused on large-scale works of public art or private art objects belonging to the elite of ancient society.

If this led to an emphasis on museum cases filled with fine art, a parallel tradition was rapidly evolving, topographic fieldwork. For educated people whose imagination was stirred by ancient texts describing cities, sanctuaries, and battlefields, but who were unable to travel to Greece to see what was left of these places, a small army of "Travelers" sprang up to offer the fireside reader a taste of modern and ancient Greece (Tsigakou 1981, Angelomatis-Tsougarakis 1990, Eisner 1991). Beginning as early as the fifteenth century (for example Buondelmonti), learned travelers from Western Europe voyaged in increasing numbers to Greece, especially in the nineteenth century, to compose travelogues frequently illustrated by maps and pictures.

The primary aim was to identify major towns and shrines mentioned by Classical sources, record inscriptions, and describe (often with the aim of removing them to Western Europe), works of mobile and immobile art. If the main focus remained Classical and Hellenistic Greece, minor attention was given to Roman sites, and even occasionally to Medieval and later monuments.

The scientific ethos in European scholarship, growing with increasing Enlightenment influence during the eighteenth to nineteenth centuries, led to such detailed Travelers' descriptions that only modern scholars with other aims appreciate such information. Lolling's meticulous guidebook, rejected by Baedeker, has only recently been published (1989). Today the incidental detail on Early Modern villages, and many ancient monuments now lost, make such books invaluable for long-term landscape history (Bennet *et al.* 2000, Bintliff 2007).

During the late nineteenth century, Greek archaeology's scope widened, with the discovery and then systematization of the *pre*-Classical or prehistoric eras, and a rising interest in the history and monuments of the post-Classical eras, which meant Medieval times (the Byzantine and occasionally the Crusader-Frankish periods). The polymath approach which nineteenth-century scholarship aspired to and which could still be accomplished within the limits of available information, reached its peak in Greece in the decades around 1900. For example, young scholars associated with Alan Wace could publish on prehistoric and Classical sites, Byzantine churches (Fletcher and Kitson 1895–1896), Medieval castles (Traquair 1905–1906), Crusader sculpture (Wace 1904–1905), ethnography (Wace and Thompson 1914), and even traditional Cycladic embroidery (Wace 1914). In Turkey, Heinrich Schliemann's Troy project involved the history of metallurgy, regional geomorphological developments, and local epidemiology (Aslan and Thumm 2001).

This was also a critical era in the wider development of the Science of Archaeology, and as a result we see the inception of research excavations at key Aegean sites. Naturally Greco-Roman towns and sanctuaries are the primary focus, with a secondary emphasis on major centers of the newly-discovered Bronze Age civilizations of the Minoan on Crete and the Mycenaean on the Southern Mainland. Yet the



bp bildarchiv preussischer No. 20028204, bpk
Jahreshefte Ausgrabung in Olympia: Arbeiter am Heroon, im Vordergrund stehend Richard Borrmann und Wilhelm Dörpfeld

Figure 0.1 German excavations at the Heroon in Olympia, 1880. In the foreground are Richard Borrmann and Wilhelm Dörpfeld.

© bpk, Berlin.

open-minded scholarship of this phase allowed the relatively unspectacular Neolithic tell (artificial settlement mound) cultures of Northern Greece to be discovered and excavated by Tsountas (1908), whilst another innovative Greek, Xanthoudides (1924), brought to light the tholos-tomb culture of Crete, an important Early Bronze Age predecessor to the Minoan palatial societies of the later Bronze Age periods.

Most of the twentieth century is dominated by long-term excavation projects, usually the responsibility of one Foreign School of archaeologists. Bronze

Age Mycenae (French 2002) has been investigated by German, British, and Greek expeditions, but more typically the Classical sanctuaries of Delphi (Bommelaer and Laroche 1991) and Olympia (Kyrieleis 2002: see Figure 0.1) remain associated with the French and German Schools. Classical Athens' central square (the *Agora*) (Camp 1986, 2006), and the city of Corinth (Williams and Bookidis 2003), have been essentially American excavations. These major projects have produced bookshelves of specialist monographs representing 100–150 years of ongoing research.

One by-product of these excavation programs has been increasing attention to all the archaeological information they offer. At first they emphasized major architecture and the finer works of mobile art. But the vast quantities of everyday household objects revealed, encouraged study in their own right. Yet till recently domestic pottery and houses were relatively neglected in Greek historical archaeology. Likewise, a traditional emphasis on Classical Greece inhibited research into Roman, Medieval, and post-Medieval times (Mouliou 1994, 2009). The Bronze Age fared better, envisaged as a uniquely “European” civilization underlying Classical Greece. Again, since Classical Greece in ancient texts was basically that of the cities of the Southern Mainland, archaeological research in Northern Greece, Crete, and the other Aegean islands was far more limited till the latter part of the twentieth century, with the exception of major Bronze Age centers, since it was recognized that in contrast the Minoan-Mycenaean (and the related Cycladic) civilizations of the Bronze Age occupied a wider zone of the Aegean.

Despite this broadening of methods and timescales which Greek archaeology adopted between the later nineteenth to mid-twentieth centuries, the special relationship to Classical texts and the History of Art led by the 1960s to an increasing “Great Divide” between developments in “mainstream” archaeology (“The New Archaeology”: Greene 2002) and approaches in use in Aegean research (Renfrew 1980, Snodgrass 1985).

In the succeeding generation, there has been considerable integration into mainstream practices, yet the picture at the start of the 2000s remains patchy. Greek national archaeology and that of the Foreign Schools show a mosaic of traditions of work and interpretation. In terms of the more science-focused “New Archaeology” agenda, still only a minority of excavations in the Aegean collect environmental data or “ecofacts” (animal bones, seeds, etc.), or submit human remains for anthropological study. The commonest remnant from the Greek past, the broken potsherd, provides a similar disparity: few field projects publish domestic wares as well as the decorated table and funerary wares. Physical and chemical scientific analysis of artifacts and sites remains a rare addition to traditional forms of excavation and object study. More

radical developments are visible in the types of site being investigated. Classical rural farms and Roman villas are being excavated in increasing numbers, with Greek scholars leading the way. The excellent museum in the new Athens Airport showing the rural landscape revealed during its construction (Tsouni 2001) is symptomatic, and advertises the international quality of contemporary Greek museums. Greater engagement with the Greek and foreign public is occurring at a rapid scale, with the refurbishing of museums throughout the country and with major changes to school textbooks, in particular emphasizing local history and archaeology of all periods. An excellent model for “outreach” from a regional excavation project is offered by Kostas Kotsakis and his team on the Paliambela Project in Macedonia (Kotsakis 2007, cf. also Bintliff 2004a).

Recent interactions between mainstream archaeology and that of Greece have been more positive. Since the 1980s a significant trend in archaeology has been Post-Processualism, which forefronts approaches where Classical archaeology has long been a world leader (Shanks 1997, Morris 2004). These include an emphasis on symbolic representations (essentially artistic creations), and seeing artifacts or architecture as “texts” relatable to the written sources, lifestyles, and mentalities of past peoples.

Also from the late twentieth century new perspectives emerged with the rapid takeoff of archaeological surface survey. Aegean scholarship was always a pioneer in landscape archaeology, but the mapping of ancient sites took on new dimensions with the arrival of regional interdisciplinary survey projects. Pride of place goes to the 1960s Minnesota University extensive survey in Messenia (McDonald and Rapp 1972), followed elsewhere during the 1970s with the first intensive (field by field) surface surveys (Cherry 1983, Bintliff 1994). These latter transect blocks of countryside on foot, recording spreads of surface pottery, lithics, and building material, which mark the disturbed deposits of archaeological sites of all sizes, from a few graves, through farms and villages, to ancient cities of a square kilometer or more (Bintliff and Snodgrass 1988a, Bintliff 2000a, Alcock and Cherry 2004).

In the 1980s, mapping all visible “sites” was supplemented by “siteless” survey, in which the occurrence

of pre-Modern artifacts, rather than “sites” (foci of concentrated human activity), is the primary focus. It appears that much of lowland Greece is “an artifact,” since such signs of human activity are almost continuously encountered between settlements (Bintliff and Snodgrass 1988b, Bintliff and Howard 2004). Alongside mapping settlement patterns, period by period, other forms of human impact on the Greek landscape now became apparent. Although some “off-site” debris represents eroded settlements, and the scattering of finds by weather and cultivation, the denser “carpets” probably record intense land use, especially through manuring (still a controversial theory, cf. Alcock *et al.* 1994 with Snodgrass 1994).

Intensive survey from the 1970s onwards discovered that the Aegean countryside is as rich in surface sites of post-Roman as of Greco-Roman and Bronze Age date. Dealing with the surface ceramics of the post-Roman era, and exploring the rich archival resources for these 1500 years, has encouraged vigorous new research into Byzantine, Frankish-Crusader, Ottoman-Venetian, and Early Modern archaeology in Greece (Lock and Sanders 1996, Bintliff 2000b, Davies and Davis 2007).

Turning now to this volume’s structure, the core is a period-based overview of material culture and society, preceded by an introduction to the Greek landscape. Where the evidence is very rich, I have split period treatment into a chapter focusing on more “functional” aspects such as demography, settlement patterns, and the forms of material culture, followed by a chapter dealing with “symbolic” or “representational” culture (the ways in which architecture and portable objects can reveal the social order or the mentalities of past societies). Summing-up each period, I have reflected on our knowledge of each era in two ways. Firstly through the approach of French historians called the *Annales* group, where we trace the interaction of processes operating at different timescales. Secondly, I offer a “reflexive” view, with my own reactions to our current “biopic” or scenario for each period.

The French historians who focused their work around the journal *Annales* (1929–present, with various forms of title), most notably Fernand Braudel and Le Roy Ladurie, developed an insightful model of analysis for past societies (Bintliff 1991, Knapp 1992,

Bintliff 2004b). They argued that History is made through a dialectic (mutual interaction) of forces. Any event is the product of short-term actions and factors (the world of *événements*) interacting with processes unfolding on a longer timescale, the medium term of several generations or centuries (the *moyenne durée*), but also with processes at a far longer timescale (the *longue durée*). The real historical outcomes are unpredictable, but through seeking to isolate both the key elements at each layer of parallel time, and their mutual interplay, the historian can come closer to comprehending why the past developed the way it appears to have done. This has been termed “postdiction” by the historian of science Stephen Jay Gould, as opposed to “prediction” (Gould 1989, cf. Bintliff 1999). Significantly, the *Annales* historians see historical processes as combining the actions and beliefs of communities and of individuals, emphasizing that History was made not just by actions and factors of production such as technology or economy, but also by ideas, by symbolic culture and ways of seeing the world (*mentalités*).

The brief injection of my own reflexive response to our current knowledge of each period of Greek archaeology, which rounds off each chapter or chapter-pair, has been encouraged by that aspect of “Post-Processual” archaeological theory which reminds us of the dialectic in which archaeologists and historians are always engaged when they encounter past societies. We cannot help but reflect on the ways a past world differs or compares to our own, and must use our embedded knowledge of the world today to comprehend past worlds. On the other hand, I am far from being a relativist. Our interpretative concepts are certainly influenced by our own lives, but we also have a wealth of anthropology and history to broaden our interpretative models of the past beyond our own meager physical experience, and when you are doing Archaeology and History honestly and attentively, the past will constantly surprise you with evidence you were not prepared for and may have difficulty in making sense of.

This volume involved very wide-ranging reading, and inevitably the time required for its authoring and production processes has meant that quite a few important new books and papers could not be studied and incorporated into the text before you. In addition

there is much more detail that I gathered together which had to be left out due to constraints on this book's length. Happily the publishers Wiley-Blackwell have set up an on-line resource for purchasers of this volume, in which I have been able not only to add an extensive set of additional notes to all the chapters, but also to update the book on some key recent publications.

Color Plate 0.1 has been provided in order to orient the reader to the main provinces of Greece and the key modern and ancient centers, as well as the physical geography of the country.

Finally to help the reader navigate through the many periods of time which a complete Archaeology of Greece should encompass, there follows a basic time-chart.

General Time Chart for the Archaeology of Greece

These ranges are generalized approximations and at least from the Neolithic onwards different provinces of Greece can vary in detail from these dates. Additionally some periods still remain under controversy over their timespans, especially in the Middle and Late Bronze Age.

PALAEOLITHIC: ca. 300,000–400,000 years before present (BP) to ca. 9000 BC

EPIPALAEOLITHIC/MESOLITHIC: ca. 9000 BC to ca. 7000 BC

NEOLITHIC: ca. 7000 BC to ca. 3500/3200 BC

EARLY BRONZE AGE: ca. 3500/3200 BC to ca. 2100/1900 BC

MIDDLE BRONZE AGE: ca. 2100/1900 BC to ca. 1700 BC

LATE BRONZE AGE: ca. 1700 BC to ca. 1200/1100 BC

"DARK AGE"/EARLY IRON AGE: ca. 1200/1100 BC to ca. 800/700 BC

ARCHAIC ERA: ca. 700 BC to ca. 500 BC

CLASSICAL ERA: ca. 500 BC to 323 BC

EARLY HELLENISTIC PERIOD: 323 BC to ca. 200 BC

LATE HELLENISTIC TO EARLY ROMAN ERA: ca. 200 BC to ca. 200 AD

MIDDLE TO LATE ROMAN PERIOD: ca. 200 AD to ca. 650 AD

"DARK AGE" / EARLY BYZANTINE ERA: ca. 650 AD to 842 AD

MIDDLE BYZANTINE PERIOD: 842 AD to 1204 AD

LATE BYZANTINE/FRANKISH-CRUSADER ERA: 1204 AD to ca. 1400 AD

OTTOMAN PERIOD: ca. 1400 AD to 1830 AD

EARLY MODERN ERA: 1830 AD to 1950 AD

References

-
- Alcock, S. E., J. F. Cherry, and J. L. Davis (1994). "Intensive survey, agricultural practice and the classical landscape of Greece." In I. Morris (ed.), *Classical Greece. Ancient Histories and Modern Archaeologies*. Cambridge: Cambridge University Press, 137–170.
- Alcock, S. E., J. F. Cherry, and J. Elsner (2001). *Pausanias. Travel and Memory in Roman Greece*. Oxford: Oxford University Press.
- Alcock, S. E. and J. F. Cherry (eds.) (2004). *Side by Side Survey. Comparative Regional Study in the Mediterranean World*. Oxford: Oxbow.
- Angelomatis-Tsougarakis, H. (1990). *The Eve of the Greek Revival*. London: Routledge.
- Aslan, R. and D. Thumm (2001). "Ein Traum und seine Auswirkungen." In M. Korfmann (ed.), *Troia. Traum und Wirklichkeit*. Stuttgart: Konrad Theiss, 323–329.
- Bennet, J., J. L. Davis, and F. Zarinebaf-Shahr (2000). "Pylos Regional Archaeological Project, Part III. Sir William Gell's Itinerary in the Pylos and Regional Landscapes in the Morea in the Second Ottoman Period." *Hesperia* 69, 343–380.
- Bintliff, J. L. (ed.) (1991). *The Annales School and Archaeology*. Leicester: Leicester University Press.
- Bintliff, J. L. (1994). "The history of the Greek countryside: As the wave breaks, prospects for future research." In P. N. Doukellis and L. G. Mendoni (eds.), *Structures rurales et sociétés antiques*. Paris: Les Belles Lettres, 7–15.
- Bintliff, J. L. (1999). "Structure, contingency, narrative and timelessness." In J. L. Bintliff (ed.), *Structure and Contingency in the Evolution of Life, Human Evolution and Human History*. London: Cassell, 132–148.
- Bintliff, J. (2000a). "Beyond dots on the map: The future of artefact survey in Greece." In J. Bintliff, M. Kuna, and N. Venclova (eds.), *The Future of Archaeological Field Survey in Europe*. Sheffield: Sheffield Academic Press, 3–20.
- Bintliff, J. (2000b). "Reconstructing the Byzantine countryside: New approaches from landscape archaeology." In

- K. Blanke *et al.* (eds.), *Byzanz als Raum*. Wien: Österreichische Akademie der Wissenschaften, 37–63.
- Bintliff, J. L. (2004a). "Local history and heritage management in Greece. The potential at the village level." In P. Doukellis and L. Mendoni (eds.), *Perception and Evaluation of Cultural Landscapes*. Athens: National Research Centre, 137–152.
- Bintliff, J. L. (2004b). "Time, structure and agency: The Annales, emergent complexity, and archaeology." In J. L. Bintliff (ed.), *A Companion to Archaeology*. Oxford: Blackwell, 174–194.
- Bintliff, J. L. (2007). "Current research on the settlement of Boeotia in the Medieval and Early Modern era: The Boeotian Village History Project." In K. Fittschen (ed.), *Historische Landeskunde und Epigraphik in Griechenland*. Münster: Scriptorium, 217–226.
- Bintliff, J. L. and P. Howard (2004). "A radical rethink on approaches to surface survey and the rural landscape of Central Greece in Roman times." In F. Kolb and E. Müller-Luckner (ed.), *Chora und Polis*. München: R. Oldenbourg Verlag, 43–78.
- Bintliff, J. L. and A. M. Snodgrass (1988a). "Mediterranean survey and the city." *Antiquity* 62, 57–71.
- Bintliff, J. L. and A. M. Snodgrass (1988b). "Off-site pottery distributions: A regional and interregional perspective." *Current Anthropology* 29, 506–513.
- Bommelaer, J.-F. and D. Laroche (1991). *Guide de Delphes*. Paris: De Boccard.
- Camp, J. M. (1986). *The Athenian Agora*. London: Thames & Hudson.
- Camp, J. M. (2006). "Im Zentrum der Geschichte." *Antike Welt* 37/2, 45–54.
- Cherry, J. F. (1983). "Frogs round the pond: perspectives on current archaeological survey projects in the Mediterranean region." In D. R. Keller and D. W. Rupp (eds.), *Archaeological Survey in the Mediterranean Area*. Oxford: BAR Int. Series 155, 375–416.
- Clarke, D. L. (1968). *Analytical Archaeology*. London: Methuen.
- Davies, S. and J. L. Davis (eds.) (2007). *Between Venice and Istanbul. Colonial Landscapes in Early Modern Greece*. *Hesperia* Supplement 40. Athens: American School of Classical Studies.
- Eisner, R. (1991). *Travelers to an Antique Land: The History and Literature of Travel to Greece*. Ann Arbor: University of Michigan Press.
- Elsner, J. (1992). "A Greek pilgrim in the Roman world." *Past and Present* 135, 3–29.
- Étienne, R. and F. Étienne (1992). *The Search for Ancient Greece*. London: Thames & Hudson.
- Étienne, R., C. Müller, and F. Prost (2000). *Archéologie historique de la Grèce antique*. Paris: Ellipses.
- Fitton, J. L. (1996). *The Discovery of the Greek Bronze Age*. Cambridge, MA: Harvard University Press.
- Fletcher, H. M. and S. D. Kitson (1895–1896). "The churches of Melos." *Annual of the British School at Athens* 2, 155–168.
- French, E. (2002). *Mycenae, Agamemnon's Capital: The Site in its Setting*. Stroud: Tempus.
- Gould, S. J. (1989). *Wonderful Life*. London: Hutchinson.
- Greene, K. (2002). *An Introduction to Archaeology*. London: Routledge.
- Knapp, A. B. (ed.) (1992). *Archaeology, Annales, and Ethnohistory*. Cambridge: Cambridge University Press.
- Kotsakis, K. (2007). "Developing educational programmes for prehistoric sites." In I. Hodder and L. Doughty (eds.), *Mediterranean Prehistoric Heritage. Training, Education and Management*. Cambridge: McDonald Institute, 105–116.
- Kyrieleis, H. (ed.) (2002). *Olympia 1875–2000, 125 Jahre Deutsche Ausgrabungen*. Mainz: Philipp von Zabern.
- Lock, P. and G. D. R. Sanders (eds.) (1996). *The Archaeology of Medieval Greece*. Oxford: Oxbow.
- Lolling, H. G. (1989). *Reisenotizen aus Griechenland 1876 und 1877*. Berlin: Reimer Verlag.
- McDonald, W. A. and G. R. Rapp (eds.) (1972). *The Minnesota Messenia Expedition. Reconstructing a Bronze Age Regional Environment*. Minneapolis: University of Minnesota Press.
- McDonald, W. A. and C. G. Thomas (1990). *Progress into the Past: The Rediscovery of Mycenaean Civilization*. Bloomington: Indiana University Press.
- MacKendrick, P. (1962). *The Greek Stones Speak*. London: Methuen.
- Morris, I. (1994). "Archaeologies of Greece." In I. Morris (ed.), *Classical Greece. Ancient Histories and Modern Archaeologies*. Cambridge: Cambridge University Press, 8–47.
- Morris, I. (2004). "Classical archaeology." In J. L. Bintliff (ed.), *A Companion to Archaeology*. Oxford: Blackwell, 253–271.
- Mouliou, M. (1994). "The classical past, the modern Greeks and their national self: Projecting identity through museum exhibitions." *Museological Review* 1, 70–88.
- Mouliou, M. (2009). "The concept of diachronia in the Greek archaeological museum: Reflections on current challenges." In J. Bintliff and H. Stöger (eds.), *Medieval and Post-Medieval Greece. The Corfu Papers*. Oxford: BAR Int. Series 2023, 233–241.
- Renfrew, A. C. (1980). "The great tradition versus the great divide: archaeology as anthropology?" *American Journal of Archaeology* 84, 287–298.
- Ross, L. (1851). *Wanderungen in Griechenland im Gefolge des Königs Otto und der Königin Amalie*. Halle: Schwetschke.
- Schnapp, A. (1993). *La Conquête du passé: aux origines de l'archéologie*. Paris: Carré.
- Shanks, M. (1997). *The Classical Archaeology of Greece*. London: Routledge.

- Snodgrass, A. (1985). "The new archaeology and the classical archaeologist." *American Journal of Archaeology* 89, 31–37.
- Snodgrass, A. (1987). *An Archaeology of Greece*. Stanford: Stanford University Press.
- Snodgrass, A. (1994). "Response: the archaeological aspect." In I. Morris (ed.), *Classical Greece. Ancient Histories and Modern Archaeologies*. Cambridge: Cambridge University Press, 197–200.
- Traquair, R. (1905–1906). "Laconia. I. The mediaeval fortresses." *Annual of the British School at Athens* 12, 258–276.
- Tsigakou, F. M. (1981). *The Rediscovery of Greece*. London: Thames & Hudson.
- Tsouni, K. (ed.) (2001). *Mesogaia*. Athens: Athens International Airport.
- Tsountas, C. (1908). *Ai proistorikai akropoleis Dhiminiou kai Sesklou*. Athens: Sakellariou.
- Wace, A. J. B. (1904–1905). "Laconia. V. Frankish sculptures at Parori and Geraki." *Annual of the British School at Athens* 11, 139–145.
- Wace, A. J. B. (1914). *Catalogue of a Collection of Old Embroideries of the Greek Islands and Turkey*. London: Burlington Fine Arts Club.
- Wace, A. J. B. and M. S. Thompson (1914). *The Nomads of the Balkans*. London: Methuen.
- Whitley, J. (2001). *The Archaeology of Ancient Greece*. Cambridge: Cambridge University Press.
- Williams, C. K. and N. Bookidis (eds.) (2003). *Corinth, the Centenary: 1896–1996*. Princeton: American School of Classical Studies at Athens.
- Xanthoudides, S. A. (1924). *The Vaulted Tombs of the Mesara*. London: Hodder & Stoughton.

Part I

The Landscape and Aegean Prehistory

The Dynamic Land

Introduction

Greece is a land of contrasts (Admiralty 1944, Bintliff 1977, Higgins and Higgins 1996: and see Color Plate 0.1). Although promoted to tourists for its sandy beaches, rocky headlands, and a sea with shades of green and blue, where Aleppo pine or imported Eucalyptus offer shade, in reality the Greek Mainland peninsula, together with the great island of Crete, are dominated by other more varied landscapes. Postcard Greece is certainly characteristic of the many small and a few larger islands in the Cycladic Archipelago at the center of the Aegean Sea, the Dodecanese islands in the Southeast Aegean, and the more sporadic islands of the North Aegean, but already the larger islands off the west coast of Greece such as Ithaka, Corfu, and Kephallenia, immediately surprise the non-Mediterranean visitor with their perennial rich vegetation, both cultivated trees and Mediterranean woodlands. The Southwest Mainland is also more verdant than the better known Southeast.

The largest land area of modern Greece is formed by the north–south Mainland peninsula. At the Isthmus of Corinth this is almost cut in two, forming virtually an island of its southern section (the Peloponnese). Although in the Southeast Mainland there are almost continuous coastal regions with the classic Greek or Mediterranean landscape, not far inland one soon encounters more varied landforms,

plants, and climate, usually through ascending quickly to medium and even higher altitudes. There are coastal and inland plains in the Peloponnese and Central Greece, but their size pales before the giant alluvial and karst (rugged hard limestone) basins of the Northern Mainland, a major feature of the essentially inland region of Thessaly and the coastal hinterlands further northeast in Macedonia and Thrace. If these are on the east side of Northern Greece, the west side is dominated by great massifs of mountain and rugged hill land, even down to the sea, typical of the regions of Aetolia, Acarnania, and Epirus.

Significantly, the olive tree (Figure 1.1), flourishes on the Aegean islands, Crete, the coastal regions of the Peloponnese, the Central Greek eastern lowlands, and the Ionian Islands, but cannot prosper in the high interior Peloponnese, and in almost all the Northern Mainland. The reasons for the variety of Greek landscapes are largely summarized as *geology* and *climate*.

Geological and Geomorphological History

Although there are many areas with very old geological formations (Figure 1.2: Crystalline Rocks), the main lines of Greek topography were formed in recent geological time, resulting from that extraordinary deformation of the Earth's crust called the Alpine

Image not available in this digital edition.

Figure 1.1 Distribution of the major modern olive-production zones with key Bronze Age sites indicated. The shading from A to C indicates decreasing olive yields, D denotes no or minimal production. Major Bronze Age sites are shown with crosses, circles, and squares.

C. Renfrew, *The Emergence of Civilization* (Study in Prehistory), London 1972, Figure 18.12. © 1972 Methuen & Co. Reproduced by permission of Taylor & Francis Books UK.

Orogeny, or mountain-building episode, which not only put in place the major Greek mountain ranges but the Alps and the Himalayas (Attenborough 1987, Higgins and Higgins 1996). In the first period of the Tertiary geological era (the Palaeogene), 40–20 million years ago, as the crustal plates which make up the

basal rocks of Africa and Eurasia were crushed together, the bed of a large intervening ocean, Tethys, was compressed between their advancing masses and thrust upwards into high folds, like a carpet pushed from both ends. Those marine sediments became folded mountains of limestone (Figure 1.2: Limestone).

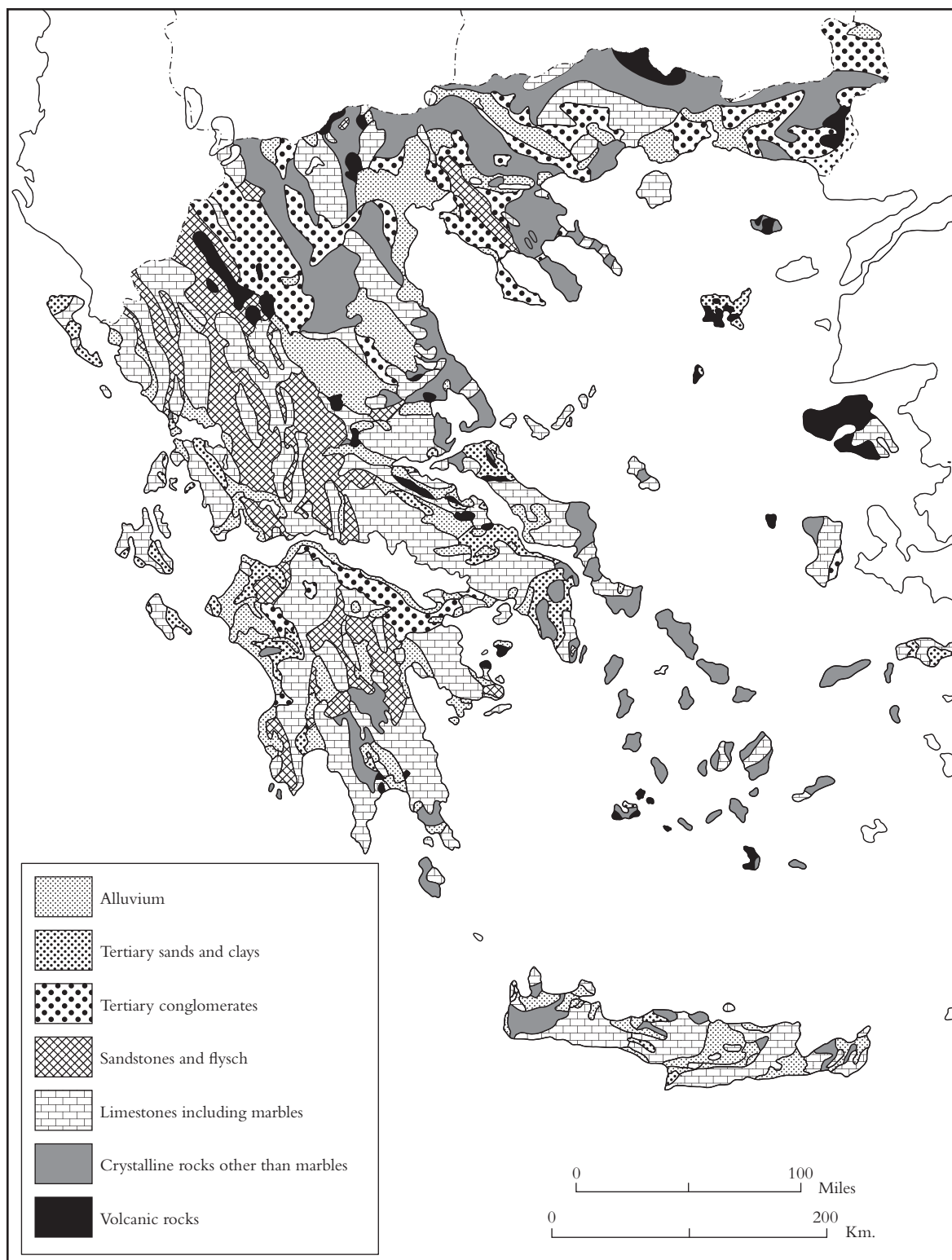


Figure 1.2 Major geological zones of Greece.

H. C. Darby *et al.*, *Naval Geographical Intelligence Handbook, Greece*, vol. 1. London: Naval Intelligence Division 1944, Figure 4.

This plate-tectonic compression created an arc-formed alignment of Alpine mountains and associated earthquake and volcanic belts (Figure 1.2: Volcanic Rocks), which begins as a NW-SE line for the Mainland mountain folds, then curves eastwards across the center of the Aegean Sea, as the E-W orientation of Crete illustrates, and also the associated island arc of volcanoes from Methana to Santorini, to be continued in the E-W ridges of the Western Mainland of Anatolia-Turkey (Friedrich 2000). The Ionian and Aegean seas have been formed by differential sinking of those lateral parts of the Alpine arc, creating the Aegean and Ionian Islands out of former mountain ridges, hence their often rocky appearance. But also there have been tectonic ruptures in different alignments, the most notable being that E-W downward fault which forms the Gulf of Corinth. The artificial cutting of the Corinth Canal in 1893 accomplished the removal of the remaining 8 km stretch left by Nature.

These plate-tectonic forces still operate today, since the Aegean region forms an active interface between the southerly African and northerly Eurasian blocks, and is itself an unstable agglomerate of platelets. Where zones of the Earth's crust are clashing, and ride against, or force themselves under or over each other, there are notorious secondary effects: frequent earthquakes and arcs of volcanoes set behind the active plate boundaries (Color Plate 1.1). Recurrent Greek earthquakes are a tragic reality, notably along the Gulf of Corinth, and the same zone curves into Turkey with equally dire consequences. The volcanic arc runs from the peninsula of Methana in the Eastern Peloponnese through the Cycladic islands of Melos and Santorini-Thera. A secondary arc of earthquake sensitivity runs closer to Crete and its mark punctuates that island's history and prehistory. Around 1550 years ago, a violent earthquake through the Eastern Mediterranean elevated Western Crete by up to 9 meters (Kellett 1991), lifting Phalasarna harbor out of the ocean (Frost and Hadjidaki 1990).

The mostly limestone mountains of Mainland Greece and Crete, as young ranges, are high and vertiginous, even close to the sea. Subsequently these characteristics encouraged massive erosion, especially as sea levels rose and sank but ultimately settled at a relatively low level to these young uplands. As a result, between the limestone ridges there accumulated masses

of eroded debris in shallow water, later compressed into rock itself, flysch, whose bright shades of red, purple or green enliven the lower slopes of the rather monotonously greyscale, limestone high relief of Greece (Figure 1.2: Sandstones and Flysch). For a long period in the next subphase of the Tertiary era, the Neogene, alongside these flysch accumulations, episodes of intermediate sea level highs deposited marine and freshwater sediments in the same areas of low to medium attitude terrain over large areas of Greece. These produced rocks varying with depositional context from coarse cobbly conglomerates of former torrents or beaches, through sandstones of slower river and marine currents, to fine marly clays created in still water (Figure 1.2: Tertiary Sands and Clays, Tertiary Conglomerates).

During the current geological era, the Quaternary, from two million years ago, the Earth has been largely enveloped in Ice Ages, with regular shorter punctuations of global warming called Interglacials, each sequence lasting some 100,000 years. Only in the highest Greek mountains are there signs of associated glacial activity, the Eastern Mediterranean being distant from the coldest zones further north in Eurasia. More typical for Ice Age Greece were alternate phases of cooler and wetter climate and dry to hyperarid cold climate. Especially in those Ice Age phases of minimal vegetation, arid surfaces and concentrated rainfall released immense bodies of eroded upland sediments, which emptied into the internal and coastal plains of Greece, as well as forming giant alluvial (riverborne) and colluvial (slopewash) fans radiating out from mountain and hill perimeters. We are fortunate to live in a warm Interglacial episode called the Holocene, which began at the end of the last Ice Age some 12,000 years ago. Alongside persistent plate-tectonic effects – earthquakes around Corinth, one burying the Classical city of Helike (Soter *et al.* 2001), earthquakes on Crete, and the Bronze Age volcanic eruption of Thera (Bruins *et al.* 2008) – the Greek landscape has witnessed the dense infilling of human communities to levels far beyond the low density hunter-gatherer bands which occupied it in the pre-Holocene stages of the Quaternary era or “Pleistocene” period.

The results of human impact – deforestation, erosion, mining, and the replacement of the natural plant and

animal ecology with the managed crops and domestic animals of mixed-farming life – are visible everywhere, yet certainly exaggerated. Holocene erosion-deposits in valleys and plains are actually of smaller scale and extent than Ice Age predecessors. Coastal change in historic times may seem dramatic but is as much the consequence of global sea level fluctuations (a natural result of the glacial-interglacial cycle), as of human deforestation and associated soil loss in the hinterland (Bintliff 2000, 2002). (In Figure 1.2, the largest exposures of the combined Pleistocene and Holocene river and slope deposits are grouped as Alluvium.)

Globally, at the end of the last Ice Age, sea level rose rapidly from 130 meters below present, reflecting swift melting (eustatic effects) of the major ice-sheets (Roberts 1998). By mid-Holocene times, ca. 4000 BC, when the Earth's warming reached its natural Interglacial peak, sea levels were above present. Subsequently they lowered, but by some meters only. However, due to a massive and slower response of landmass readjustments to the weight of former ice-sheets, large parts of the globe saw vertical land and continental-shelf movements (isostatic effects), which have created a relative and continuing sea level rise, though again just a few meters. The Aegean is an area where such landmass sinking has occurred in recent millennia (Lambeck 1996). The Aegean scenario is: large areas of former dry land were lost to rising seas in Early to Mid-Holocene, 10,000–4000 BC, depriving human populations of major areas of hunting and gathering (Sampson 2006). Subsequently Aegean sea levels have risen slightly (around a meter per millennium), but remained within a few meters of the 4000 BC height, allowing river deposits to infill coastal bays and landlock prehistoric and historic maritime sites.

Let me try to give you the “feel” of the three-dimensional Greek landscape. From a sea dotted with islands, the rocky peaks of submerged mountains (Color Plate 1.2a), and occasional volcanoes, the Greek coastlands alternate between gently sloping plains of Holocene and Pleistocene sediments, and cliffs of soft-sediment Tertiary hill land or hard rock limestone ridges. The coastal plains and those further inland are a combination of younger, often marshy alluvial and lagoonal sediments (usually brown hues) (Color Plate 1.2b), and drier older Pleistocene alluvial and colluvial sediments (often red hues) (Color Plate

1.3a). The coastal and hinterland plains and coastal cliff-ridges rise into intermediate terrain, hill country. In the South and East of Greece this is mainly Tertiary yellowy-white marine and freshwater sediments, forming rolling, fertile agricultural land (Color Plate 1.3b), but in the Northwest Mainland hard limestones dominate the plain and valley edges, a harsh landscape suiting extensive grazing. A compensation in hard limestone zones within this hill land, including the Northwest, is exposures of flysch, which vary from fertile arable to a coarse facies prone to unstable “bad-land” topography. As we move upwards and further inland, our composite Greek landscape is dominated by forbidding ridges of Alpine limestone (Color Plate 1.3a), sometimes transformed by subterranean geological processes into dense marbles. Frequently at the interface between hill land and mountain altitudes occur much older rocks: tectonic folding and faulting after the Alpine mountain-building phase has tipped up the original limestone terrain, bringing to light earlier geological formations of the Palaeozoic or pre-Alpine Mesozoic eras. They were joined by post-Orogeny localized eruptive deposits. These are dense crystalline rocks such as schists, slates, and serpentines, whose bright colors and sharp edges trace the borders between the towering grey masses of limestone and the gentler hill lands of Tertiary sandstones or flysch which make up much of the Greek intermediate elevations. The intervention of such impermeable rocks even as thin bands at the foot of limestone massifs commonly forms a spring-line, neatly lying between good arable below and good grazing land above, a prime location for human settlement. The recent volcanic deposits can be fertile arable land, if sufficient rainfall frees their rich minerals to support soil development and plant growth. Finally, in some regions of Greece, mainly the Northeast Mainland, the Orogeny played a limited role, and the mountain massifs are much older dense crystalline rocks.

Climate

As with its geology, Greece does not have a single climate (Admiralty 1944, Bintliff 1977). Our image of long dry summers and mild winters with occasional rain reflects the focus of foreign visitors on the

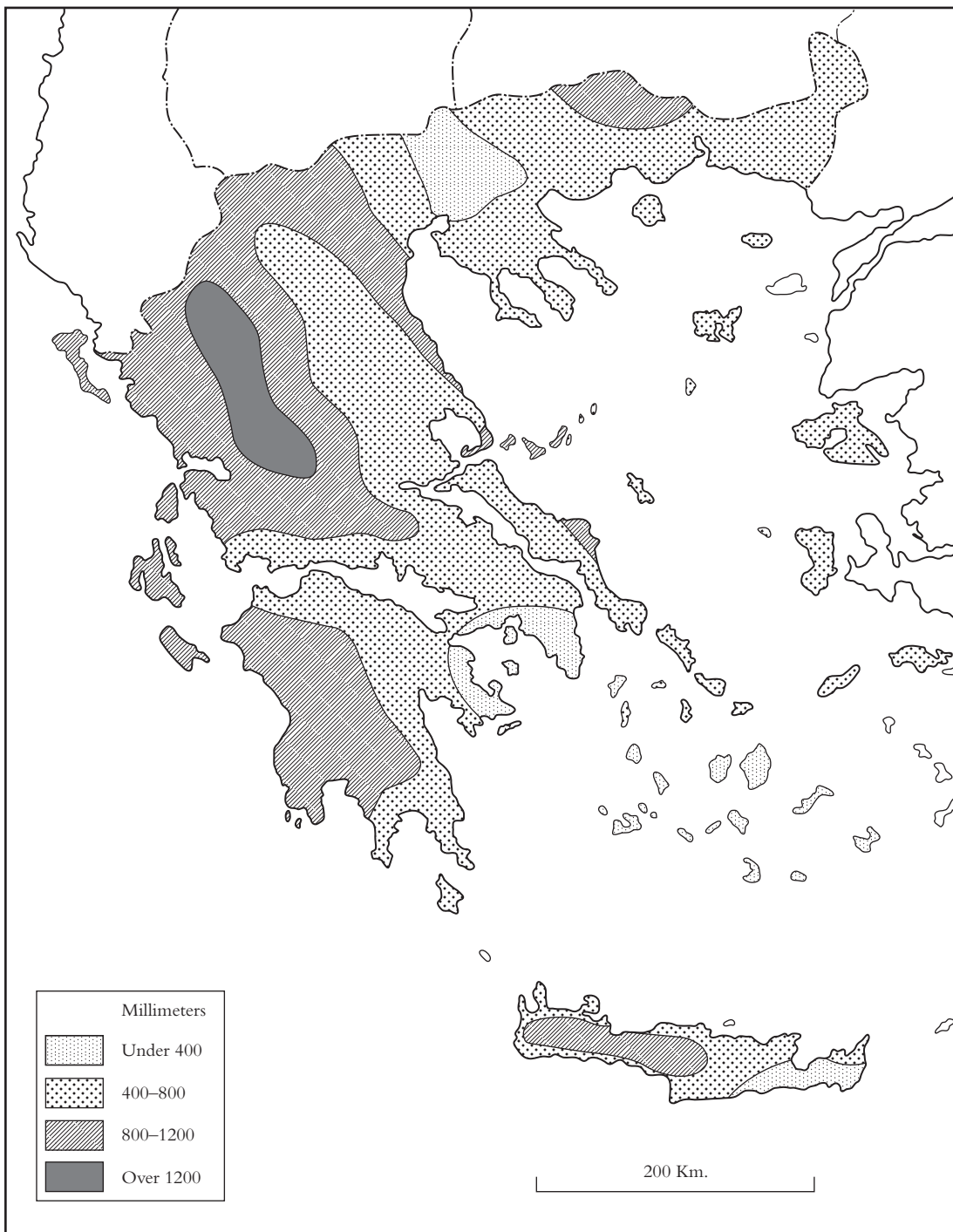


Figure 1.3 Average annual rainfall in Greece.

H. C. Darby *et al.*, *Naval Geographical Intelligence Handbook, Greece*, vol. 1. London: Naval Intelligence Division 1944, Figure 59.

Southeast Mainland, the Aegean islands, and lowland Crete, where this description is appropriate.

The two key factors in the Greek climate are the country's location within global climate belts, and the dominant lines of Greece's physical geography. Greece lies in the path of the Westerly Winds, so that autumn and spring rainfall emanates from the Atlantic, but is much less intense than in Northwest Europe. The Westerly rainbelt decreases in strength the further south and east you go in the Mediterranean. Most of Modern Greece has the same latitude as Southern Spain, Southern Italy, and Sicily, making all these regions strikingly more arid than the rest of Southern Europe. In summer the country lies within a hot dry weather system linking Southern Europe to North Africa. In winter cold weather flows from the North Balkans.

The internal physical landforms of the country also have a major effect on the distribution of rainfall, snow, and frost, and temperatures through the year. The Alpine Orogeny stamped the Mainland with mountain blocks running Northwest to Southeast. On Crete these ranges swing East-West toward Anatolia, so its high mountains form an island backbone on this alignment, but the relative depression of the Aegean Sea caused a tilting of the island, leaving its western third far more elevated. These Alpine obstacles, rising in the west and central sectors of the Greek Mainland and Crete, force the Westerly rains to deposit the major part of their load along the West face of Greece and in Western Crete, making the Eastern Mainland, the Aegean Islands, and Eastern Crete lie in rainshadow, thus restricting the available rainfall for plants and humans (Figure 1.3).

Temperature, rainfall, and frost-snow also vary according to altitude, and Greece is a land of rapid altitudinal contrasts. No part of the broadest landmass, the Northern Mainland, is more than 140 km from the sea, whilst for the Peloponnese the most inland point is 45 km distant, yet in these short spans one can move (sometimes in a few hours), from sea level to the high mountain zone. With height come lower temperatures and more snow-frost, milder summers, and more severe winters than experienced in the favored summer and winter tourist destinations of the Aegean Islands and coasts of the Southeast Mainland, but in compensation, there is less risk of drought and life-threatening heatwaves. In the drier zones of Greece

drought is a constant threat to crop cultivation and animal-raising, and is frequent enough to pose an adaptive challenge for any past Greek society with a dense population and elaborate division of labor.

The powerful effects of geology and climate in creating the diverse landscapes of Greece are also dominant in the mosaic of natural and artificial vegetation belts which one meets in traveling from South to North, or East to West, and even more clearly from coast to inland mountains.

Vegetation

Climbing to higher altitudes in the Mediterranean produces effects comparable to traveling northwards toward the Arctic, passing out of Mediterranean into temperate, then continental and finally to subarctic climates (Admiralty 1944, Bintliff 1977, Rackham 1983, Kautzky 1993). Average annual temperatures decline, and although summers can be hot they are milder than in coastal lowlands; autumn, spring, and winter are colder and rainier; finally, winter frost and snow increase with height above sea level. The position of the uplands relative to rain-bearing autumn and spring Westerlies modify these effects, also true for the winter cold climate cells which derive from the Balkans. Thus when traveling west and north from the Mediterranean climate zone of the Southeast Mainland coast and its offshore islands, or merely inland and up into the hill land and then mountains, we observe a succession of natural vegetation zones which are related to the main vegetation zones of Europe from its far south to its far north.

Evergreen trees (oaks, olives) give way to mixed evergreen and deciduous trees and shrubs, then deciduous vegetation is gradually displaced by hardy coniferous trees, until finally in the highest or rockiest mountain peaks trees decline and Alpine grasses and low plants dominate. However, this is a picture of typical conditions throughout Greece in the middle of an Interglacial period, and for the Holocene this has been much modified by human impact.

Since people colonized the Greek landscape in large numbers, from the Late Neolithic (ca. 5000 BC), they have modified natural vegetation to assist their farming-herding economy, whilst from the mature

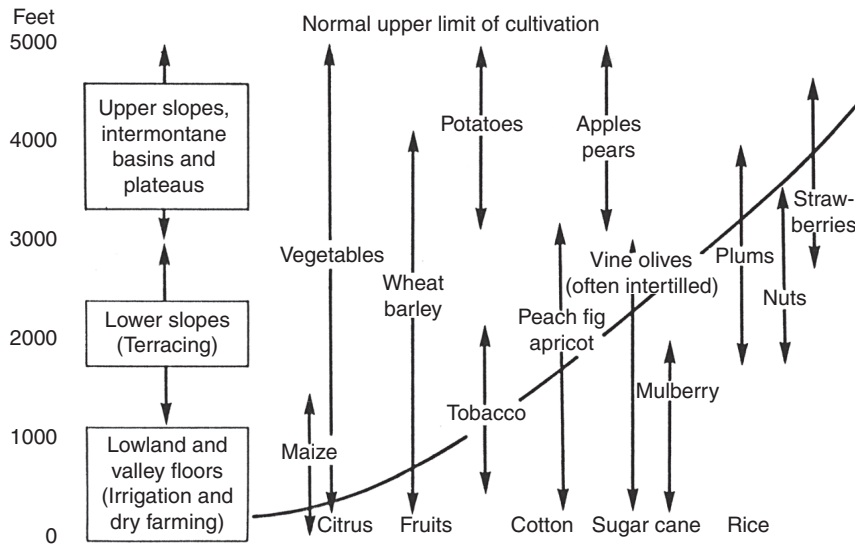


Figure 1.4 The vertical zonation of crops in the Mediterranean lands.
J. M. Houston, *The Western Mediterranean World*. London 1964, Figure 28. Courtesy of J. M. Houston.

Iron Age onwards (ca. 800 BC) intensified mining and timber extraction has increased human impact. In some regions and periods in the past, natural woodland disappeared or was reduced to a patchwork amid a landscape of fields, pastures or mere wasteland. Photographs for much of Greece from the late nineteenth to early twentieth centuries frequently portray treeless, almost lunar landscapes. Fortunately the Greek government in recent decades has implemented increasingly effective reafforestation and woodland preservation programs. Redirection of the economy away from extensive sheep and goat raising has dramatically allowed uplands to regenerate tree cover. European Union agricultural policies, and internal pressure to focus Greek farming on highly commercial forms of land use, are also creating divergent paths in the previously cultivated landscape. Open lowlands and areas with plentiful pumped irrigation water are now intensively farmed throughout the year for multiple crops. In contrast, vast areas of hill country where motor and irrigation access are restricted, and fields small, are swiftly reverting to scrubland and bushes. Areas suitable for archaeological landscape survey are increasingly confined by this polarization of land use.

However, human impact from later prehistoric times onwards has always been regionally diversified,

as the “agropastoral” (farmer-herder) economy adapted to local climate and topography (Figure 1.4). In the lowlands and hill lands, to several hundred meters above sea level, natural Mediterranean evergreen woodland, alternating with dry steppe and shrubs where stoniness or aridity prevented tree cover, has become a cultivated “woodland” of evergreen olives, figs, vines, and (after Medieval importation) citrus fruits. Natural grasses and bulbs have been replaced by the favored bread grasses wheat, barley, and the root crops beans, lentils, and melons. From the sixteenth to seventeenth centuries AD onwards, the versatile exotic maize and exotic commercial shrubs cotton and tobacco spread widely. In the cooler hill lands, fruit and nut trees, which were a natural component of the European mixed deciduous-evergreen vegetation, have been favored, such as apples, whilst the milder, wetter climate suited native vegetables and Early Modern imports such as potatoes. In the higher uplands more open landscapes due to climate, culminating in high level grass-bulb landscapes, have been drastically enhanced by human clearance (by fire, axe, and grazing) to make pasturelands, where cooler summers compared to the lowlands have encouraged specialist herders to bring seasonally transhumant domestic flocks.

Vegetation

The zonal vegetation map of Greece (Color Plate 1.4) demonstrates that topography, geology, and climate collaborate to produce a clear trend in the distribution of typical natural vegetation during a warm period such as our current Interglacial. The drier coastlands and islands, mainly in the South and especially the Southeast, display Mediterranean evergreen, drought-resistant plants. If unaffected by fire, grazing, and cultivation (a minority of the landscape!) one would find savannah or woodland composed of trees like evergreen oak, Aleppo pine, and wild olive. Moving away from the Southeast Mainland coasts and islands, north and west, higher rainfall and often higher relief support mixed Mediterranean evergreen and deciduous woodland species, deciduous oaks, beech, and chestnut. Such mixed vegetation would in the natural state typify

higher land in the South and much of the lower land in the North. Within the great upland zones which constitute Mainland Greece's rugged interior, Mediterranean vegetation disappears and we find deciduous and increasingly with altitude more continental tree species, such as hardy conifers, the latter dominant as we ascend the mountains. Even without human interference there would be small zones in the uppermost mountain belts with Alpine, non-tree grassland and other low plants. Given the fact that in Greece one can move within a short distance from the dry coastland up into fringing mountains, it is often possible in many parts of Greece to walk in a day from Mediterranean evergreen brushland through deciduous, then coniferous, woodland and see ahead the bare Alpine-plant zone on the crests of the mountains.

For typical, mostly natural, tree species see Figure 1.5. In the Greek lowlands original woodland

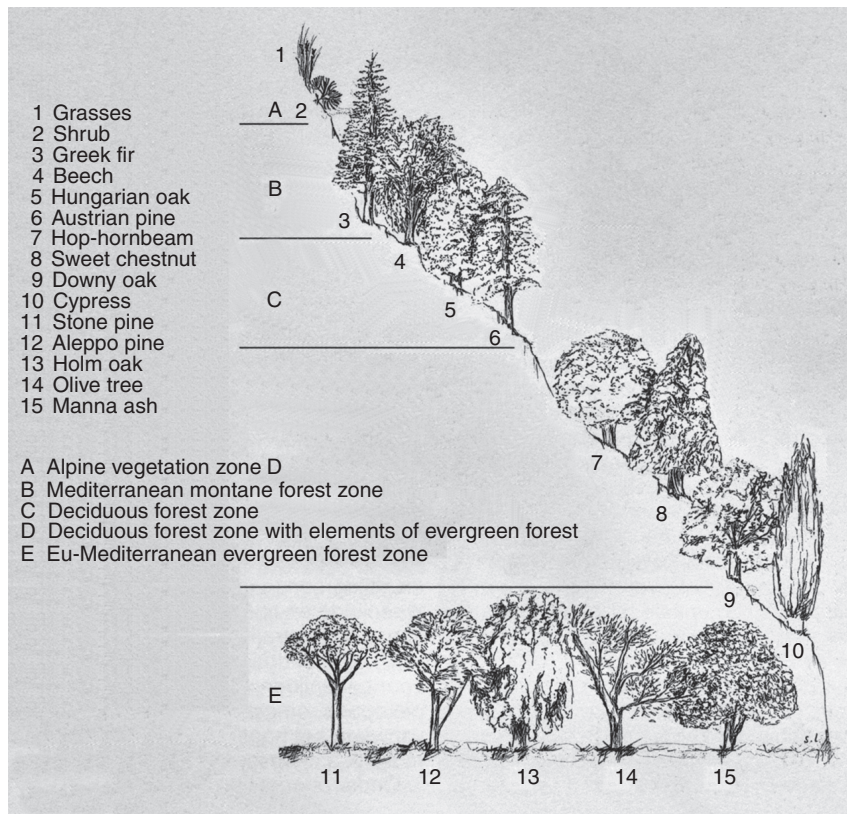


Figure 1.5 Vegetation sequence in Greece, from Mediterranean lowland (right) to inner mountain peaks (left). Modified from J. Kautzky, *Natuurreisgids Griekenland. Vasteland en Kuststreken*. De Bilt 1995, diagram on p. 23.

cover was first removed on a large scale by later Neolithic and Bronze Age times, and the cultivable landscape is considered to have already possessed its Early Modern appearance by Classical Greek times (Bintliff 1977, 1993): a mosaic of open land (dominated by grain crops) and cultivated olive and fig orchards and vineyards. In place of woodland, where agriculture is not found, human impact by fire and grazing, or natural climatic aridity, give rise to three levels of sub-woodland vegetation, in decreasing order of size and ground surface cover

(Rackham 1983): degraded evergreen woodland becomes low shrubland (“maquis”), predominantly prickly oak bushes. More heavily degraded land, or where bare rock is very prominent, supports thin grassland mixed with spiky plants (“steppe”). Finally in the least vegetated zones, the result of maximum human impact or the dominance of bare rock, we find very low, widely-spaced “phrygana” or “garigue” vegetation, notable for aromatic fragrances and valued by bees and humans for nourishment and cuisine respectively (sage, thyme).

Pollen analysis documents the evolution of vegetation in Greece, taken from lake and coastal corings. A prediction for a warm epoch or Interglacial, such as our Holocene period, without human interference, comes from a deep boring at Philippi in Northeast Mainland Greece which covers the last million years (Wijmstra *et al.* 1990). A warm, wet early phase, with mixed deciduous and evergreen open woodland, would by mid-interglacial in the lowlands give way to a drier Mediterranean climate, encouraging denser evergreen woodland, then be succeeded, as the era moves toward a new glacial, by a cooler and wetter climate encouraging a rise in deciduous vegetation. This reconstruction agrees with early-mid Holocene pollen cores from the drier Southern Greek climate. Here Bottema (1990) noted increasingly drier climate through the early farming eras of the later Neolithic and Bronze Age, in Middle Holocene times (more pronounced from 5000 to 4000 BC), then a postulated rise in rainfall, or aridity decline, in Late Holocene times (from the Iron Age on, ca. 1000 BC). Nonetheless, since the Middle-Late Holocene era coincides with several phases of major human impact on the landscape, through woodland clearance and the expansion of cultivated crops and managed grazing, it becomes difficult to separate out vegetational changes due to climate and those under anthropogenic (human-inspired) influence. Combinations of natural and human factors, as with soil erosion, seem preferable to comprehend Greek landscapes for these recent millennia (Rackham 1982, Atherden and Hall 1994).

From the Bronze Age till Medieval times, the natural climate seems to have been mostly warm and dry. The Mesolithic hunter-gatherers (see Time Chart in Introduction) would experience the rather different climate of the early interglacial model, whilst the Neolithic farmers would experience a transition to increasingly drier conditions. Although the Earth had probably not begun to shift definitively toward a late interglacial climate, before human-induced Global Warming overrode any natural cyclical patterns, climatologists argue that during the last 2000 years the Earth has experienced several shorter phases of wetter, colder climate. The classic example is the Little Ice Age between Late Medieval and Early Modern times (Bintliff 1982, Grove 2004). Furthermore, within the warm, dry mid-interglacial mode, and the early wetter but warm mode, climatologists have also identified large-scale episodes of intense drought, around 6200 and 2200 BC, both considered as particularly significant for the Eastern Mediterranean region (Weiss 1993, Rosen 2007).

The vegetation of the Aegean has certainly altered over the last 10,000 years, in the first place responding to global climatic changes. These changes form long-term cycles, over which are superimposed smaller interruptions. Human impact, through progressive clearance, but also cyclical, as human populations waxed and waned, are a further factor impacting on the degree of natural vegetation and its type, but we now see that visible alterations may be as much due to natural as to anthropogenic causes, most frequently it seems a combination of these.

Soils

Greece's semi-arid climate limits its soils (Figure 1.6) from developing a great depth or elaborate mature profiles. Greek soils often remain thin, accumulating slowly, and largely reflect the parent rock and sediment they develop on. Geology is therefore fundamental for soil type distribution. Thus the scattered volcanic districts are echoed by characteristic *Volcanic Soils*, mostly not too fertile as they border the dry Aegean Sea. Far commoner, hard crystalline limestone produces characteristic derived soils (*Limestone Soils*), thin and none too fertile, often patchy between rugged rock. The intermediate hill land of Greece once possessed fertile deep woodland soils, but due to human impact those parts occupied the longest, and farmed continuously, have developed thin stony soils, here mapped along with similar naturally thin soils of the interior mountains (*Stony Mountain Soils* and *bare Rock*); *Terra Rossas* and *Rendzinas* have similar properties and origins (for the former, see Color Plate 1.3a). Only in some zones do better, deeper soils survive extensively (*Brown Forest Soils* and *Mediterranean Dry Forest Soils*) (Color Plate 1.3b). Coastal plains and the drier inland basins, with alluvial and colluvial sediments, have their own fertile but sometimes marshy soils (*Alluvial*, *Marsh*, and *Meadow Soils*) (Color Plate 1.2b).

The overall picture reflects the rocky, mountainous topography of Greece, the limited expanses of rocks that make rich soil, the confined zones of plain (excepting Northern Greece), and the dry climate. Greece is not a naturally rich country for farming, reminding us why the Greeks in many eras imported food, notably grain. However, even if we assume that in regions with dense prehistoric and ancient settlement the once deeper soils have been reduced to a thinner form, due to woodland clearance and erosion, these soils can still provide plentiful harvests at subsistence level (Shiel 2000), though hardly for sustained, large-scale export of wheat, barley or vegetables. Moreover, in some areas, soil impoverishment based on a model of constant environmental decline may not hold true at all (James *et al.* 1994). In compensation, the abundant exposures of steep and rocky, thin soils in a dry climate with low frosts make ideal growing conditions for two classic Mediterranean crops, the olive and the vine, the former vital to

enrich the diet, and both excellent trade crops. Even the "wasteland" of scrub and thin woodland formed till recently a sustainable, fruitful extension of food and raw materials for rural communities (Rackham 1982, Forbes 1997).

Erosion

Ever since it was commented on by the Classical philosopher Plato, the erosion of Greece and the resultant lowland sedimentation in valleys and plains was envisaged as a continuous process of landscape transformation, and condemned as negative and anthropogenic in origin (van Andel *et al.* 1986, 1990). With the advent of farming and herding commenced widespread woodland clearance, gaining momentum from prehistoric times into Greco-Roman antiquity. Soils were supposedly stripped or impoverished, sloping landscapes degraded to grazing or even rock. Ports declined as river alluvium bringing eroded debris of hinterland clearance spilled around them, creating a seawards retreating coastline. Even where sensible farmers built terraces to reduce soil loss, cycles of human depopulation apparently led to their neglect, releasing protected soil to flow into rivers.

However, the last 40 years of scientific research into Holocene geomorphology in Greece has revealed a more complex picture than that just depicted, and one where human impact is matched by natural processes (Bintliff 2000, 2002). Firstly, in parts of Greece geology or hyperarid climate restrict woodland cover. Soils here undergo natural weathering, or were always thin. Secondly, in the early Holocene, till 5000 BC, an evolving Interglacial climate stimulated more open landscapes with enhanced natural erosion. Human impact is undoubtedly registered from the later Neolithic period (ca. 5000 BC) onwards, in cycles of woodland clearance followed by regeneration, and in the high population, full land use half of each cycle, such open landscapes also favored soil erosion. But now comes a vital factor, the immediate cause of erosion, which is the weather. Studies have demonstrated that severe erosion is often linked with unusual rainstorms or other highly abnormal weather conditions. Extreme storms may occur once in a lifetime or at even longer intervals.

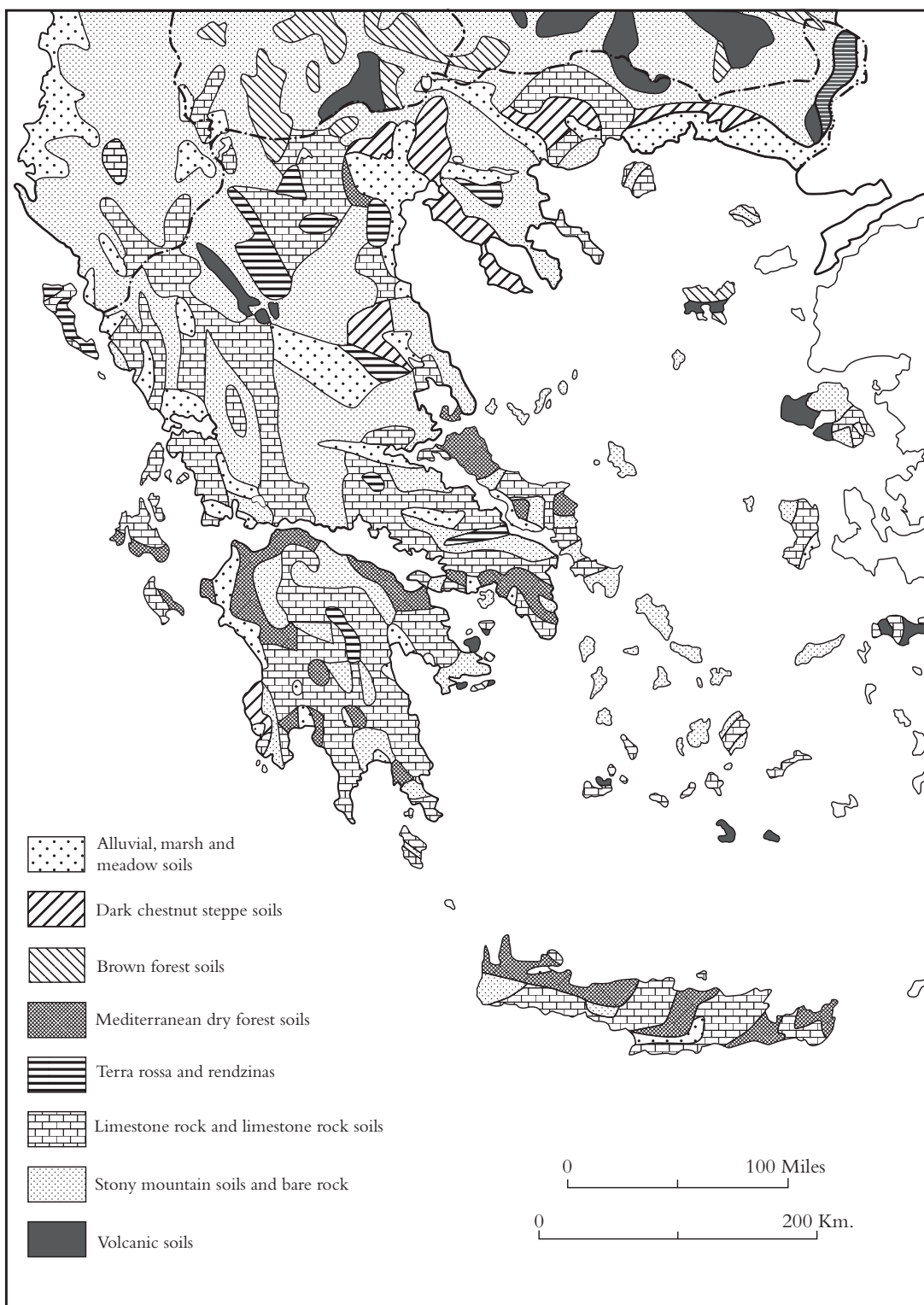


Figure 1.6 Soils of Greece.

H. C. Darby *et al.*, *Naval Geographical Intelligence Handbook, Greece*, vol. 1. London 1944, Figure 7.

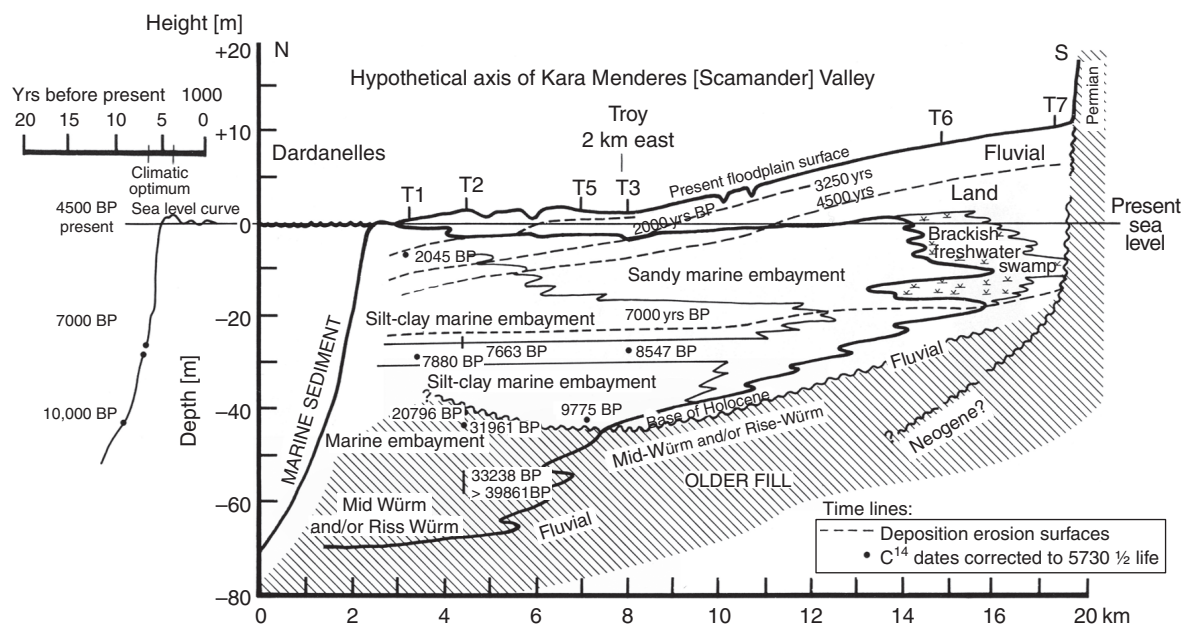


Figure 1.7 Cross-section of the infill of the Plain of Troy, Northwestern Anatolia, since the last glacial era. Note the dominance of marine deposits and of river sediments laid down in a former sea inlet almost to the innermost part of the plain, and the late and superficial progradation (advance) of the modern dry land plain alluvia.

Author after J. C. Kraft *et al.*, "Geomorphic reconstructions in the environs of ancient Troy," *Science* 209 (1980), 776–782, Figure 3. Reproduced by permission of American Association for the Advancement of Science.

Let us predict how these complex processes might register in the Greek geomorphological (land surface) record. For Early Holocene erosion processes we expect little human responsibility, then in Middle and Late Holocene times (later Greek prehistory till today), cycles of high human population would be irregularly punctuated by erosion phases, whilst even in low population phases occasional, irregular erosion episodes could appear. Most of the time, even during population climaxes, major erosion would be absent. A final qualification is required: pollen analysis shows that considerable expanses of upland Greece remained wooded, with low human populations, till the Early Modern period (Bottema 1974), chiefly in the Northern Mainland. The accumulating Holocene landscape record for Greece corresponds closely: erosion in prehistoric through ancient to Medieval times occurs as a series of irregular, short-lived episodes, set against longer periods of landscape stability marked by soil development (what is called a "punctuated

equilibrium" model). Rare phases of landscape instability, apart from Early Holocene examples, lie within periods of dense human occupation, but fail to correlate with every population climax (Pope *et al.* 2003).

Finally we must rethink our scenarios for coastline change. Firstly, it is widely forgotten that hill erosion benefits the lowlands through deposition of fertile alluvia and colluvia. Secondly, we must be critical of the view that the frequently observed advance of river deltas into the sea during historic times is clear evidence for ecological mismanagement of the hinterland of the Aegean coasts, due to human deforestation and poor soil conservation. Scientific research reveals a more complex interplay between natural Interglacial processes and human impact. Boreholes through the larger coastal plains of the Greek and Turkish Aegean coasts give comparable cross-sections, illustrating how these plains have been built up since the last glacial period (Figure 1.7). During the last Ice Age, sea levels 130 meters below present, and prolonged millennia of

open landscape with highly erosive climate, produced deep slope and plain sedimentation in the coastlands and well beyond into the present marine shallows (categorized as “Older Fill” in the Figure). In the Early Holocene, swift global ice-sheet melting caused rapidly rising sea levels, outpacing the laying down of eroded sediments in river deltas, which was also drastically reduced in volume as the hinterland became increasingly wooded. Till 4000 BC the sea encroached on coastlines, and although continued natural, and human-related, erosion still brought sediments downstream, these were poured into advancing submarine bays. From this point onwards, two linked processes interacted to reverse this general trend: sea level rise globally slowed down or ceased, with subsequently only minor fluctuations in height, and human clearance from Late Neolithic times onwards became a major, if cyclical, force which exposed large hinterland terrains to potential erosion. Taken together these effects have favored coastal plains advancing on the sea. Historical references certainly match sediment cores for Aegean coastal plains (Brückner 2003, Kraft *et al.* 1977, 1980, 1987), showing dramatic gains in the land even over a few centuries during the last 2500 years. However in cross-section the depth of these historical-era natural-anthropogenic sediments is rarely great, coating a superficial skin on top of much deeper, naturally caused, delta deposits of the earlier Holocene and Ice Age millennia.

Ethnoarchaeology

The study of “traditional” Greek society as a source for reconstructing everyday life in ancient and prehistoric Greece has long been popular. When Western Travelers began to visit Greece in significant numbers, during the eighteenth and early nineteenth centuries AD, their reaction to Greek countryfolk was frequently negative (Tsigakou 1981, Angelomatis-Tsougarakis 1990). Manners, dress, houses, and education disappointed the visitor seeking the descendants of Pericles or Plato. But whereas those Travelers were educated into a colonial and imperialist condescension toward the rest of the World, by the turn of the twentieth century growing disillusionment with Western achievements encouraged intellectuals to admire a

lost past of pre-capitalist, pre-industrial lifestyles. If the painter Gauguin sought this in Tahiti, others stayed at home and tapped into folk traditions within Western Europe itself (language, music, dress, folklore), a movement developing since the birth of the Romantic Movement around the start of the nineteenth century.

Now Western scholar-travelers were more inclined to cherish the characteristics of conservative society in rural Greece, previously deplored. Simple peasant life, close to an unchanging nature, its spontaneity and semi-pagan rituals, appeared preferable to Modern Life, and surely also suggested a direct insight into the world of the ordinary people of the Classical or Bronze Age landscape. This led Sir Arthur Evans for example, excavator of the Minoan palace at Knossos, to construct a Golden Age in Bronze Age Crete, which later scholarship has difficulty extricating itself from (Bintliff 1984, MacGillivray 2000). Throughout the twentieth century, observations of traditional life-ways in Greece seemed logically linked to our picture of the remoter past, and even in the 1970s and 1980s anthropologists were attached to archaeological teams (cf. Jameson 1976), not just to bring the story of a landscape into the present day, but in the expectation that traditional practices could be extrapolated to the long-term past.

A belief in direct historical continuity played a central role. Only a minority of scholars were attracted by Fallmerayer’s nineteenth-century theory that Modern Greeks were largely descended from Slav colonization in post-Roman times. Most assumed that Classical Greek populations survived and dominated ethnically throughout the Medieval and Early Modern eras. The discovery in the 1950s that Late Bronze Age populations, at least on the Mainland, spoke Greek, allowed Greek ethnicity to extend even further back. Renfrew’s hypothesis (1987) that the most significant populating of the Aegean occurred with Neolithic farming colonization around 7000 BC, would envisage ancestral Greeks in parts of the country from an astonishingly early date. With such an embedded ethnicity, and the concept that “traditional” Greek countryfolk in the Early Modern period possessed limited horizons, focused on their village and a nearby market town, could one not reasonably suppose that the practices of farming, house-building, social behavior, and

ritual could have changed little over the centuries or even millennia?

However, during the late twentieth century, Post-Colonial thinking (Said 1980), and a growing interest in globalization, led historians and anthropologists to question how untouched and authentic “traditional” societies could be. Almost none was remote enough to escape significant impact from the expansion of colonialism and capitalism. For Greece, Halstead (1987, 2006) challenged the assumption that lifeways had changed little since the Bronze Age.

On my own Boeotia Project, cultural anthropologist Cliff Slaughter radically deconstructed the “traditional” nature of life in the villages where our fieldwork was based (Slaughter and Kasimis 1986). Although the Askra villagers are notorious today as in the poet Hesiod’s lifetime in the same valley community (ca. 700 BC), for legal disputes about estate boundaries, ties between antiquity and the present day remain limited and superficial. Farmers depart at dawn for scattered smallholdings, but village incomes chiefly derive from factory work, intensive irrigation using deep machine-pump wells, massive low-interest bank loans, and income earned abroad. It is noteworthy that most Boeotian villagers are descendants of Albanian colonization in the fourteenth and fifteenth centuries AD (Kiel 1997, Bintliff 1995, 2003), and conversations amongst the oldest residents are in Greek laced with this “Arvanitic” dialect, which most rural Boeotians used as their primary tongue into the early twentieth century.

This questioning of “tradition” has nonetheless produced positive effects. Observations from Early Modern Greece can still provide a series of possible ways of life, against which the empirical data for a particular period of antiquity or prehistory can be compared or indeed contrasted (Efstratiou 2007). This is currently the basis for global ethnoarchaeology and experimental archaeology. A common way of managing field crops, such as alternate fallow years, might have been practiced at certain stages of population density in the past, especially when the appropriate technology had become available, but for the same reasons would be unlikely in other periods. Likewise the well-known large-scale transhumance of sheep, goats, and cattle (seasonal long-distance movement of herds especially between uplands and lowlands), a

familiar practice in many parts of the Mainland and Crete, developed in the post-Medieval era in intimate relation to proto-capitalist and later capitalist markets for textile manufacture, and to modern forms of communication enabling long-distance trade in pastoral products. It becomes necessary to account for alternative economic circumstances in earlier periods (such as palace economies), which could have stimulated and supported such an elaborate lifeway in the remoter past, rather than assume, as was the case up to the 1980s, that Aegean transhumance was an unchanging feature of rural life ever since prehistory.

On this historically-contextualized basis, Greek ethnoarchaeology has entered a new phase of indispensable insight-production for researchers into the pre-Modern eras. At the same time, it has given more depth to our understanding of the specific nature of the Early Modern period itself, which has till recently been characterized as an unchanging society representing ancient lifeways rapidly pulled into Western modernity.

References

-
- Admiralty (1944). *Greece*. 3 vols. London: HMSO, Naval Intelligence Division.
- Angelomatis-Tsougarakis, H. (1990). *The Eve of the Greek Revival*. London: Routledge.
- Atherden, M. A. and J. A. Hall (1994). “Holocene pollen diagrams from Greece.” *Historical Biology* 9, 117–130.
- Attenborough, D. (1987). *The First Eden*. London: BBC Books.
- Bintliff, J. L. (1977). *Natural Environment and Human Settlement in Prehistoric Greece*. 2 vols. Oxford: BAR Supplementary Series 28.
- Bintliff, J. L. (1982). “Palaeoclimatic modelling of environmental changes in the East Mediterranean region since the last glaciation.” In J. Bintliff and W. van Zeist (eds.), *Palaeoclimates, Palaeoenvironments and Human Communities in the Eastern Mediterranean*. Oxford: BAR Int. Series 133, 485–530.
- Bintliff, J. L. (1984). “Structuralism and myth in Minoan Studies.” *Antiquity* 58, 33–38.
- Bintliff, J. (1993). “Forest cover, agricultural intensity and population density in Roman imperial Boeotia, central Greece.” In B. Frenzel (ed.), *Evaluation of Land Surfaces Cleared from Forests in the Mediterranean Region During the Time of the Roman Empire*. Stuttgart: Fischer Verlag, 133–143.

- Bintliff, J. L. (1995). "The two transitions: Current research on the origins of the traditional village in Central Greece." In J. L. Bintliff and H. Hamerow (eds.), *Europe Between Late Antiquity and the Middle Ages. Recent Archaeological and Historical Research in Western and Southern Europe*. Oxford: BAR Int. Series 617, 111–130.
- Bintliff, J. (2000). "Landscape change in Classical Greece: A review." In F. Vermeulen and M.D. Dapper (eds.), *Geoarchaeology of the Landscapes of Classical Antiquity*. Leuven: Peeters, 49–70.
- Bintliff, J. (2002). "Time, process and catastrophism in the study of Mediterranean alluvial history: a review." *World Archaeology* 33, 417–435.
- Bintliff, J. (2003). "The ethnoarchaeology of a 'passive' ethnicity: The Arvanites of Central Greece." In K. S. Brown and Y. Hamilakis (eds.), *The Usable Past. Greek Metalhistories*. Lanham/Boulder: Lexington Books, 129–144.
- Bottema, S. (1974). *Late Quaternary Vegetation History of Northwestern Greece*. Groningen: Rijksuniversiteit te Groningen.
- Bottema, S. (1990). "Holocene environment of the Southern Argolid: A pollen core from Kiladha Bay." In T. J. Wilkinson and S. Duhon (eds.), *Franchi Paralia. The Sediments, Stratigraphy, and Offshore Investigations*. Bloomington: Indiana University Press, 117–138.
- Brückner, H. (2003). "Delta evolution and culture-aspects of geoarchaeological research in Miletos and Priene." In G. A. Wagner, E. Pernicka, and H.-P. Uerpmann (eds.), *Troia and the Troad*. Heidelberg: Springer, 121–144.
- Bruins, H. J. et al. (2008). "Geoarchaeological tsunami deposits at Palaikastro (Crete) and the Late Minoan 1A eruption of Santorini." *Journal of Archaeological Science* 35, 191–212.
- Efstratiou, N. (2007). "Neolithic households in Greece. The contribution of ethnoarchaeology." In R.C. Westgate, N. Fisher, and J. Whitley (eds.), *Building Communities: House, Settlement and Society in the Aegean and Beyond*. London: British School at Athens, 29–39.
- Forbes, H. (1997). "A 'waste' of resources: Aspects of landscape exploitation in lowland Greek agriculture." In P. N. Kardulias and M.T. Shutes (eds.), *Aegean Strategies. Studies of Culture and Environment on the European Fringe*. Lanham: Rowman & Littlefield, 187–213.
- Friedrich, W. (2000). *Fire in the Sea*. Cambridge: Cambridge University Press.
- Frost, F. J. and E. Hadjidaki (1990). "Excavations at the harbor of Phalasarna in Crete: The 1988 season." *Hesperia* 59, 513–527.
- Grove, J. M. (2004). *Little Ice Ages: Ancient and Modern*. London: Routledge.
- Halstead, P. (1987). "Traditional and ancient rural economy in Mediterranean Europe: Plus ça change?" *Journal of Hellenic Studies* 107, 77–87.
- Halstead, P. (2006). "Sheep in the garden: The integration of crop and livestock husbandry in early farming regimes of Greece and Southern Europe." In D. Serjeantson and D. Field (eds.), *Animals in the Neolithic of Britain and Europe*. Oxford: Oxbow, 42–55.
- Higgins, M. and R. Higgins (1996). *A Geological Companion to Greece and the Aegean*. London: Duckworth.
- James, P.A., C. B. Mee, and G. J. Taylor (1994). "Soil erosion and the archaeological landscape of Methana, Greece." *Journal of Field Archaeology* 21, 395–416.
- Jameson, M. H. (ed.) (1976). "A Greek countryside: Reports from the Argolid Exploration Project." *Expedition* 19(1), 2–49.
- Kautzky, J. (1993). *Reiseführer Natur. Griechenland – Festland und Küste*. München: BLV.
- Kelletat, D. (1991). "The 1550 BP tectonic event in the Eastern Mediterranean as a basis for assessing the intensity of shore processes." *Zeitschrift für Geomorphologie, Supplement* 81, 181–194.
- Kiel, M. (1997). "The rise and decline of Turkish Boeotia, 15th–19th century." In J. L. Bintliff (ed.), *Recent Developments in the History and Archaeology of Central Greece*. Oxford: BAR Int. Series 666, 315–358.
- Kraft, J. C., S. Aschenbrenner, and G. Rapp (1977). "Palaeogeographic reconstructions of coastal Aegean archaeological sites." *Science* 195, 941–947.
- Kraft, J. C., I. Kayan, and O. Erol (1980). "Geomorphic reconstructions in the environs of ancient Troy." *Science* 209, 776–782.
- Kraft, J. C. et al. (1987). "The pass at Thermopylae, Greece." *Journal of Field Archaeology* 14, 181–198.
- Lambeck, K. (1996). "Sea-level change and shore-line evolution in Aegean Greece since Upper Palaeolithic time." *Antiquity* 70, 588–611.
- MacGillivray, A. (2000). *Minotaur: Sir Arthur Evans and the Archaeology of the Minoan Myth*. London: Jonathan Cape.
- Pope, R. J. J., K. N. Wilkinson, and A. C. Millington (2003). "Human and climatic impact on late Quaternary deposition in the Sparta Basin Piedmont: Evidence from alluvial fan systems." *Geoarchaeology* 18(7), 685–724.
- Rackham, O. (1982). "Land-use and the native vegetation of Greece." In M. Bell and S. Limbrey (eds.), *Archaeological Aspects of Woodland Ecology*. Oxford: BAR Int. Series 146, 177–198.
- Rackham, O. (1983). "Observations on the historical ecology of Boeotia." *Annual of the British School at Athens* 78, 291–351.
- Renfrew, A. C. (1987). *Archaeology and Language: The Puzzle of Indo-European Origins*. London: Jonathan Cape.
- Roberts, N. (1998). *The Holocene. An Environmental History*. Oxford: Blackwell.

- Rosen, A. M. (2007). *Civilizing Climate*. Lanham: AltaMira.
- Said, E. W. (1980). *Orientalism*. London: Routledge.
- Sampson, A. (ed.) (2006). *The Prehistory of the Aegean Basin*. Athens: Atrapos.
- Shiel, R. S. (2000). "Refuting the land degradation myth for Boeotia." In G. Bailey, R. Charles, and N. Winder (eds.), *Human Ecodynamics*. Oxford: Oxbow, 55–62.
- Slaughter, C. and C. Kasimis (1986). "Some social-anthropological aspects of Boeotian rural society: A field report." *Byzantine and Modern Greek Studies* 10, 103–159.
- Soter, S. *et al.* (2001). "Environmental analysis of cores from the Helike Delta, Gulf of Corinth, Greece." *Journal of Coastal Research* 17, 95–106.
- Tsigakou, F. M. (1981). *The Rediscovery of Greece*. London: Thames & Hudson.
- van Andel, T. H., C. N. Runnels, and K. O. Pope (1986). "Five thousand years of land use and abuse in the Southern Argolid, Greece." *Hesperia* 55(1), 103–128.
- van Andel, T. H., E. Zangger, and A. Demitrack (1990). "Land use and soil erosion in prehistoric and historical Greece." *Journal of Field Archaeology* 17, 379–396.
- Weiss, H. (1993). "The genesis and collapse of third millennium North Mesopotamian civilization." *Science* 261, 995–1004.
- Wijmstra, T. A., R. Young, and H. J. L. Witte (1990). "An evaluation of the climatic conditions during the Late Quaternary in northern Greece by means of multivariate analysis of palynological data and comparison with recent phytosociological and climatic data." *Geologie en Mijnbouw* 69, 243–251.

Further Reading

- Renfrew, A. C. (1972). *The Emergence of Civilisation. The Cyclades and the Aegean in the Third Millennium BC*. London: Methuen.
- Warren, P. (1975). *The Aegean Civilizations*. London: Elsevier.

Hunter-Gatherers

The Palaeolithic and Epipalaeolithic in Greece

The Wider Framework

It is helpful to summarize the narrative that relates to the early colonization of Greece by human populations still in the hunter-gather mode of life (Gowlett 1999, 2004). Human beings arose in sub-Saharan Africa 5–8 million years ago (mya), as several species within the hominin genus of *Australopithecus*, and by 2.7 mya had developed a stone tool tradition of Oldowan (chopper-flake) type. Around then a more advanced human genus, *Homo* (with various species, notably *habilis*), arose also in Africa, but soon afterwards groups of this hominid spread to Eurasia (“Out of Africa 1”). The next significant development was the appearance of a new *Homo* species, *erectus*, but this may have developed outside of Africa and recolonized that continent as well as the rest of the Old World (“Out of Asia”?) (Dennell and Roebroeks 2005, Kohn 2006). It is present in Georgia by 1.8 mya, and by 1 mya occupied a vast area from Spain to China. A major technological advance occurred ca. 1.6 mya with the development and variable diffusion of the Acheulean stone tool industry (typified by handaxes).

By 300–250 thousand years ago (kya) a yet more advanced group of hominid species had emerged within the genus *Homo*, *Homo neanderthalensis*, associated with a stone-tool industry known as the Levallois-Mousterian (typified by broad flakes derived from prepared “tortoise-shell” cores). Probably,

though, these earliest Neanderthals were diverging from *Homo erectus* from 600–500 kya, possibly independently at various points of the Old World. Around 200 kya our own species, *Homo sapiens*, appears as a distinct descendant out of *neanderthalensis*, arguably an African evolutionary development which then retraces the original human spread (thus “Out of Africa 2”) through the entire Old World, before colonizing the New World. But *sapiens* expands into Europe and the Middle East at the expense of *neanderthalensis*. Both species possessed advanced adaptive skills and intelligence, and an elaborate cultural repertoire (formal burials for example), and coped with extreme environments (especially the cold northern latitudes of Eurasia).

In Europe the interaction between human colonization and the diffusion of new technologies is complex (Roebroeks 2001, 2003). *Homo erectus* is found at Europe’s periphery, in Georgia (1.8 mya) and Spain (800 kya), but the associated lithic traditions are contested by researchers. Possibly *erectus* used a wide range of tool types, deposited in different combinations at different parts of sites and at diverse sites, probably including the Acheulean tradition from an early date. However, major colonization of Italy, and north of the mountain barriers of the Pyrenees, Alps, and Balkan massifs into continental and temperate Europe, only really takes off into a permanent and widespread presence ca. 600–500 kya, associated probably with

earliest *neanderthalensis*. Maybe the preceding *habilis* incursions from “Out of Africa 1” into the Middle East, and those subsequent and more significant incursions for Europe by *erectus* (“Out of Asia?”), were not lasting occupations.

This takeoff of significant human diffusion through Europe around 500 kya still displays a diverse culture, with varying proportions of handaxes and chopper-flake industries at individual sites. Nonetheless, the emergence of Neanderthal Man, and the changed scale of human spread over Europe, seem to be fundamentally related: the association emphasizes greater brain-size, increased socialization, and a more pronounced division of gender tasks between cooperating male large-game hunters, and female gatherers and small-game hunters. A focus on hunting larger game may have brought evolutionary selection for bands practicing cooperation in food- and information-sharing, indicating the likelihood that although social groups (bands) might be small for parts of the year, we would also expect to find sites where larger human groups socialized. As part of this new form of human society, language may have arisen.

Although the origin of our own species (*sapiens*) is controversial, most scholars believe that *Homo sapiens* arose in Africa, and broke out into Eurasia around 100 kya, to compete with and finally displace all other human species (“Out of Africa 2”). Probably from within *sapiens* populations a new stone tool technology arose by 50 kya to replace the Levallois–Mousterian of the later Neanderthals (Upper Palaeolithic types: a blade industry from prismatic cores, elaborate bone and antler work, also varied forms of art and personal decoration). In Europe, Neanderthals were alone till the arrival of *sapiens* bearing the new Upper Palaeolithic tools and wider cultural package from around 45 kya. Between then and 25 kya Modern Humans expanded through Europe and the Neanderthals became extinct. However recent reconstructions of the Neanderthal genome from skeletal material show that during this process, significant interbreeding with *sapiens* must have occurred, since modern human populations retain a distinctive if minor genetic inheritance from *neanderthalensis* (Green *et al.* 2010).

Almost all of the period when Modern Humans were a distinct new species globally coincided with the last Glacial era, which witnessed cycles of variable cli-

mate between 100 kya to 12 kya, but reached a climax of cold and arid conditions ca. 20 kya. *Homo sapiens*, with its unique new adaptive intelligence and associated technology and cultural behaviors, seems to have reacted to the Glacial climax and the subsequent dramatic global rewarming and vegetation recovery, that marked the onset of our current Interglacial warm era (the Holocene, 12 kya to present), by elaborating new forms of resource exploitation: a wider use of wild foods (including marine fish and shellfish) (Broad-Spectrum hunter-gathering) and in places an intensive manipulation of wild plant and animal resources (wild cereals and sheep/goat in the Levant, wild cattle in North Africa). In most places there developed at this same final Glacial to early Interglacial (Holocene) time, new stone industries, called Epipalaeolithic or Mesolithic, associated with these complex economic practices (and in Europe and the Levant including small blades mounted in sets as elaborate hunting or harvesting tools). From these adaptive innovations there arose by the early Holocene in widely dispersed regions of the Old and New World, independently, the vital advance of the domestication of plants and animals, which we associate with the Neolithic farming “revolution” (Louwe Kooijmans 1998).

The Hunter-Gatherers of Greece

What might we expect to find in Greece for the immense timespan during which hunter-gatherers lived in Europe? Actually little to nothing, when we consider the geological processes which have destroyed or hidden the record of hundreds of thousands of years of human presence in Greece (Runnels 1995, Bailey *et al.* 1999, Perlès 2000, Galanidou and Perlès 2003).

However, if Europe was first colonized by *Homo erectus* 1–2 mya, with a likely entry-point through the Balkans, Greece could have seen human occupation during this period. A very early appearance might associate hominids with a chopper-flake industry, preceding the spread 1.5 mya onwards of the more elaborate Acheulean handaxe industries. But no Greek findspots are this early, or belong to a completely pre-Acheulean tradition. The oldest human activity appears to include handaxes, although no extensive

site of this “technocomplex” (a toolkit used by many human groups rather than a culture associated with one) has been identified. Instead isolated finds at widespread points of the country, in outcrops of ancient landsurfaces, attest to derivative forms of Acheulean Lower (older) Palaeolithic culture throughout the Greek lowlands. These early handaxes seem late varieties. A “technocomplex” of varying chopper-flake and handaxe forms is likely to be characteristic of European early human settlement sites. Actually two of the best described early Greek sites may reflect such a mixed culture, although their dates are more appropriate for the Middle Palaeolithic. Kokkinopilos in Epirus has a handaxe in a stratigraphy around 150–200 kya, whilst Rodia in Thessaly is a chopper-and-flake industry with perhaps the limited presence of handaxes, ca. 200–400 kya. Secure radiometric dates (absolute dates from physics) for the Greek Palaeolithic only begin around 100 kya.

In 2008–2009 a team led by Curtis Runnels of Boston University, the Plakias Mesolithic Survey on Crete, made unexpected Palaeolithic discoveries in southern coastal Crete (Strasser *et al.* 2010). At 11 localities stone tool (lithic) scatters were found in geological contexts indicating an age of 130 kya or older, and belonging to forms typical for late Lower Palaeolithic (Acheulean handaxes and cleavers) and Middle Palaeolithic industries. The significance of this for maritime travel at such a remote period is remarkable, given the lack of known land-bridges between Crete and the Greek Mainland or the Cyclades even in times of low sea level in the Glacial eras.

From this stage of human occupation in Europe, the wider site evidence from the long duration of the Middle Palaeolithic (ca. 300–35 kya), allows reconstruction of the lifeways of Greece’s oldest occupants. Based on the European record, and its general agreement with the Greek material, Middle Palaeolithic hominids in Greece (Neanderthal Man), foraged in small groups, irregularly merging into larger social gatherings (up to about 150 individuals) at times of richest resource profusion. Rather than remaining in one location they ranged over a large annual territory, to coincide with the seasonal appearance of herds of animals or stocks of edible plants in particular areas of the regional landscape, as well as to visit geological outcrops to obtain raw material for tools. Sourcing

the lithics in use has shown that band movements of this kind could extend 100 km.

If there had been later Lower Palaeolithic human colonizers of Greece, they were probably already very early Neanderthals. This distinct species, *Homo neanderthalensis*, competed successfully in the Levant with expanding fully modern *Homo sapiens* from around 100 kya, and then unsuccessfully in Europe after 45 kya, but through interbreeding did contribute to the latter’s genetic make-up. Greece’s first human remains, like its oldest well-dated open air lithic sites, appear to be early Middle Palaeolithic, and come from the Petralona Cave in Northern Greece, probably ca. 300 kya; they may indeed be Neanderthal Man.

It was these later Neanderthal populations in Europe who adopted new technologies which were diffusing through the Old World, significantly expanding stone toolkits beyond handaxes and chopper-flake tools, into more complex tool manufacturing and tool diversity. Around 300 kya, these new forms of stone-tool preparation appear, distinctive for the Middle Palaeolithic era and known collectively as the Levallois-Mousterian tradition. Manufacturing techniques include specially prepared cores with tortoise-shell shaped platforms from which radial flakes are struck. This technology, especially suited for making hafted implements, only appears sporadically in the early Middle Palaeolithic in Greece. More elaborate toolkits known as the mature Mousterian tradition appear in Greece from around 150 kya. A type-site is the cave of Asprochaliko in Epirus, where the oldest excavated levels are ca. 100 kya. Nearby at Kokkinopilos, ancient sediments called Red Beds, which also produced some of the few even earlier Acheulean handaxes, gave finds of open-air Mousterian activity from 150 kya onwards. Mousterian populations on this evidence were till recently argued to have favored the wetter, more varied landscapes of Northwestern Mainland Greece during the final period of the last Interglacial and the first half of the last Ice Age, their sites only appearing in the drier East and South after 55 kya. However, a series of new sites has shifted our focus toward the latter regions, cave sites in the arid and rocky Mani peninsula in the Southern Mainland, Kalamakia and Lakonis, and the most recent finds from the south coast of Crete (Strasser *et al.* 2010). In particular, Lakonis has dense occupation layers dated