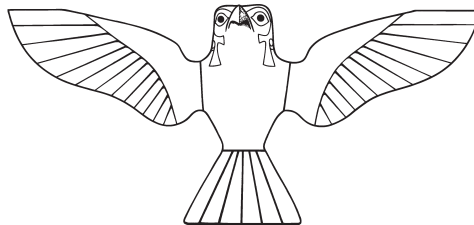


AMILLA
The Quest for Excellence

Studies Presented to Guenter Kopcke in
Celebration of His 75th Birthday





Guenter Kopcke in his office at the Institute of Fine Arts, New York University, June 2010.

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Robert B. Koehl



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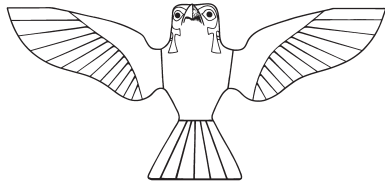


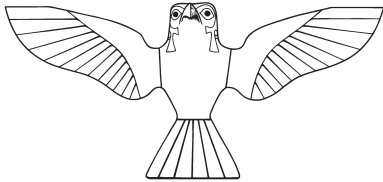
Table of Contents

| | |
|--|-------|
| List of Tables in the Text..... | ix |
| List of Figures in the Text..... | xi |
| Preface and Acknowledgments..... | xxi |
| Guenter Kopcke: A Bibliography..... | xxv |
| List of Abbreviations..... | xxvii |
| PART I. PERCEIVING ANCIENT ART | |
| 1. Ancient Egyptian Art: Image and Response <i>by Dorothea Arnold</i> | 3 |
| 2. The Belvedere Apollo: On the Perception of an Ancient Work of Art after Antiquity <i>by Annalis Leibundgut</i> | 17 |
| 3. “Silence et fureur”: The Pythia in Berlin and in the Paris Opéra <i>by Michael Maaß</i> | 21 |
| PART II. AEGEAN BRONZE AGE | |
| 4. The Larnakes from the Hagios Charalambos Ossuary <i>by Philip P. Betancourt</i> | 33 |

| | |
|--|-----|
| 5. From Representational to Narrative Art in the Early Bronze Age Cyclades <i>by Christos G. Doumas.</i> | 41 |
| 6. From Vase Painting to Wall Painting: The Lilies Jug from Akrotiri, Thera <i>by Andreas G. Vlachopoulos.</i> | 55 |
| 7. The Crocus Gatherer’s Costume Revisited <i>by Bernice R. Jones.</i> | 77 |
| 8. Architectural Design, Bioclimate, and Palaces: The Loom, the Warp, and the Weft <i>by Stella Chryssoulaki.</i> | 91 |
| 9. A New Reconstruction of the South House at Knossos <i>by Jane F. Lloyd.</i> | 103 |
| 10. Cult Object—Image—Emblem: A Life-Sized Stone Bull’s Head from the Juktas Peak Sanctuary <i>by Alexandra Karetsou and Robert B. Koehl.</i> | 135 |
| 11. Animated Art of the Minoan Renaissance <i>by J. Alexander MacGillivray.</i> | 145 |
| 12. Realities of Power: The Minoan Thalassocracy in Historical Perspective <i>by Malcolm H. Wiener.</i> | 149 |
| PART III. EGYPTIAN, ANATOLIAN, AND EAST MEDITERRANEAN BRONZE AGE | |
| 13. Figural Representations from the Predynastic Cemetery at Naga El-Hai and the Origins of Egyptian Style <i>by Rita E. Freed.</i> | 177 |
| 14. Kerma in Nubia, the Last Mystery: The Political and Social Dynamics of an Early Nilotic State <i>by David O’Connor.</i> | 189 |
| 15. The Origins of the West Anatolian Early Bronze Age <i>by Jak Yakar.</i> | 207 |
| 16. An Early Anatolian Ivory Chair: The Pratt Ivories in The Metropolitan Museum of Art <i>by Elizabeth Simpson.</i> | 221 |
| 17. A Plaster-Encased Multiple Burial at Alalakh: Cist Tomb 3017 <i>by K. Aslihan Yener.</i> | 263 |
| 18. Red Lustrous Wheelmade and Coarse-Ware Spindle Bottles from Ashkelon <i>by Celia J. Bergoffen.</i> | 281 |
| 19. Cypriot Bronzework and Images of Power: The Cesnola Krater and Tripod <i>by Joan Aruz</i> <i>with a contribution by Deborah Schorsch.</i> | 293 |
| PART IV. IRON AGE GREECE, WESTERN ASIA, AND THE NEAR EAST | |
| 20. The Meaning of the Greek Cemetery from the Bronze Age to the Iron Age <i>by Anthony M. Snodgrass.</i> | 311 |
| 21. “Old Country” Ethnonyms in “New Countries” of the “Sea Peoples” Diaspora <i>by Itamar Singer.</i> | 321 |
| 22. Phoenician Clay Figurines Recovered from the Sea in the Hecht Museum Collection <i>by Ephraim Stern.</i> | 335 |
| 23. The Hasanlu Lovers <i>by Oscar White Muscarella.</i> | 345 |

PART V. ARCHAIC AND CLASSICAL GREECE, ITALY, AND WESTERN ASIA

| | |
|---|-----|
| 24. Ships in Pre-Classical Asia Minor by <i>Olaf Höckmann</i> | 353 |
| 25. Apollo and Herakles at Naukratis in the Archaic Period by <i>Ursula Höckmann</i> | 367 |
| 26. The Career of Mnesikles by <i>James McCredie</i> | 379 |
| 27. The Classical Marble Pyxis and Dexilla's Dedication by <i>Jasper Gaunt</i> | 381 |
| 28. Helen's Birth on a Calyx Krater from Acanthus by <i>Katerina Romiopoulou</i> | 399 |
| 29. Observations on "La Stanca," the Neo-Attic Weary Maenad by <i>Beryl Barr-Sharrar</i> | 409 |
| 30. Some Notes on the Metropolitan Museum's Pagenstecher Lekythos by <i>Joan R. Mertens</i> | 415 |
| 31. What Role for Etruscans? by <i>Larissa Bonfante</i> | 423 |
| 32. The Genesis of the Etruscan Round Throne by <i>Irma Wehgartner</i> | 437 |

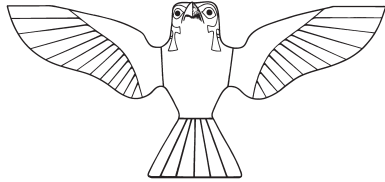


List of Tables in the Text

| | | |
|-------------|--|-----|
| Table 9.1. | Rooms with pillars at the ground-floor facades of nonpalatial Minoan buildings on Crete..... | 111 |
| Table 9.2. | Stairways and windows in buildings at Akrotiri, Thera..... | 113 |
| Table 9.3. | Stairways in Minoan buildings other than palaces in the Neopalatial period. | 115 |
| Table 9.4. | Exterior and interior windows in Early Neopalatial Minoan buildings. | 120 |
| Table 9.5. | Stairways at porticoes in Neopalatial Minoan buildings. | 126 |
| Table 9.6. | Stairways with raised landings in Neopalatial Minoan buildings..... | 127 |
| Table 13.1. | Chronological list of Naga el-Hai graves containing objects with figural representations. | 187 |
| Table 14.1. | Grave floor size levels according to average floor area for subsidiary graves in Tumuli K X, K IV, and K III. | 197 |

Table 14.2. Percentage of the total number of subsidiary graves in each tumulus. 198

Table 14.3. Percentages of surviving sacrificial burials for Tumuli K X, K IV, and K III..... 199



List of Figures in the Text

| | | |
|--------------|---|----|
| Figure 1.1. | The cattle of Khufu, limestone relief block (a) and detail (b) excavated at Lisht North, Fourth Dynasty, reign of Khufu, ca. 2551–2528 B.C.E..... | 5 |
| Figure 1.2. | Relief representation of a goat, limestone relief block excavated at Lisht North, Fourth Dynasty, reign of Khufu, ca. 2551–2528 B.C.E..... | 7 |
| Figure 1.3. | The sun god from the tomb of King Haremhab, Valley of the Kings, Egypt, Eighteenth Dynasty, reign of Haremhab, ca. 1323–1295 B.C.E. | 7 |
| Figure 1.4. | Seated couple from the tomb of Nakht, Theban Tomb 52, ca. 1400–1390 B.C.E..... | 9 |
| Figure 1.5. | Group of party guests and harpist from the tomb of Nakht, Western Thebes/ Sheikh Abd el-Qurna..... | 10 |
| Figure 1.6. | The northern part of the western wall in the tomb of Nakht..... | 11 |
| Figure 1.7. | Back view of the limestone statue of Nikare, second half of the Fifth Dynasty, ca. 2420–2323 B.C.E. | 12 |
| Figure 1.8. | Sandstone statue of an official from El Kab, Fourth Dynasty, ca. 2575–2465 B.C.E..... | 13 |
| Figure 1.9. | Emblem showing the cosmic snake uroboros surrounding “reality.”..... | 14 |
| Figure 1.10. | Head of a granodiorite statue of the goddess Sakhmet, Eighteenth Dynasty, reign of King Amenhotep III, ca. 1390–1352 B.C.E. | 14 |

| | | |
|--------------|--|----|
| Figure 2.1. | Apollo Belvedere, plaster of the bronze copy by Giacomo Zoffoli, about 1770 C.E. | 18 |
| Figure 3.1. | Interior of an Attic drinking cup found in Vulci (Etruria). | 22 |
| Figure 3.2. | “Pythia,” replica of the bronze statue in the Paris Opéra, 1869/1870, by Marcello. | 22 |
| Figure 3.3. | Detail of the Cumaean Sibyl from the Sistine Chapel ceiling fresco by Michelangelo Buonarroti. | 23 |
| Figure 3.4. | Aeneas and the Sibyl meet Anchises, illustrated manuscript “Eneit” by Heinrich von Veldeke, Alsatia, 1418/1419. | 25 |
| Figure 3.5. | “Priestess of Delphi,” oil on canvas, London, 1891, by John Collier. | 26 |
| Figure 4.1. | Plan of the ossuary at Hagios Charalambos. | 34 |
| Figure 4.2. | Larnakes 1–4. | 35 |
| Figure 4.3. | Grid of human long bones placed at the base of the deposit of human bones in Room 5. | 37 |
| Figure 5.1. | Rock art from Korphi t’Aroniou on Naxos, now housed in the Bardanis Archaeological Museum, Apeiranthos. | 44 |
| Figure 5.2. | Fragment of an askos with incised boat and human figure, from Phylakopi. | 45 |
| Figure 5.3. | Depictions of boats. | 45 |
| Figure 5.4. | Lentoid askos from Phylakopi, Melos. | 47 |
| Figure 5.5. | Ovoid pithos from Akrotiri, Thera. | 47 |
| Figure 5.6. | Early Matt-painted pottery and fragments. | 49 |
| Figure 5.7. | Abstract depictions of human figures. | 49 |
| Figure 5.8. | Abstract depictions of human figures. | 50 |
| Figure 6.1. | The Lilies Jug. | 56 |
| Figure 6.2. | Drawing of the Lilies Jug. | 57 |
| Figure 6.3. | The Lilies Jug, detail of rosette spirals from left side. | 58 |
| Figure 6.4. | The Lilies Jug, detail of rocky landscape. | 59 |
| Figure 6.5. | The Spring Fresco from Building Complex Delta. | 60 |
| Figure 6.6. | Kamares Ware amphora from Phaistos. | 61 |
| Figure 6.7. | Kamares Ware rhyton from Phaistos. | 62 |
| Figure 6.8. | Middle Minoan III amphora from Knossos. | 63 |
| Figure 6.9. | The Ganymede Jug. | 65 |
| Figure 6.10. | Pithos no. 4854 from the West House at Akrotiri (a); detail of lily on side of same vessel (b). | 65 |
| Figure 6.11. | Sherd with representation of a male figure and a lily flower. | 67 |

| | | |
|--------------|---|-----|
| Figure 7.1. | The Crocus Gatherer fresco (a) and drawing with dress parts labeled (b)..... | 78 |
| Figure 7.2. | Construction diagrams of dress (<i>heanos</i>)..... | 80 |
| Figure 7.3. | Experimental replication by B.R. Jones (tassels by V. Bealle) of the Crocus Gatherer's dress (<i>heanos</i>)..... | 82 |
| Figure 7.4. | Linear B ideograms *146 + <i>WE</i> (<i>we-a₂-no</i>); *166, *166 + <i>WE</i> ; and *181. | 83 |
| Figure 7.5. | Construction of kilt. | 84 |
| Figure 7.6. | Experimental replication by the author of the Crocus Gatherer's dress (<i>heanos</i>) and kilt. | 85 |
| Figure 7.7. | Model replicating the Crocus Gatherer's pose. | 86 |
| | | |
| Figure 8.1. | The Minoan palaces as collectors of solar energy: the case of Phaistos. | 93 |
| Figure 8.2. | The orientation of the Minoan palaces..... | 94 |
| Figure 8.3. | Path of the sun on December 21 (a) and on June 21 (b), the winter and summer solstices... .. | 94 |
| Figure 8.4. | The placement of the palace of Zakros in relation to the prevailing northwest winds..... | 97 |
| Figure 8.5. | Drawing a parallel between the architectural conceptions of two buildings: (a) Knossos palace, eastern megaron; (b) Frank Lloyd Wright's Falling Water house.... | 98 |
| Figure 8.6. | The cistern on the eastern wing of the Zakros palace and its function. | 100 |
| | | |
| Figure 9.1. | The South House from the southwest..... | 104 |
| Figure 9.2. | The western end of the northern facade of the South House. | 104 |
| Figure 9.3. | Sketch plan of the South House drawn by D. Mackenzie on June 22, 1908..... | 104 |
| Figure 9.4. | Plan and longitudinal section of the South House. | 106 |
| Figure 9.5. | Plan and longitudinal section of the South House. | 107 |
| Figure 9.6. | Plans of the basement rooms and reconstructed ground floor, first story, and second story of the South House at Knossos. | 108 |
| Figure 9.7. | Reconstructed stairway in the Center Corridor of the South House. | 108 |
| Figure 9.8. | Model of the South House from the northwest (a) and the southwest (b). | 108 |
| Figure 9.9. | Plan of the Upper Columnar Hall and a postulated room to the south in the upper story of the South House, 1928..... | 109 |
| Figure 9.10. | Two steps and angle blocks found at the southern end of the Center Corridor..... | 125 |
| Figure 9.11. | Model of the West House, Akrotiri, Thera, from the south..... | 125 |
| Figure 9.12. | Plans of the ground, first, and second stories of the West House, Akrotiri, Thera..... | 125 |
| | | |
| Figure 10.1. | Stone fragment HM 4560..... | 136 |
| Figure 10.2. | Head-shaped bull rhyton from the Little Palace at Knossos..... | 138 |
| Figure 10.3. | Plaster relief bull's head from Knossos. | 138 |

| | | |
|---------------|--|-----|
| Figure 10.4. | Reconstruction drawing of stone fragment HM 4560. | 138 |
| Figure 10.5. | Fragmentary ceramic bull's-head vessel from Akrotiri. | 140 |
| Figure 12.1. | Map of the Aegean showing Bronze Age sites discussed in detail in the text and Minoan trade routes. | 153 |
| Figure 12.2. | Plan of House A at Hagia Eirene, Kea. | 155 |
| Figure 12.3. | Painted scene on the Hagia Triada sarcophagus. | 163 |
| Figure 12.4. | Middle Minoan I seal depicting a ship with sails and oars. | 164 |
| Figure 12.5. | Middle Helladic Aeginetan pottery. | 165 |
| Figure 12.6. | The Siege Rhyton. | 165 |
| Figure 12.7. | Detail of the Miniature Fresco from Akrotiri, Thera. | 168 |
| Figure 12.8. | View from southwest of Monastiraki Katalimata, East Crete. | 169 |
| Figure 13.1. | View of Naga el-Hai in 1913. | 178 |
| Figure 13.2. | Comb with ibex(?) handle from Naga el-Hai tomb K 495. | 179 |
| Figure 13.3. | Fish-shaped palettes from Naga el-Hai grave K 453 (a, b), grave K 527 (c), grave K 458 (d). | 180 |
| Figure 13.4. | Naga el-Hai grave K 362. | 181 |
| Figure 13.5. | Ivory bracelets from Naga el-Hai grave K 481. | 182 |
| Figure 13.6. | Anthropomorphic figure from Naga el-Hai grave K 602. | 183 |
| Figure 13.7. | Feldspar amulets from Naga el-Hai grave K 128. | 183 |
| Figure 13.8. | Peg figure from Naga el-Hai grave K 128. | 184 |
| Figure 13.9. | Abstract reptile palette from Naga el-Hai grave K 2034. | 185 |
| Figure 13.10. | Falcon amulet from Naga el-Hai tomb K 627. | 186 |
| Figure 13.11. | Bull's(?) -head amulet from Naga el-Hai grave K 681. | 186 |
| Figure 14.1. | Egypt and Nubia in the Second Intermediate Period. | 190 |
| Figure 14.2. | Reconstruction of a ruler's burial at one of the great tumuli at Kerma. | 192 |
| Figure 14.3. | Plan of Tumulus K X showing the central burial compartment of the ruler and the numerous subsidiary graves subsequently cut into the tumulus. | 192 |
| Figure 14.4. | A typical example of a larger subsidiary grave, K 1067, in Tumulus K X. | 193 |
| Figure 14.5. | Schematic map of the southern sector of the Kerma cemetery. | 195 |
| Figure 14.6. | Schematic plans illustrating the locations and relative sizes (according to floor areas) of subsidiary graves in the three great tumuli. | 196 |
| Figure 14.7. | Schematic plans illustrating the approximate outlines of the subcemeteries into which the subsidiary graves in each tumulus can be subdivided. | 202 |

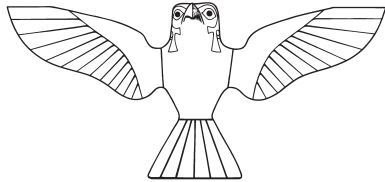
| | | |
|---------------|--|-----|
| Figure 15.1. | Map of western Anatolia..... | 208 |
| Figure 16.1. | Ivory furniture attachments, terracotta fragments, and sealings donated to The Metropolitan Museum of Art in 1936 by Mrs. George D. Pratt, in memory of George D. Pratt..... | 222 |
| Figure 16.2. | Burned remains of the Sarıkaya palace at Achemhöyük (level III)..... | 222 |
| Figure 16.3. | Earth and burned bricks in the area of the palace where the ivory wing AH1 was excavated in 1965..... | 222 |
| Figure 16.4. | Plan of the mound at Achemhöyük..... | 223 |
| Figure 16.5. | Plan of the Sarıkaya palace at Achemhöyük..... | 223 |
| Figure 16.6. | The four ivory sphinxes (P1–P4) donated by Mr. and Mrs. George D. Pratt to The Metropolitan Museum of Art in 1932 and 1936..... | 230 |
| Figure 16.7. | The ivory sphinxes (P1–P4), back view..... | 230 |
| Figure 16.8. | The Pratt ivory sphinxes P1–P4 , side view..... | 231 |
| Figure 16.9. | Top and bottom views of the pink sphinx P1 , facing left, showing a mortise in the top and a flat base..... | 231 |
| Figure 16.10. | Drawings of the pink sphinx P1 , showing the side, front, and rear views (top) and the joinery, top and base (bottom)..... | 232 |
| Figure 16.11. | Drawings of the dark red sphinx P2 | 233 |
| Figure 16.12. | Drawings of the gray sphinx P3 | 234 |
| Figure 16.13. | Drawings of the light red sphinx P4 | 235 |
| Figure 16.14. | Pratt ivory sphinxes in a “reconstructed positioning” based on the curls of the wigs... | 236 |
| Figure 16.15. | Dark red sphinx P2 , exhibiting traces of gilding and damaged areas that do not show evidence of the red color..... | 236 |
| Figure 16.16. | Dark red sphinx P2 , side view..... | 236 |
| Figure 16.17. | Pink sphinx P1 , detail of the left eye, showing inlay and gilding..... | 236 |
| Figure 16.18. | Pink lion leg P5 (left) and gray lion leg P6 (right) from the Pratt collection..... | 239 |
| Figure 16.19. | Red lion’s leg fragment P7 from the Pratt collection, two views..... | 239 |
| Figure 16.20. | Drawings of the pink lion’s leg P5 , showing the front, rear, and side views (top) and the joinery, top and base (bottom)..... | 240 |
| Figure 16.21. | Drawings of the gray lion’s leg P6 | 241 |
| Figure 16.22. | Drawings of the red lion’s leg fragment P7 , which is now deformed and shrunken. | 242 |
| Figure 16.23. | Reconstruction drawing of the left front leg of the ivory chair, composed of the light red sphinx P4 and pink lion’s leg P5 , with joinery indicated..... | 244 |
| Figure 16.24. | Reconstruction drawing of the right rear leg of the ivory chair, composed of the pink sphinx P1 and gray lion’s leg P6 , with joinery indicated..... | 245 |
| Figure 16.25. | Falcon and two gazelles P8–P11 from the Pratt collection..... | 248 |

| | |
|---|-----|
| Figure 16.26. Drawings of the falcon body P8 , showing the front and side views and the top view, back view with joinery, and base..... | 248 |
| Figure 16.27. Falcon body P8 and left wing P9 , showing the plaster restorations by the Metropolitan Museum..... | 249 |
| Figure 16.28. Falcon's left wing P9 | 249 |
| Figure 16.29. Drawings of the falcon's left wing P9 | 249 |
| Figure 16.30. Wing fragment AH1 | 250 |
| Figure 16.31. Inner edge of AH1 , showing the mortise..... | 250 |
| Figure 16.32. Drawings of wing AH1 | 250 |
| Figure 16.33. Drawings of the two gazelles..... | 251 |
| Figure 16.34. Drawings of the falcon and gazelle composition as it may once have appeared..... | 252 |
| Figure 16.35. Front view of the ivory chair reconstructed..... | 254 |
| Figure 16.36. Right side of the ivory chair reconstructed..... | 255 |
| Figure 16.37. Four ivory plaques from the Pratt collection (P12 , P13 , P15 , and P17), exhibiting color variation, deformation and shrinkage, inlay for the eyes, and evidence of gilding..... | 256 |
| | |
| Figure 17.1. Alalakh 2003 season squares, showing location of plastered tomb 3017..... | 264 |
| Figure 17.2. Individuals 3 and 4 in situ..... | 264 |
| Figure 17.3. Skulls of individuals 2 and 4 seen beneath plaster encasing..... | 264 |
| Figure 17.4. Prepared base of plastered tomb..... | 265 |
| Figure 17.5. Location of plastered tomb at the edge of the slope in area 3, square 45.71..... | 266 |
| Figure 17.6. Burials of individuals 1 and 2..... | 266 |
| Figure 17.7. Burials of individuals 3 and 4..... | 267 |
| Figure 17.8. Beads from tomb 3017..... | 268 |
| Figure 17.9. Embossed gold appliqués with rosettes and gold hair ring (a); amber pendant (b); gold ring (c)..... | 268 |
| Figure 17.10. Gold hair ring (a); bone spindle whorl (b)..... | 269 |
| Figure 17.11. Ceramic assemblage from burial group 3017..... | 270 |
| Figure 17.12. Ceramic assemblage from burial group 3017..... | 271 |
| Figure 17.13. Individuals 3 and 4..... | 272 |
| Figure 17.14. Individual no. 3..... | 272 |
| Figure 17.15. Embossed gold appliqué with rosette..... | 274 |
| | |
| Figure 18.1. Coarse-ware spindle bottle from Ashkelon made in southern Canaan..... | 282 |
| Figure 18.2. Coarse-ware spindle bottles from Alalakh..... | 284 |
| Figure 18.3. Red Lustrous Wheelmade spindle bottle from Ashkelon..... | 288 |

| | | |
|---------------|--|-----|
| Figure 18.4. | Coarse-ware spindle bottle from Ashkelon made in Lebanon..... | 289 |
| Figure 18.5. | Coarse-ware spindle bottle from Ashkelon made in Cyprus..... | 290 |
| Figure 19.1. | Detail of gold bowl, Ugarit, ca. 14th century B.C.E..... | 294 |
| Figure 19.2. | Detail of gold dagger sheath, Thebes, Tomb of Tutankhamun, 14th century B.C.E..... | 294 |
| Figure 19.3. | Gold foil chariot attachment, Thebes, Tomb of Tutankhamun, 14th century B.C.E..... | 294 |
| Figure 19.4. | Detail of bronze plaque attributed to “Tyre” but possibly found in Egypt, ca. 14th century B.C.E. | 295 |
| Figure 19.5. | Detail of drawing of bronze sword hilt, Zapher Papoura cemetery, Knossos, ca. 14th century B.C.E. | 295 |
| Figure 19.6. | Gold bowl, Ugarit, ca. 15th to 14th century B.C.E..... | 295 |
| Figure 19.7. | Ivory game box, Enkomi, Cyprus, ca. 13th to 12th century B.C.E. | 295 |
| Figure 19.8. | Drawing of pottery sealing, Maa- <i>Palaiokastro</i> , Cyprus, late 13th century B.C.E. | 296 |
| Figure 19.9. | Cesnola amphoroid krater rim, bronze, Cyprus, ca. 13th to 12th century B.C.E. | 297 |
| Figure 19.10. | Cesnola amphoroid krater rim, detail. | 299 |
| Figure 19.11. | Drawing of LM IIIB sarcophagus design from Klema, Crete..... | 300 |
| Figure 19.12. | Drawing of Mycenaean IIIB “pastoral style” krater from Kition- <i>Bamboula</i> , Cyprus, 13th century B.C.E. | 300 |
| Figure 19.13. | Rim from bronze tripod or stand from Myrtou Pigades, Cyprus, 13th to 12th century B.C.E. | 300 |
| Figure 19.14. | Steatite mold from Enkomi, Cyprus, 13th to 12th century B.C.E..... | 300 |
| Figure 19.15. | Cesnola tripod, bronze, Cyprus, ca. 13th to 12th century B.C.E. | 301 |
| Figure 19.16. | Cesnola tripod rim, detail of groups nos. 14, 1, and 2; 6–8; 9–11, and 12–13. | 301 |
| Figure 19.17. | Drawing of LM I clay sealing with animal combat from Hagia Triada, Crete..... | 302 |
| Figure 19.18. | Bronze Cypriot rim fragment from Anthedon, Boiotia, 13th to 12th century B.C.E..... | 302 |
| Figure 19.19. | Cesnola amphoroid krater, detail of rim radiograph showing extent of ancient cast-on section and two modern solder repairs..... | 304 |
| Figure 19.20. | Cesnola bronze tripod, details of relief band and radiograph showing location of join in wax strips. | 305 |
| Figure 19.21. | Cesnola bronze tripod, details of relief band and radiograph showing location of join in wax strips with conflated animals..... | 306 |
| Figure 19.22. | Cesnola bronze tripod, details of radiograph showing repetition of animal elements on different areas of the band..... | 306 |
| Figure 19.23. | Cesnola bronze tripod, detail of relief band showing “wax” drip on reverse..... | 306 |
| Figure 19.24. | Cesnola amphoroid krater, handle..... | 306 |
| Figure 19.25. | Cesnola amphoroid krater, details of handle and radiograph showing borders of genii appliqués. | 307 |

| | | |
|--------------|--|-----|
| Figure 20.1. | Plan of MH graves in the West Cemetery at Eleusis, sector Δ. | 313 |
| Figure 20.2. | Distribution of the Mycenaean chamber tombs at Prosymna by date of construction.... | 316 |
| Figure 20.3. | Plan of the LH IIIC chamber tomb cemetery at Perati..... | 317 |
| Figure 20.4. | The Submycenaean cemetery near the Pompeion in the Kerameikos at Athens..... | 318 |
| Figure 20.5. | Submycenaean burials in the Skoubris cemetery at Lefkandi..... | 318 |
| Figure 22.1. | Phoenician horsemen. | 337 |
| Figure 22.2. | Syrian horsemen. | 338 |
| Figure 22.3. | Cypriot horsemen..... | 338 |
| Figure 22.4. | The ruling god figurines..... | 339 |
| Figure 22.5. | The blessing god figurines. | 340 |
| Figure 22.6. | Tanit-Astarte fertility goddesses. | 341 |
| Figure 23.1. | The Hasanlu Lovers in situ, from the east..... | 346 |
| Figure 23.2. | Plan of Hasanlu IVB with find spot of the Hasanlu Lovers indicated by an arrow. | 347 |
| Figure 24.1. | Representations of Greek longships..... | 354 |
| Figure 24.2. | Ships in Archaic representations from western and eastern Turkey and Egypt. | 354 |
| Figure 24.3. | Ships from the Levant and Cyprus. | 355 |
| Figure 24.4. | Representations of longships..... | 355 |
| Figure 25.1. | Map of the Eastern Mediterranean with Egypt and Greece. | 368 |
| Figure 25.2. | Plan of Naukratis. | 369 |
| Figure 25.3. | Inside of Attic cup showing Apollo with lions, ca. 540 B.C.E. | 369 |
| Figure 25.4. | Lion-tamer from Naukratis. | 370 |
| Figure 25.5. | Fragment of kantharos showing a scene from the Gigantomachy..... | 371 |
| Figure 25.6. | Medinet Habu, Ramses III (1184–1153) on his Asiatic expedition..... | 372 |
| Figure 25.7. | Votive inscription to Herakles on a Milesian cup from Naukratis. | 373 |
| Figure 27.1. | Marble pyxis 28 with pedestal foot. | 382 |
| Figure 27.2. | Marble pyxis 22 with pedestal foot. | 382 |
| Figure 27.3. | Marble pyxides 87–90 | 383 |
| Figure 27.4. | Marble pyxis 91 | 384 |
| Figure 27.5. | Marble pyxis 92 | 384 |
| Figure 27.6. | Achaemenid diorite stemmed dish, Tehran, Archaeological Museum..... | 386 |

| | | |
|--------------|--|-----|
| Figure 27.7. | Marble pyxis 86 with pigment..... | 389 |
| Figure 27.8. | Marble pyxis 43 | 390 |
| Figure 28.1. | Attic red-figure calyx krater from Acanthus. | 400 |
| Figure 28.2. | Hole cut into base after the firing of the krater..... | 401 |
| Figure 28.3. | Profile drawing of the krater..... | 401 |
| Figure 28.4. | Detail of the shepherd and Hermes. | 402 |
| Figure 28.5. | Detail of side A: seated Leda and Eros. | 402 |
| Figure 28.6. | Detail of side A: figure with scepter and maenad..... | 403 |
| Figure 28.7. | Detail of side B: satyr and maenad..... | 403 |
| Figure 28.8. | Detail of side B: satyr..... | 404 |
| Figure 29.1. | Marble slab of a maenad in The Metropolitan Museum of Art, New York. | 410 |
| Figure 29.2. | Marble slab of a maenad in the Museo del Prado, Madrid. | 411 |
| Figure 29.3. | Fragment of a maenad on a round marble base from the 1935 excavations at Tolmeta in Cyrene, Libya. | 411 |
| Figure 29.4. | Collapsing maenad from the major repoussé frieze on the bronze Derveni krater. | 412 |
| Figure 29.5. | Detail of the seated maenad..... | 413 |
| Figure 30.1. | Pagenstecher lekythos showing the Judgment of Paris. | 416 |
| Figure 30.2. | Judgment of Paris, detail of scenes from the obverse side..... | 417 |
| Figure 30.3. | Scene from the obverse of a Pagenstecher lekythos showing a seated woman..... | 419 |
| Figure 30.4. | Lekythos with relief decoration showing the flaying of Marsyas. | 420 |
| Figure 31.1. | Traveler depicted on the neck of an Attic Late Geometric II/Early Proto-Attic Dipylon amphora, late eighth century B.C.E. | 424 |
| Figure 31.2. | Shipwreck krater from Pithekoussai, ca. 725 B.C.E. | 425 |
| Figure 31.3. | Nestor Cup from Pithekoussai, ca. 725 B.C.E. | 426 |
| Figure 31.4. | Details of scenes from the Aristonothos krater, from Cerveteri, ca. 650 B.C.E. | 427 |
| Figure 31.5. | Miracle of the metamorphosis of the Tyrrhenian pirates into dolphins, black-figure hydria, 510–500 B.C.E., Painter of Vatican 238. | 428 |
| Figure 31.6. | Attic red-figure amphora from Vulci, ca. 440 B.C.E. | 430 |
| Figure 32.1. | Round wooden chair from the Walchensee..... | 438 |
| Figure 32.2. | Wooden throne from Verucchio (Rimini), eighth century B.C.E..... | 438 |



Preface and Acknowledgments

I first encountered Guenter Kopcke when I was invited in 1978 to address the New York Aegean Bronze Age Colloquium, which he co-founded in 1974 with Ellen Davis and Malcolm Wiener (inspired by Edith Porada's Near Eastern Seminar at Columbia University), and which continues to thrive in no small measure due to Guenter's enthusiastic support and participation. But it was in the following years when, as a member of the American School of Classical Studies in Athens from 1979–1981, I became acquainted with his students that I began to gain a deeper understanding of the man whom they revered with an almost hushed awe: an awe of his brilliance and an awe of the extraordinary level of intellectual rigor that he brought to the field of ancient art and archaeology. It is this rigor and an especially probing desire to understand the ancient world—an *ἀμιλλὰ* (“a striving for superiority”) of the mind and spirit—that informs the thoughts and words of our honoree.

Guenter Kopcke was born in Wiesbaden, Germany, in 1935 and grew up in Hamburg, handsome and athletic. Knowing that he was planning to enter the University of Tübingen, his teacher of ancient Greek at Gymnasium asked Guenter to send his regards to Bernhard Schweitzer, Professor of Classical Archaeology there, with whom he had studied. Schweitzer invited the newly arrived undergraduate to attend his lectures on the art and archaeology of Bronze Age Crete and Greece and to enroll in his seminar on Roman baths. Schweitzer's lectures and seminar kindled in Guenter a lifelong passion for ancient art, history, and archaeology, especially for the world of the Aegean Bronze Age.

Following the peripatetic system of a German university education, Guenter went on to the University of Basel to study with Karl Schefold, and then to the Ludwig-Maximilians University of Munich for additional study with Ernst Buschor and Ernst Homann-Wedeking. Under Homann-Wedeking's guidance, he wrote a dissertation on fourth-century B.C.E. Athenian gilded Black Glaze Ware (published as Kopcke 1964). After receiving his doctorate in 1962, Guenter served for three years as an assistant curator in the Glyptothek of the Staatliche Antikensammlungen in Munich under Dieter Ohly, supervising the workshop created for the installation of the new exhibition of the pedimental sculptures from the Temple of Athena Aphaia on Aegina. Working with the sculptors engaged in their restoration and display taught him volumes about the practical and theoretical issues that confront artists, and it provided him with unique insights into the processes of artistic creation. During those years, Guenter also participated in the excavations of the Heraion at Samos and, thanks to his intervention, saw to it that the extraordinary series of Iron Age and Early Archaic wooden votive objects discovered there were carefully conserved, inviting science into the world of archaeology at a time when, unimaginable today, they would have otherwise been left to decay.

Upon leaving the Staatliche Antikensammlungen, Guenter taught for two years as "wissenschaftlicher Assistant" in the Archaeological Institute of the University of Zurich under Professor Hansjörg Bloesch, the noted authority on Greek vases. When James McCredie left New York University's Institute of Fine Arts (IFA) for the directorship of the American School of Classical Studies in Athens in 1969, Guenter was offered a three-year stint as his replacement at the IFA, and he eventually accepted a permanent position there as the Avalon Foundation Professor.

Teaching at the IFA offered Guenter the freedom to explore a broad range of interests within the field of classical archaeology. Since his earliest years of study, he has been deeply interested in examining the Greeks in their varying artistic incarnations, in how they expressed themselves to one another and to the outside world. He has been concerned particularly with questions of cultural and artistic continuity, specifically how to bridge the "divide" from the Bronze to the Iron Ages. He has sought to trace the origins of the Classical Greeks back to the Bronze Age through seminars, at a major conference that he organized in 1990 at the IFA ("Greece between East and West: 10th–8th Centuries B.C."), and in many of his publications.

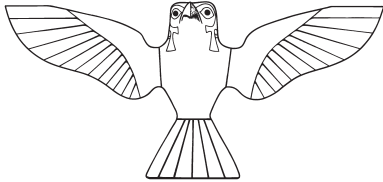
Indeed, Guenter has written masterfully and with credible insights on Aegean Bronze Age society, trade, and commerce; the art of the Shaft Graves; Mycenaean ivories and ceramics; Greek Geometric art and architecture; the wooden votives from Samos; Phoenician-Greek interactions; and Classical and Hellenistic ceramics and sculpture. Reading Guenter is an intellectual adventure: he constantly teases, provokes, and challenges assumptions (his own and those of his readers), not to play the role of provocateur, but to support—as he modestly likes to say—the case of the plausible. His writings are often peppered with personal reactions to the views of his colleagues and friends. And while he may describe his impressions and emotional responses to artifacts and cultural processes, these are based on a profound body of knowledge rooted in years of study and contemplation. Still, no one is quicker to express self-doubts, to admit the limitations of the available evidence, or, in its absence, to own up frankly to speculation. For Guenter, the questions are always at least as important as the answers, which, as he well knows, in the field of archaeology, can change instantly with the scraping of a trowel. The depth of his understanding of the possibilities and limitations that archaeology can bring to the study of cultural history, which I believe he regards as his overarching intellectual pursuit,

derives from extensive and broad field experience. Besides work on Samos (1961–1966), Guenter has participated in excavations in Greece at Olympia (1958–1959), on Aegina (1964), on Samothrace (1972–1987), in the Kerameikos (1993), and in Israel at Tel Hadar (1992).

When I began to consider how to organize this volume, it became clear that if it were to reflect the fields upon which Guenter has made an impact, it could not be organized around a single theme, region, or time period. Rather, I invited articles from scholars whose lives Guenter has touched along the various stages of his own, and I also received many requests to contribute as rumors of the preparation of this *Festschrift* began to spread. I know that I speak on behalf of everyone whose thoughts and words appear here—that we wish Guenter many more years of teaching, thinking, and writing, inspiring us, his students, colleagues, and friends, to follow his example in the pursuit of scholarly excellence.

I would like to thank the students in my seminar in Greek archaeology at Hunter College during the spring semester of 2008—Justine Ahlstrom, Dennis Ambrose, Danica Killalea, Kathleen Maloney, Michele Mitrovich, Harold Ohayon, and Elizabeth Shiverdecker—for the preliminary editing of many of the articles included in this volume and for the lively discussions stimulated by their presentations. I owe a special debt of thanks to Michele Mitrovich for her continued help in the preparation of this volume at many stages, and for the handsome photograph of Guenter Kopcke that serves as the frontispiece. I am also grateful to Irit Ziffer for invaluable advice and information, and to Irene and the late Ioannis Manolakakis (d. 2010) for their hospitality during the summer of 2009, when I was able to complete the editing of most of these articles at their home in Kalessa, Crete. Finally, I wish to thank my partner, Stylianos Manolakakis, for providing me with the Greek title of this volume.

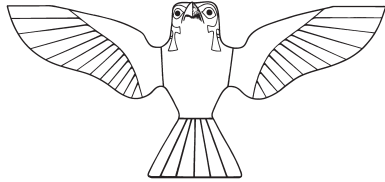
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October 2010



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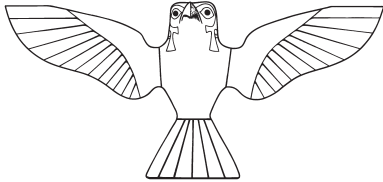
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List of Abbreviations

Abbreviations for periodicals in the bibliographies of individual articles follow the conventions of the *American Journal of Archaeology* 111.1 (2007), pp. 14–34.

| | | | |
|------|------------------|-------------|-----------------------------|
| aux. | auxiliary | LH | Late Helladic |
| BB | Burned Building | LM | Late Minoan |
| BR | Base Ring | m | meter |
| ca. | about | max. | maximum |
| cm | centimeter | MBA | Middle Bronze Age |
| dia. | diameter | MC | Middle Cycladic |
| EBA | Early Bronze Age | MH | Middle Helladic |
| EC | Early Cycladic | mm | millimeter |
| EM | Early Minoan | MM | Middle Minoan |
| FN | Final Neolithic | pers. comm. | personal communication |
| g | gram | pers. obv. | personal observation |
| h. | height | RLWM | Red Lustrous Wheelmade Ware |
| in. | inches | th. | thickness |
| L. | length | w. | width |
| LBA | Late Bronze Age | wt. | weight |
| LC | Late Cycladic | | |



Realities of Power: The Minoan Thalassocracy in Historical Perspective

Malcolm H. Wiener

This paper discusses the Minoan empire at its height in Late Minoan (LM) IA in the context of five persistent themes in the history of humankind.* The themes are: (1) the ubiquity of warfare, often accompanied by the taking of captives; (2) the general prevalence of piracy, in particular in the Mediterranean; (3) the repeated appearance in human history of empires and colonies; (4) the recurring role of the search for raw materials in the formation of empires; and (5) the pervasive role of religion and ritual in the unification and expansion of early states. It is only by addressing the major questions that we justify our calling and distinguish it from merely a pleasant antiquarian pursuit, and only by fine-grained analysis of a wide body of evidence that we separate knowledge from speculation.

Any reference to a Minoan empire might have led to the departure of part of the audience at certain

Minoan conferences held in recent years at European universities, so great is the anti-imperialist, anti-colonialist temper of the time, and so strong the conviction that the Minoanization of the Aegean at that time was simply a matter of emulation of Cretan practices by local elites and peoples. As to the former, one may ask whether the general abhorrence of imperialism and colonialism reflects the fact that empires and colonies seldom existed, or

*It is an honor and a pleasure to present this paper to my mentor, friend, and colleague of 40 years, Guenter Kopcke. The subject seems appropriate, for Professor Kopcke in his teaching has stressed the significance of Minoan Crete for all that followed in the history of ancient Greece. I am grateful to Jason Earle and Erin Hayes, two devoted former students whose work was supervised by Guenter Kopcke, and to Jayne Warner, Rebecca Hahn, and Heather Turnbow for editorial and research assistance.

instead results from their frequency. With regard to the contemporary emphasis on emulation and agency as explanatory models for Minoanization, a prior work addressing a separate question has been cited inappropriately in support of the proposition that emulation was the critical factor in all cases and places. Almost 30 years ago I introduced into archaeological parlance the term the “Versailles effect” to describe what I regard as a key aspect of the impact of Minoan Crete on the very different culture of Mycenaean Greece (Wiener 1984). The capitals of Europe in the 18th century C.E. began to take on many aspects of the life and culture of the French court with respect to art, architecture, furnishings, clothes, jewelry, tableware, and gardens, but there was no French conquest, economic domination, or colonization, and no large-scale movement of architects, artists, or craftspeople. There was instead a process of cultural emulation. I distinguished sharply, however, between the Minoan impact on Mycenaean Greece, on the one hand, and the impact on the islands of the Aegean and on the coast of Anatolia, which I believe was of an entirely different type.

In 2004 Cyprian Broodbank published an important article entitled “Minoanisation” (Broodbank 2004). Minoanization can mean many things, including conquest and reduction of the native population to slavery, full or partial colonization through movement of people, direct control, indirect control, dominance exercised through religion and cult, economic and cultural dominance,

and (at the minimum) the Bronze Age equivalent of what after World War II was sometimes called the “Coca-Colanization” of Europe, a modern variant of the 18th-century Versailles effect, if not so pervasive. Of course both colonization and cultural emulation may take many forms. Each instance will differ depending on the nature of the sending and receiving cultures and their modes of interaction. The agents of transmission are also various and may include rulers and their courts, wives, emissaries, mercenaries, merchants, craftsmen, refugees, and captives, to which should be added the messages conveyed by objects themselves and the technologies and knowledge they embody. In the preceding Old Palace period, for example, the cultural attraction of Cretan palatial civilization must surely have been great in an Aegean world that was otherwise lacking most aspects of a high culture, including literacy, during most of the Middle Bronze Age. In the New Palace period after ca. 1650 B.C.E, however, the evidence indicates a different type of Minoan penetration.

Broodbank noted in his article that the latest attempt at a “grand synthesis” of the Minoan thalassocracy had been published 15 (now 23) years ago (Broodbank 2004, 55, referencing Wiener 1990). The many important discoveries of the last two decades require a reconsideration of the evidence for the putative existence of a Minoan empire ruled from Knossos and encompassing most of the Aegean islands plus sites on the coast of Anatolia.

The Role of Knossos

Discussion of a Minoan empire presupposes a capital. The evidence that Knossos was such a capital has been published in detail elsewhere (Wiener 2007). The case in brief rests on eight propositions.

(1) After the destructions that mark the end of Middle Minoan (MM) IIB, Knossos is the only palace fully functioning. Following a brief attempt to rebuild at Phaistos in MM IIIA, the site is largely abandoned and administration in the Mesara shifts to the site of Hagia Triada. A new palace at Phaistos is built in LM IB after the period under consideration (La Rosa 2002). At Malia, the great palatial workshop of Quartier Mu is left in ruins

and there is no sign of literacy or administration in the New Palace period.

(2) The extent of the change is evident outside the palatial centers as well. The evidence includes: (a) the cessation of use of major cemeteries used for many centuries throughout the Prepalatial and Old Palace periods in the Mesara Plain in the south near Phaistos, at Petras-Siteia in the northeast and elsewhere; (b) the destruction and abandonment at the end of MM IIB of the major Phaistian sites of Monastiraki and Apodoulou in the Amari Valley; and (c) the dominating importance in LM I of the Mt. Juktas peak sanctuary near Knossos, when

most of the numerous and important preexisting peak sanctuaries fall out of use. All of these dramatic developments point to Knossian dominance.

(3) The Pediada region east of Knossos, which in the Old Palace period appears to have been a part of the Malia–Myrtos Pyrgos subregion, becomes Knossian in all respects, including a newly established palace and cult center at Galatas plus mansions along key routes to Knossos, widely populated countryside dwellings, and communal dining structures and practices (Rethemiotakis and Christakis 2004).

(4) The appearance of undefended and indefensible “villas” or “country houses” in the Neopalatial period reflects an internal *pax minoica*, dependent on a dominant power with broad jurisdiction. The dramatic reduction in the number of sites with protective enclosure walls in early LM IA, in contrast to the number that existed in the preceding Prepalatial and Old Palace periods (Alusik 2009, 9), is further evidence of internal security under Knossos.

(5) In LM I, Knossian styles of architecture, art, craft, and cult and ritual practices (as witnessed, e.g., by the appearance everywhere of astonishing numbers of conical cups à la Knossos) becomes predominant throughout Crete.

(6) Zakros, on the eastern coast of Crete, a site lacking extensive agricultural hinterland, receives a palace that was found to contain objects of precious materials made by master craftsmen, and raw materials such as ivory tusks imported from

Egypt and the Near East. Zakros in LM I thus gives the appearance of a wealthy port involved in Cretan trade with the East directed from Knossos.

(7) Knossian sealing practice and seals with typically Knossian imagery become dominant (Weingarten 2010). The existence of identical or very similar seal impressions at six sites on Crete and at Akrotiri on Thera, made by what in all likelihood were Knossian palatial gold rings, suggests the existence of island-wide and interisland Knossian administration.

(8) The specifically Knossian origin of or inspiration for Minoan finds abroad in this period—for example, on the island of Kythera, where prior to the New Palace period contacts with West Crete were predominant—further emphasizes the dominant role of Knossos in Late Minoan IA.

A contrary view with respect to the role of Knossos vis-à-vis other sites on Crete was expressed 27 years ago by John Cherry (1986) who adopted the peer polity competition model of interaction developed by Colin Renfrew as applicable to Bronze Age Crete. I am grateful to Professor Renfrew for informing me in a personal communication of 16 April 2010 that in the light of subsequent discoveries and the arguments set forth in Wiener 2007, he now is persuaded that while the peer polity competition model may well describe the situation on Crete in the Old Palace period, the evidence for the New Palace period supports the existence of a unified state ruled from Knossos.

Colonies, Ports, and Entrepôts Abroad

At sites in the Cyclades, Dodecanese, and on the Anatolian coast, excavations have revealed evidence of a pervasive Minoan impact beyond anything attributable solely to cultural emulation. Rather, the evidence indicates the presence of Minoan colonists in chains of settlements along trade routes, facilitating and protecting Minoan trade, and in particular the Minoan search for the copper and tin necessary to the production of bronze. Let us summarize the key items of evidence at all sites.

First, there is the use of loom weights of Minoan discoid shape typically used with a warp-weighted

loom, displacing earlier types used with a different type of loom. Use of a warp-weighted loom requires the mastery of a much different weaving technique, usually acquired in childhood and requiring an extended period of interaction. Examination of the surviving discoid loom weights from Hagia Eirene on Kea and Miletus on the Anatolian coast produced numbers made from Cretan clay (Cutler 2012).

Second, we observe the Minoanization of pottery making and of the shapes and decoration of pottery, including vessels for serving, pouring, eating, drinking, and storing (but on Thera

alongside a continuing and evolving local Cycladic tradition, as described below). In MM III, wheel-made or wheel-finished pottery appears, a method of manufacture previously unknown in the Cyclades (Knappett and Hilditch, forthcoming). We note in particular the appearance of enormous numbers of archetypal Minoan conical cups on all the Cycladic sites and at Miletus on the Anatolian coast. Both the numbers and the manner in which they are made are significant. Carl Knappett and Jill Hilditch (forthcoming) conclude that “this is a dramatic development as plain wares of this kind are not at all part of the local Cycladic traditions. Moreover, these Minoan-style plain wares are wheel-fashioned, the first use of this technique in the Cyclades for such vessels.” On Thera, as well as Kea, the first and primary use of the wheel is for the production of conical cups. The authors conclude that “it seems that from its very inception that the conical cup is also a colonial cup, used as part of the strategies of Cretan elites to extend the colonializing influence over the southern Aegean” (I am extremely grateful to the authors for allowing me to see and quote their work prior to publication). By mature LM IA we observe the striking standardization in size, shape, and method of manufacture of conical cups from Knossos, Malia, Hagia Triada, Kommos, and the Cyclades (Van de Moortel 2002, 203), further strengthening the impression of uniformity of cultic ritual and feasting practice throughout the Minoan world.

Minoan tripod cooking pots and sherds from the easily identifiable legs of the tripod vessels appear on all our sites in large numbers. A significant percentage of the cooking vessels in particular are imports made of Minoan clay. The great historian of the Mediterranean, Fernand Braudel, observed that women do not readily change the way they cook and weave (Braudel 1972), which in itself may imply a significant degree of emigration from Crete.

Minoan architectural forms, such as the Minoan polythyron, a room with pier-and-door partitions that could be opened or closed to the elements and to spectators, depending on the wishes of the inhabitants or the demands of ritual observances, appear at some of the major sites (for Thera, Kea, Rhodes, and Kos, see Shaw 2009, 170–71; see also Palyvou 2005, 187), along with the highly specialized Minoan technique of painting *alfresco*,

followed by finishing touches *al secco*, applied to specially prepared lime plaster, used to depict cultic and ritual themes and scenes in miniature as on Crete. Minoan-type terracotta vessels known as “fireboxes,” perhaps used in heating aromatic fats to dispel odors, appear in numbers all over Crete and at the Minoanized sites in the Cyclades and Dodecanese, but not elsewhere.

Literacy arrives in the form of the Minoan Linear A script, which is employed in administration in the same manner as it is on Crete, as shown by its appearance on sealings, tablets, roundels, and pots. Ligatured logograms and fractions are used as on Crete. Evidence of administration in the Minoan Linear A script is found on Kythera, Melos, Thera, and Kea, at Miletus on the Anatolian coast, and on Samothrace (Fig. 12.1). At Akrotiri on Thera, recent excavations have produced 58 complete or almost complete sealings and fragments of more, made by 14 Minoan-type seals, all from one room in a major building. Both parcel nodules believed to have been applied to parchment documents and direct-object sealings are present as on Crete. The clay used in all of the sealings comes from a single clay source on Crete. Included are sealings made by the same magnificent large gold rings that made the seal impressions found in the later LM IB destructions at Hagia Triada and Sklavokampos on Crete, indicating continuity of administration at a very high level over at least three generations. One Cretan sealing was found in a wooden box with Cretan-style balance weights. One Theran tablet in local clay displays the Linear A logogram for female sheep followed by the number 46, while another carries the ligatured logogram for textiles followed by a quantity of 200 or more, indicative of local administration in Linear A. The complete absence of any indication of local script or of non-Minoan seals or sealings reinforces the picture of an overarching Minoan system of administration, different from whatever local methods may have existed previously (Karnava 2008).

Further, the Minoan Linear A script is the likely inspiration for the first script known on Cyprus, with 17 or 18 of the 23 signs in Cypro-Minoan adopted from Linear A (Palaima 1989, 137–38), perhaps indicating a strong trade connection centered on the Minoan search for metal. It is certainly striking that Cyprus adopts the Minoan script rather than the cuneiform ubiquitous on the nearby

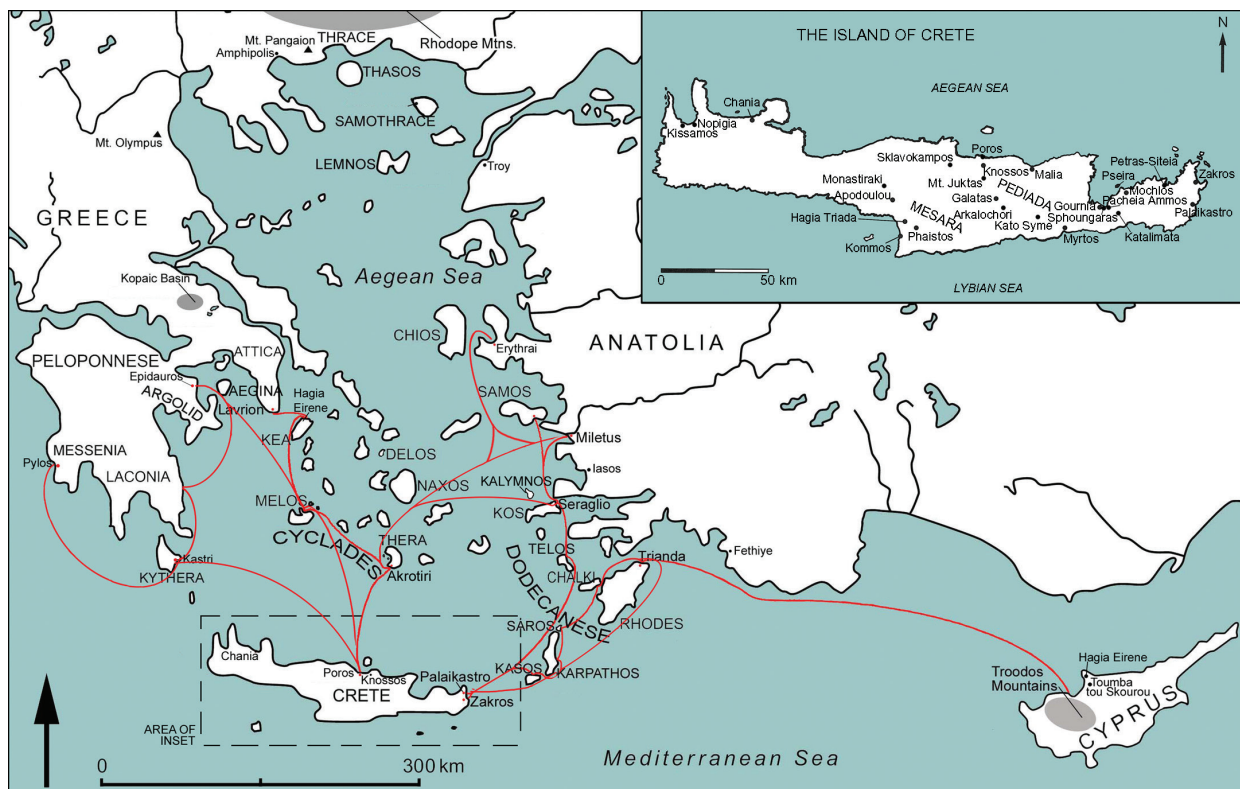


Figure 12.1. Map of the Aegean showing Bronze Age sites discussed in detail in the text and Minoan trade routes.

Levantine coast. A Minoan trading presence may be indicated by the appearance of Minoan pottery in the bay of Morphou at Hagia Eirene and Toumba tou Skourou, near the Troodos mining area, in LM IA (Vermeule and Wolsky 1978; Pecorella and Rocchetti 1985). The intensification of copper production and settlement in the Troodos area in Late Cypriot I is marked, while at the same time the number and scale of objects made of bronze expands dramatically on Crete.

Lead isotope analysis of samples from Akrotiri on Thera and Hagia Eirene on Kea indicate a Cypriot origin for some of the copper in use in the LM IA Aegean. Conversely, there is a dramatic decline in the utilization of Cycladic copper sources in the New Palace period, perhaps as a result of the exhaustion of these sources, intensifying the Minoan dependence on more distant sources (Gale and Stos-Gale 2008; see below).

Conical Cups and the Role of Cult

Is there other evidence of Minoan colonization or settlement, for example, evidence of ritual activity of so highly particular and pervasive a nature as to extend beyond the bounds of the Versailles effect? Here we encounter what has been called the archaeologist's nightmare vessel, the Minoan conical cup. Every Minoan habitation site of the period has enormous numbers

of them, as does every Minoan peak sanctuary or other religious site. In an open area at Knossos around what Arthur Evans called the "Shrine of the Double Axes" in the southeastern area of the palace, so many conical cups appeared in a deposit that spanned MM IIIA and IIIB that the workmen called the area the *Kapheneion*, or "coffeehouse" (Evans 1928, 308). Peter Warren has estimated

that Knossos has produced over 47,000,000 fragments of conical cups from the Bronze Age, representing over one million cups (Warren 1993, 219).

Conical cups were of course used for every conceivable purpose: as receptacles for liquids and for vegetable matter; as lamps and ladles; as spindle whorls, loom weights, and/or rhyta when pierced with holes through their bottoms; as jar stoppers; possibly as incense burners; as containers for pigments, paints (Schofield 1990, 205), and perhaps dyes (Rupp and Tsipopoulou 1999); as repositories for pieces of pumice from the Thera eruption, presumably left as cult offerings in foundation deposits of buildings; and for any odd purpose that came to hand, such as forming the breasts of at least two of the large terracotta statues of women dressed in the bare-breasted Minoan fashion from the temple at Hagia Eirene on Kea (Caskey 1986, pls. 32, 33; as Peter Warren once remarked, “You can’t get much more Minoan than that!” [pers. comm.]).

Large numbers are found in funerary contexts, often upturned and in rows, as if to feed the spirit of the deceased or appease deities. The great shrine at Kato Syme produced enormous numbers, as did other ritual areas. At Chania in western Crete, 3,000 conical cups were found in a LM IA

sanctuary deposit in or close by the Minoan palace. At Nopigia (Drapanias) in the extreme westernmost area of the island near the port of Kissamos, thousands of conical cups were found with other cult vessels and large numbers of Cretan wild goat and bull bones (Tomlinson 1995, 74; Blackman 1997, 121; 2001, 140–141; Andreadaki-Vlazaki 2011, 59), suggesting that the site served as a place of mass feasting.

Conical cups appear to be an indicator of the extension of Knossian dominance over eastern and East-Central Crete in the Neopalatial period, for there are few conical cups at sites such as Malia, Mochlos, Gournia, and Pseira before then, but large numbers thereafter. That the central authority of a site required a large supply is indicated by a Linear A tablet from Hagia Triada on the southern coast of Crete that lists small amounts of other pottery, but 3,710 conical cups. (The cups are further subdivided as follows: 3,000 of one variety, presumably the common, coarse, undecorated type; 700 of another, perhaps painted and better made; and 10 of a third variety, perhaps finer still, or of metal [Godart and Olivier 1976; Duhoux 2000–2001].) Clearly conical cups were used for Minoan feasting, funerary, and/or cultic rituals.

Kea

Let us consider the site of Hagia Eirene (“Aya Irini” in the excavation reports) on the island of Kea in greater detail in this regard (Coleman 1977; Bikaki 1984; Cummer and Schofield 1984; Caskey 1986; Davis 1986; Georgiou 1986; J.C. Overbeck 1989; Cherry, Davis, and Mantzourani, eds., 1991; Petruso 1992; Wilson 1999). The largest structure, House A (Fig. 12.2), contained over 8,000 conical cups, including 820 from one basement storage room and 550 from the adjoining room. The estimated population of Hagia Eirene, a small one-hectare site, is 400 individuals at the maximum—most would say 250–300. Accordingly, House A alone would have contained at least 20 cups for each person in the settlement! But *every house* at Hagia Eirene *without exception* contained large numbers of conical cups, not just House A. Over a hundred more came from the hilltop of Troullos above Hagia Eirene, together with a

bronze worshipper figurine and two libation bowls. Troullos also produced an inscribed stone ladle, as did the peak sanctuaries on Kythera and at Mt. Juktas. It seems most likely that Troullos served as a Minoan peak sanctuary, as did Hagios Georgios on Kythera, where the evidence for a peak sanctuary is clear. That sanctuary contained 903 complete conical cups, an additional 875 complete bases, and 163,436 conical cup sherds. The massive number of conical cups plus the large number of bronze and copper figurines found in the peak sanctuary suggest that it received celebrants from Crete and perhaps other Minoan sites as well as Kythera. Here we may recall one of the grand themes set forth at the outset of this paper, namely the pervasive role of cultic ritual in the unification of early states.

While there is considerable pottery in the local Cycladic tradition at Hagia Eirene in the earlier

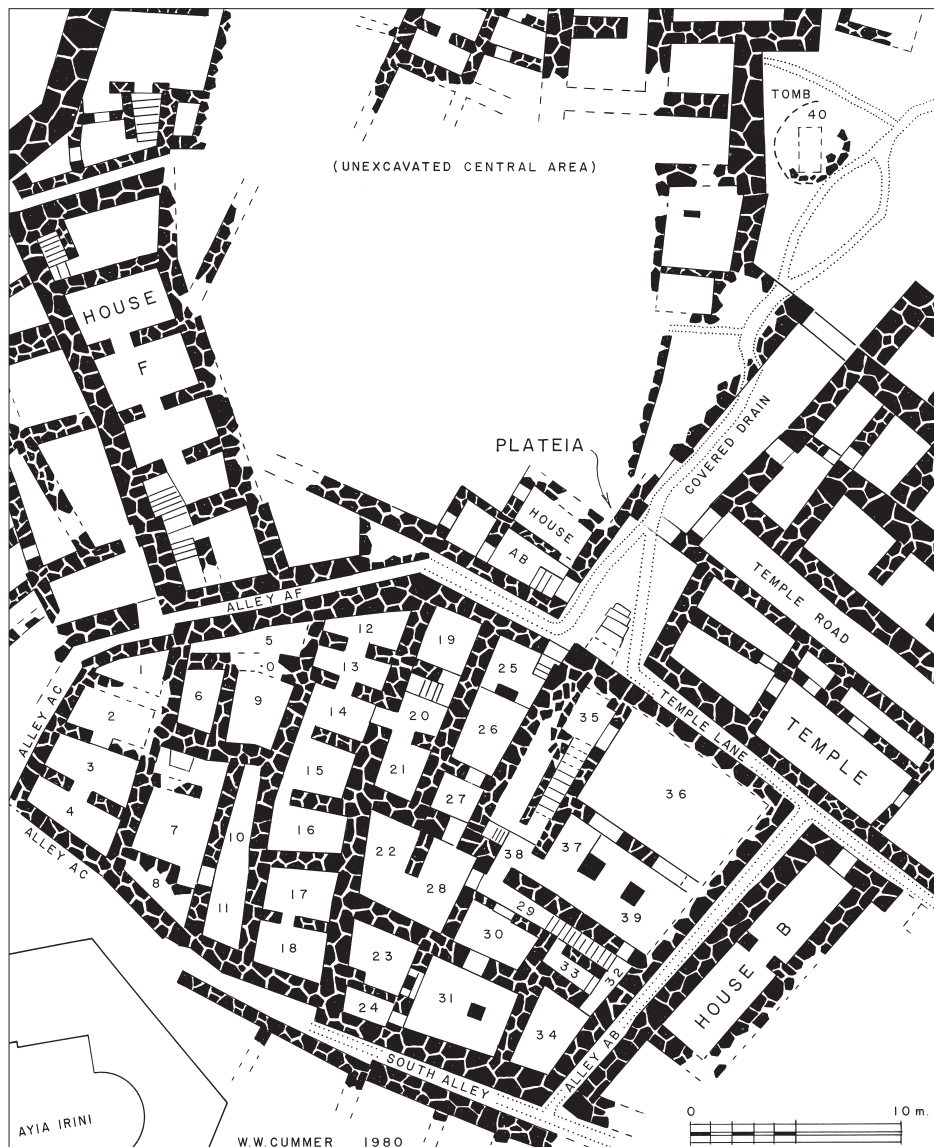


Figure 12.2. Plan of House A at Hagia Eirene, Kea. Courtesy Department of Classics, University of Cincinnati.

Period V, there seems to be little left in Period VI during the zenith of Minoan expansion and influence. Whereas Minoan-style decoration had appeared at Hagia Eirene as early as the Old Palace period before 1700 B.C.E, now all pottery shapes become Minoan, even though the local clay does not lend itself so readily to Minoan potting technique. Fragments of a miniature wall painting show use of typically Minoan tripod cooking pots in a public context. While mainland vessels are imported and copied at Hagia Eirene in this period, as would be expected in view of the close distance to Thorikos and connections to Laurion considered below, the numbers are small until the Period VII,

post-Theran eruption horizon. Moreover, intensive survey has disclosed sherds of conical cups, tripod cooking pots, and Minoan-type storage pithoi in scatters at many places throughout the island of Kea, which suggests the Minoanization of farmsteads on Kea as well. Such thoroughgoing Minoanization of all aspects of life, from elite to humble, in every house at Hagia Eirene and at all surveyed farmsteads during LM IA surely suggests something beyond the process of cultural emulation alone.

Hagia Eirene on Kea is of course a small site, with a specialized function within the Minoan sphere, and hence it is far different from the much

larger and grander sites of Akrotiri on Thera or Trianda on Rhodes, each probably 20 hectares or more in size. House A, by far the largest structure at Hagia Eirene, contained 15 basement rooms and 40 small rooms on the ground floor and a staircase leading to a now-lost second floor, where Willson Cummer, the site architect, located a hypothetical spacious parlor with frescoes, bath, toilet, and light-well. The excavation publication provides the following description (Cummer and Schofield 1984, 41):

In its final phase, the approach and entrance to House A was an impressive sequence of passages, courtyards and doorways, beginning with the main gate and the Plateia, and ending in the frescoed parlor above Room 31. The small inner court above Room 30 served as a private foreroom or vestibule outside the fine parlor. This set of two rooms, like the baths and the grand entrance, made up the familiar elements of a nobleman's house, and these features were refined and formalized in the Aegean palaces.

Some elements, such as the lightwell, bathrooms, and toilet, seem to us particularly Minoan. Lightwells in Minoan buildings often illuminated two separate rooms on the same level, and the scheme of window slots in the basement walls of House A is quite like the street windows in the half-basement rooms at Akrotiri. Minoan toilets were usually constructed as small rooms in the back corner of the residential quarter, with stone drains leading through the outside wall; in House A, the toilet reconstructed in Room 24 and the down spout outside in the South Alley would have functioned together very much like toilets, down spouts and drains in the Domestic Quarter of the Palace of Knossos. Bathroom 34 is comparable in size to the Minoan baths or "lustral chambers"; some of the Minoan baths were built at ground level, but none of them had drains.

House A lacks, however, the centrality and economy of the Minoan villa, as well as such characteristic features as stone column bases and pier-and-door partitions. The gradual construction of House A suggests that its builders developed the design slowly, never copying an ideal form but adding a suite of rooms or a more luxurious facility (new kitchen, more baths) as prestige, space and prosperity allowed.

In general, the architecture of Kea resembles that of the island of Pseira, just off the northern coast of Crete in the Mirabello Bay, with buildings

constructed of the local greenish schist rather than imported ashlar stone blocks. House A, the repository of 8,000 conical cups as noted, was situated adjacent to a building identified as a temple and containing the Minoanizing large terracotta statues of bare-breasted women in Minoan dress discussed above.

The evidence for Minoan administrative practice on Kea is as follows. Linear A inscriptions at Hagia Eirene begin in Period V during MM III, around the beginning of the Neopalatial period, and continue for about two centuries through LM IB. The Kean documents of local clay attest to knowledge of Minoan ligatures and fractions as well as basic logograms. The complete absence to date of any evidence of non-Cretan seals or sealings on Kea, together with the almost total absence of any documents impressed locally on Kea or for that matter at any of the island sites, adds to the picture of an administrative system arriving with Minoan settlers. Even simple potters' marks undergo a change from the Period IV line markings to linear script signs in Periods V and VI. The system of administration on all the island sites and at Miletus on the Anatolian coast in LM IA seems purely Minoan, unlike the very different system of Mycenaean Greece, and the different use of linear signs in the Cypriot system, where there are no ideograms. The fact that simple potters' marks undergo such a change underscores the difference between the Minoan colonization in the islands and the cultural impact at the elite level on the Mycenaean mainland.

The New Palace period on Kea may also witness some change in grave types and burial customs, to judge from the meager evidence available, which consists of two large stone-built tombs, both of which had been robbed of all or most of their contents. One, however, contained conical cups and an imitation in clay of a Minoan stone vase of the period, as well as pieces of local pottery regarded as heirlooms, perhaps from an earlier grave just beneath (G.F. Overbeck 1984, 1989). The earlier Middle Bronze Age tombs resemble those of the mainland and in particular of the island of Aegina, the leading center of the Middle Helladic period. Similar "hero" or "founder" burials outside the fortification walls at the main entrances of both sites are particularly notable (G.F. Overbeck 1984, 1989; Kilian-Dirlmeier 1997). It may be that

after a possible abandonment of Kea during the period of troubles at the end of the Early Bronze Age the island was resettled at least in part by colonists from Aegina.

No extramural cemetery of Minoan type has been located on Kea, in spite of extensive searching. It is surely relevant in this regard that few LM IA burials have been found on Crete itself. The Old Palace period custom of burial in communal tombs appears to have been abandoned in favor of a Knossian practice of ritual feasts involving masses of conical cups, followed by individual burial in pithoi, sometimes placed in the sand at beaches, such as in the East-Central Cretan cemeteries at Pacheia Ammos and Sphoungaras. (Of course major LM I elite burials in built tombs on Crete may await discovery, e.g., along the upper Gypsades Hill at Knossos near the famed Temple Tomb. The LM IB chamber tomb burial packed with bronze weapons at the Knossian port of Poros may provide a later example of such elite tombs.) On Kea, pithos burials may have been lost to the rising sea levels covering the sand and eroding the seaward cliff faces, which may also once have contained burials. (I am grateful to Jack Davis and Philip Betancourt for discussions concerning burial practices.)

A further aspect of the history of Hagia Eirene on Kea is worth noting. In the Middle Cycladic period the site was protected by a great fortification wall. At the end of the period the wall was destroyed, perhaps by an earthquake, and never fully repaired. Cosmetic repairs were made around the main eastern gate of the town, but the western side was left exposed and steps leading to the spring chamber were built over the stones of the destroyed fortification wall. During Late Cycladic (LC) I/LM IA the site was largely unfortified. The final publication describes the situation as follows: “While still the town wall, this was no longer a fortification wall, designed to withstand attack or

siege. A reasonably athletic person could probably have clambered up and over the wall even before the construction of the stairwell. Indeed, this may even have been one of the routes by which water was transported into the town in Period VI” (Schofield 2011, 55). The change coincides with the total Minoanization of the island. Taken in the context of developments elsewhere in the Aegean, in the Dodecanese, and on the coast of Anatolia, the dismantling of the fortification wall suggests that Hagia Eirene on Kea, Minoan in all respects in Period VI during LM IA, was now protected from raids by the retaliatory power of Minoan Crete.

During this period it appears that Hagia Eirene, which sits on a promontory opposite the copper and silver mines at Laurion, became a specialized metallurgical site. Traces of metallurgical activity appear in earlier strata, but now litharge is spread throughout the site and, remarkably, crucibles appear in numbers in *every single house* excavated, with a particular concentration in House A, the evident administrative center. Contrast this with the typical situation in small ancient sites where metallurgy, if it exists, is concentrated in one or two houses (Shennan 2000). The vast majority of the balance weights found throughout the Aegean are made of Laurion lead and conform to the Minoan weight standard. Of 22 bronze objects from Neopalatial Knossos examined by lead isotope analysis, 11 appear to contain copper from the Laurion mines. More generally the proportion of bronze objects with copper traceable to Laurion goes from 19% in the Old Palace period to 44% in the New Palace period (Kristiansen and Larsson 2005, 124; Gale, Kayafa, and Stos-Gale 2009; see also *Mineralien-Magazin Lapis*, issue 24, July/August 1999, which is devoted to Laurion). In sum, by Period VI at the beginning of the Late Bronze Age, Hagia Eirene on Kea has the appearance of a Minoan processing port for metals from the mines of Laurion (Wiener 2007, 237).

Akrotiri

Akrotiri on Thera displays the manifold Minoan features we have observed on Crete and on Kea. First we observe the general Minoanization of kitchens, including in particular the archetypal

Minoan tripod cooking pots, mostly imported to judge from the appearance of the clay (Marthari 1992, 195–196), which constitute the overwhelming majority of the cooking pots in the LC I houses.

Traditional Cycladic cooking pots in the shape of a mug with a somewhat spherical body and a funnel-like neck, whose ancestry is traceable back to the end of the Early Cycladic/beginning of the Middle Cycladic period, are present only in far smaller numbers (Ch. Doumas, pers. comm. of 15 December 2010; I am most grateful to Prof. Doumas for this information, and for informing me of the unpublished thesis of Dr. Marisa Marthari). The use of imported cooking pots (or of the clay used in their manufacture) suggests that their users wanted pots of the durability, impermeability, and heat resistance to which they were accustomed. The use of Minoan cooking pots is accompanied by that of Minoan looms and loomweights.

We also observe the appearance of “fireboxes” (although not in such large numbers or in every house as on Kea), and the impressive evidence of Minoan administrative practices previously noted, both with respect to the internal management of the Theran economy, via the use of Minoan script, seals, sealing practices, and weights, and with respect to the receipt of documents from Crete with seal impressions of Central Cretan clay. Minoan techniques of stone-vase making and of pottery production appear, while the matt impressions on the bottoms of vases that were common on earlier Theran pottery disappear. Wine is measured in the same system using the same Linear A signs at Akrotiri as on Crete and at Hagia Eirene on Kea.

The ubiquitous conical cups appear in great number on Thera, and in every building complex, as on Crete; for example, about 700 conical cups lined the shelves of Room 6 in the West House, adjacent to Room 5 with its iconic maritime and battle wall painting (Doumas 1992, figs. 26, 35). In Xeste 3 at Akrotiri are found archetypal forms of Minoan cultic architecture, polythyron on top of polythyron as well as a lustral basin, and on the wall frescoes depicting well-known elements of Minoan cult (Preziosi and Hitchcock 1999, fig. 80). The scholars responsible for publishing the paintings have noted that wall paintings from Building Beta bear a close resemblance to paintings from Knossos and Hagia Triada, that ties between Akrotiri and Knossos specifically “are becoming ever clearer” (Boulotis 2005, 69), and that “the Minoan origin of the Thera wall paintings is apparent in the general character, the range of subjects and the techniques. We are clearly not

dealing with an independent workshop, but an offshoot of the Minoan School” (Televantou 1992, 146). The revealing dress of some of the women shows that patrons and painters were unconcerned about offending any remaining non-Minoan sensibilities. The dissemination and repetition of cultic images made Minoan religious practice a constant presence. Moreover, Minoanization of the island of Thera was not confined to the great site of Akrotiri; rather, Minoan features, including bits of fresco, columns, and stone bowls, appear at 16 sites around the island. These finds may be an indication that the “villas” of the New Palace period in Crete also existed on Thera.

Akrotiri may have had a special cultic significance. Depictions of cultic activities on seals show liquids being poured from vessels called rhyta. Rhyta have been found in every single house at Akrotiri, whereas only a minority of houses on Crete contain rhyta (Koehl 2006, 357). A house just southwest of Xeste 3 has produced several hundred horns, mostly of bovines but some of sheep. In the midst of the horns was a larnax that contained an ibex made of gold. One grand building, Xeste 4, contained a painting of a male carrying in procession a portable altar displaying every known Minoan religious symbol. The ubiquitous evidence of Minoan cultic practice at the site led N. Marinatos to propose the existence of a Minoan “theskeiocracy” on Thera (1984)—that is to say, Minoan control through religion.

A good indication of the social complexity of Akrotiri in comparison to other Minoanized Cycladic sites comes from the discovery to date of about 100 sealings made by over 20 different Minoan seals, together with a number of the seals. Linear A tablets of local clay record large amounts of woolen textiles and olive oil (Karnava 2008). The seal impressions found at Akrotiri made by magnificent Knossian gold rings on clay from a Central Cretan source discussed above are indicative of the nature of Cretan administration. Exotic goods of various types were imported, including elephant tusks. The volcanic water in the caldera, famous in the 19th century C.E. for its ability to remove barnacles from ships and thus extend the life of their hulls (Bent 1965, 121–122), if already effective in the pre-Minoan eruption period because of prior volcanic activity, would have made Thera a port of special attraction, and may have been

given a cultic connotation. The harbor at Akrotiri, perhaps a double harbor in the Bronze Age and facing southeast, would have been an ideal anchorage. The geographical position of Thera made it a critical node in both the north–south and east–west trade routes of the Minoan thalassocracy.

Unlike Hagia Eirene on Kea, however, Akrotiri in LC/LM IA also presents clear evidence of a native Cycladic component in the form of local pottery shapes such as the rectangular tray (*kymbe*), cylindrical plant pot, ribbed vase, and Cycladic bowl; in the decoration of the Theran nipples ewers and other vessels; and in the interplay between this decoration and aspects of the frescoes. It is the evolution in the local pottery during the century preceding the Theran eruption at the end of LM IA that suggests the continuing vitality of a local tradition (Marthari 1987). Theran potters display a range of styles that include a conservative Minoanizing Light-on-Dark; good imitations of the latest Cretan LM IA Dark-on-Light spirals and florals; the vases described earlier that have nothing to do with Crete; and vases that combine Theran ideas such as the heavy use of red

and white with Cretan motifs. It seems likely that several workshops were operating on Thera at the same time. Minoan and native Cycladic potters appear to learn from one another with regard to such matters as the technique of working from a wheel and sources of pigments, unlike the pattern on the island of Melos where two distinct traditions coexist for a time, one maintaining indigenous features and the other producing exact copies of Minoan vases, with no cross-fertilization or innovation, until the mature LM IA phase when pottery of purely Minoan type is overwhelmingly predominant (Berg 2002). Akrotiri also contains certain architectural features that differ somewhat from Cretan palatial architecture, such as entrances off side alleys rather than main roads, and the absence to date of rectangular courts and infrequency of light-wells. While Thera clearly seems to belong to a Minoan sphere of administration, accompanied by the physical presence of Minoan settlers and/or their descendants and manifold evidence of Minoan cultic practice and belief, a vibrant local Cycladic cultural tradition seems to continue as well.

Trianda on Rhodes and the Seraglio on Kos

Trianda on Rhodes, like Akrotiri on Thera, was a significant site in the Early Bronze Age and Middle Bronze Age. By LM I it had become a major site, 20 hectares or more in size, with wide stone-paved streets and side streets, buildings made with ashlar masonry and boasting fine Minoan polythyra, Minoan horns of consecration, offering tables, and wall paintings, plus all the standard indicia of Minoan presence discussed above, including enormous numbers of conical cups. The finds reported from Ialysos-Philerimos above Trianda suggest that it was another Minoan peak sanctuary. In sum, Trianda has the appearance of a Minoan settlement populated largely by Cretan colonists and/or their descendants. Trianda may have received Minoan settlers early on, for one of the polythyra may date from MM IIIA, not long after the earliest known example from Crete itself (Marketou 2009; pers. comm., for which I am most grateful). Trianda on Rhodes is a natural stopping place on the journey to Miletus to the

north and Cyprus to the southeast, and it faces the harbor of Fethiye on the Anatolian coast, which in turn is connected by river and valley to the metal sources of Anatolia. The Cyprus connection is further strengthened by the fact that Cypriot pottery such as White Slip I milk bowls, Base Ring I, and Red Lustrous Ware appears at Trianda.

The Minoanized site called the Seraglio on the island of Kos seems to face north to Anatolia in its contacts. On Kos we again encounter the standard indicia of Minoanization including great numbers of conical cups, but in this case accompanied by Koan Light-on-Dark and Dark-on-Light wares, inspired ultimately by Minoan pottery but unlike anything produced by Minoan potters in technique. The clay source for the ware is still unknown, but the clay does not resemble known clay sources near the Seraglio itself (Marthari, Marketou, and Jones 1990). The Koan pottery appears in significant proportion among the pottery recovered at the Anatolian site of Iasos as

well (Momigliano 2009). The semi-Minoanized community at Iasos may represent a second stage of colonization, with new settlers coming from nearby Kos (I am grateful to N. Momigliano for

this suggestion). Iasos in any event lies within a gulf apart from the major trade routes connecting Crete, Thera, Rhodes, Kos, and Miletus.

The Minoan Search for Bronze in the Bronze Age

We turn now to the heart of the matter. The dependence of Minoan Crete at the height of its power on foreign sources for the copper and tin needed to make bronze was total, since Crete has no tin and only the most negligible sources of copper. Bronze was of course the essential constituent of a Middle and Late Bronze Age society. Bronze was needed for the tools to build ships, palaces, and villas; for the grand symbols of cult and state, including ceremonial swords, double axes, and enormous bronze ewers; for saws taller than a person; and especially for the Type A swords, daggers, and socketed spears, which were the leading military technology of the day. The Minoan mastery of weapon production extended from the Old Palace period, as shown by the grand swords found in the palace of Malia of the 18th century B.C.E. to the LM IA Type A swords of the 16th century B.C.E. Nancy Sandars noted long ago that armorers of the Near East and Egypt produced nothing that could compare with the Malia swords (Sandars 1963, 119). Ten of the 23 references to Kaptara—surely Crete—in the tablets found at Mari on the Euphrates dating to ca. 1775–1760 B.C.E. (Middle Chronology) refer to decorated weapons (Cline 1994, 26–27; the Mari archives in general and their dating are discussed in Guichard 1997). One of the Mari texts describes a shipment of tin destined for Ugarit, the great Levantine entrepôt, where it was to be given to the man from Kaptara and his interpreter-agent (Dossin 1952, 3, 37, letter 20; 1970, 97; Malamat 1971, 38; Bardet et al., eds., 1984, 528–529, no. 556; Wiener 1991). Stefan Hiller notes that “as regards the Aegean, the solid long dagger, the short sword, the long sword, the shoe-socketed and the tube-socketed spear- and arrow-head all make their first appearance on Crete” (Hiller 1984, 27). In the depiction of Keftiu bearing gifts in the tomb of Senmut ca. 1470–1460 B.C.E. (LM IB), the leading figure is carrying a large sword.

The swords are of particular significance. Barry Molloy, in his comprehensive study of Aegean Bronze

Age weapons, concludes that the Protopalatial Malia and early Neopalatial Type A swords required “a complexity in moldmaking and pyrotechnology that was not needed for daggers. Swords thus represent a leap forward in metallurgical technology that may imply that military requirements played an important role in driving bronzesmiths to push their craft in new directions” (Molloy 2010, 413). Moreover, Molloy’s analysis (which incorporates data obtained from rigorous experimental archaeology) supports the proposition that

[t]his paradigm shift in martial arts required commensurately greater investment of resources by communities and combatants themselves to allow participation in the requisite training. These swords were the first-ever purpose-made tools of interpersonal combat, as they could serve no other practical function. While the users of the multipurpose dagger could hold pluralistic identities (e.g., warrior, hunter, trader, butcher, farmer, head-man), the sword points specifically to the advent of a more unique identity, that of the warrior (Molloy 2010, 414; see also Peatfield 1999; 2007; Molloy 2008; 2009).

The mass of weapons that must have been available in Neopalatial Crete is indicated by the large number of bronze swords found in the Arkalochori Cave deposit, which moreover is believed to have been massively looted with much metal taken and melted before rumors of the looting reached the Archaeological Service and the rescue excavation begun.

The security, economy, and hierarchy of Crete depended significantly on bronze. It seems inconceivable under these circumstances that Minoan palatial rulers would have just waited passively, hoping for a Near Eastern merchantman to arrive with copper and tin. Rather it seems highly likely that copper and tin, or bronze, were the objects of intensive search, planning, and investment by the ruling elite.

The Metal Routes

The evidence suggests that Minoan metal routes lay along three island chains (Fig. 12.1). One ran north via Thera and/or Melos, to Kea and the mines of Laurion. A second ran east toward Cyprus, where imported Neopalatial Minoan pottery appears at three sites on the northwestern coast within 20 km of the metal resources of the Troodos Mountains (Vermeule and Wolsky 1978, 294–317). The dependence of the earliest known form of the Cypro-Minoan script on Minoan Linear A has already been noted. This second route, for mariners wishing to stay within sight of land, included the Minoanizing sites on Kasos, Karpathos, Saros, Chalki, and Rhodes. (The proximity of Trianda on Rhodes to the Anatolian coast with its access to the metal resources of the Anatolian hinterland and its position on the sea route to Cyprus are discussed above.) On Crete the major eastern coast ports of Palaikastro and Zakros surely owed their size and wealth largely to trade with the East, perhaps primarily in connection with this metal route. Zakros in particular appears to lack an adjacent agricultural hinterland sufficient to support a palace, as noted above.

A third major chain in the metal network appears to have run via Telos (with its hundreds of conical cups), the Seraglio on Kos (with its abundant evidence of Minoanization), and Kalymnos (with its conical cups), to the island of Samos and the great site of Miletus on the opposite shore. On Samos, directly under the later temple of Hera known as the Heraion, the German Archaeological Institute excavations of 2009 discovered additional strong evidence of the previously known Minoan presence, including an assemblage of conical cups found in situ on the earliest paved surface, turned upside down in the manner known from the ritual deposit at Knossos described earlier (Niemeier 2009, 11–12).

At Miletus on the Anatolian coast in LM I the pottery is more than 90% locally made Minoan plus some Minoan imports, including many fragments of Minoan tripod cooking pots and masses of conical cups (Kaiser 2009, 159–160, 163). The excavations of the early 20th century by the German Archaeological Institute had already uncovered in a sandy area of Miletus what the excavator described

as an unbelievable number of such cups (“Nur trat eine sehr große Anzahl kleiner, unbemalter Näpfchen auf dem untersuchten Geländestück in fast erdrückender Menge zutage” [Weickert 1940, 328, cited by Kaiser 2009, 159]). Other LM I finds include six Linear A inscriptions, five of which appear on objects made of local clay, six Minoan-style kilns, Minoan discoid loomweights supplanting earlier Anatolian types, a marble weight fitting the Minoan system, a seal impression from a Minoan seal, and what appears to be a Minoan sanctuary with a sequence of mudbrick altars, pieces of a stuccoed offering table, votives, part of a stone ritual chalice of Minoan type, and fragments of wall painting in the Minoan technique depicting a miniature landscape with river and white lilies on a red ground. How else can one describe Miletus, other than as a Minoan settlement colony? Moreover, a site has recently been discovered at Tavşanadası, or Rabbit Island, just south of Miletus, perhaps a satellite port, where the pottery is overwhelmingly locally made Minoan. Miletus itself is situated on a defensible island-like site near a major river, the Maeander, an excellent point of access to Anatolian metal sources. Minoan interest in the area predates the Neopalatial period; Miletus has produced MM seals and the largest group of the beautiful Kamares Ware, as well as semi-coarse MM vessels, east of Crete. Finally, Miletus has a Minoan foundation legend as noted above, ascribing the settlement to the time of Minos.

Other Minoan or Minoanizing sites may have existed that are now inaccessible because of the high water table along the Anatolian coast, which generally hinders excavation below Archaic period levels. The excavation of the Bronze Age levels at Miletus was only possible with use of oil-drilling equipment to remove the water. Farther north on the Anatolian coast, Erythrai near Çeşme has both locally made and imported Minoan pottery and, like Miletus, a Minoan foundation legend (Paus. 7.2.5). Erythrai is an ideal point of access for the many metalliferous deposits in the Izmir region. Sherds of LM I and LC I pottery have also been found in Turkey at the inland site believed to be the Puranda of the Hittite texts, perhaps a further indication of a search for metal.

Evidence of Minoan presence is found in the North Aegean as well, and again with indications that the search for metal may have been a major motivation. Minoan administrative documents and seal impressions of the MM III period have been found at Mikro Vouni on the island of Samothrace in the northern Aegean, including three examples of the archetypal Knossian palatial administrative device, the roundel, one with the impressions of different seals along the rim, some inscribed with signs in the Minoan hieroglyphic script. On one roundel, two of six original impressions had been erased by placing lumps of clay over them. Together with the roundels were Minoan seal impressions, one made by a metal—perhaps gold—ring, on two noduli, or multiple-faced cones, and on two single-faced cones (Matsas 1991, 1995).

Excavation at Koukonisi on Lemnos opposite Troy has also revealed plentiful Minoan and Minoanizing material of the New Palace period between about 1650 and 1525 B.C.E., together with evidence of local metallurgy. In antiquity the Koukonisi islet would have been connected by a land bridge to Lemnos, creating an ideal south-facing double harbor (Boulotis 2009). The evidence encompasses Minoan and Minoanizing pottery including numerous conical cups; discoid loom weights of various sizes, which appear for the first time in this period; the use of the tubular drill typical of the Minoanized sites of the southern Aegean; certain luxury items, such as an unfinished drop-leaf bead of rock crystal drilled in the Minoan stone-working manner; and Minoan-style painted plaster fragments, perhaps originally part of a Minoan offering stand. However, much of the pottery, including cooking wares, is of a local, non-Minoan type, and while only a very small portion of the site has been excavated, there is as yet no evidence of Minoan influence on local architecture (Boulotis 2009).

Koukonisi also contained terracotta tuyeres of the Minoan straight cylindrical type for supplying air to metallurgical furnaces. Further evidence of metallurgy is attested by the appearance of a schist mold of a razor's leaf-shaped blade and crucibles. A lead discoid balance weight of Minoan type and metrical system, similar to weights from Thera

and Kea, was also found. In Greek mythology, the first metalworker, the Olympian god Hephaistos, had his workshop on Lemnos, as did his descendants, the Kabeiroi. Mikro Vouni on Samothrace and Koukonisi on Lemnos are well situated with regard to the metal sources of Thasos, the Rhodope Mountains of Thrace, the Balkan peninsula, Mt. Pangaion, and Amphipolis (see now Borislavov 2010). On present evidence, the sites of Koukonisi, Mikro Vouni on Samothrace, and Iasos on the Anatolian coast give the appearance of Minoan metallurgical trading colonies residing within a predominantly local culture.

History provides numerous examples of a search for essential raw materials prompting expansion and colonization. The fourth-millennium Uruk expansion is the earliest known case in point. (The important role played in the process by improved methods of transportation—advancements in riverine traffic and the development of donkey caravans in the Uruk example, seagoing ships in the Minoan—is also worth noting.) Phoenician expansion and colonization in the Early Iron Age was initially largely motivated by the search for metals, with extensive trade in other products following. The establishment of secure ports of call was an essential prerequisite. Phoenician settlements were established on Cyprus, beginning with the seizure of Kition, then Trianda on Rhodes, Kommos on Crete, Pithecusae on Ischia, and various sites on Sicily, Malta, Sardinia, Corsica, the Balearic Islands, and the Spanish and African coasts. Colonies were typically established at a distance of one day's sail from one another; protected estuaries and offshore islands were preferred locations, as in the Minoan case. Conversely, when Greek forces took control of all of Cyprus, Phoenician trading ventures in the western Mediterranean came largely to a halt (Aubet 1993; Tsetschladze and De Angelis, eds., 1994). Establishment of the first Greek settlement colonies in the central Mediterranean in the eighth century B.C.E. at Pithecusae on the island of Ischia and then on the peninsula at Cumae was most likely inspired by the desire for convenient access to sources of metal in Etruria and Sardinia.

Other Motives for the Establishment of Minoan Settlements Abroad

Of course the establishment of secure sea routes to metal sources was not the sole reason for the protection of sea-lanes or for Minoan emigration. Crete imported much besides copper and tin, for example gold, silver, ivory, semiprecious and other stones, wine (some imported in containers of southeastern Aegean provenance, as indicated by recent studies of the pottery from Knossos and Mochlos), and such exotica as ostrich eggs and monkeys. Minoan Crete also imported coveted stone of many kinds, including veined alabaster vessels from Egypt, which were transformed by Minoan artists into familiar Cretan shapes (Warren 1969, 105–115; Wiener 2010). Exports included ceremonial and functional weapons, silver and bronze vessels, fabrics (some very elaborate), pots, sandals, spices, and medicinal herbs. One of the Middle Bronze Age tablets from Mari on the Euphrates refers to a Cretan barque inlaid with lapis lazuli, presumably a model ship such as the one depicted much later on the Hagia Triada sarcophagus (Fig. 12.3),

perhaps symbolic of the importance of seafaring to Minoan Crete. These tablets contain 23 references to Kaptara, as noted above.

Apart from trade, Minoans in the Neopalatial period may have emigrated in search of land to settle. On the island of Kythera between Crete and the Greek mainland, the decade-long intensive survey conducted by Cyprian Broodbank and Evangelia Kiriatzi reported that “the landscape of the island is filled with small farmsteads with exclusively ‘Minoanising’ material culture” (Kiriatzi 2010, 693), in stark contrast to the mixture of Minoan and local features of the preceding Middle Bronze Age period. The links appear to be exclusively with Central Crete, the area around Knossos, as noted above. Crete in LM I seems, in Warren’s phrase, “quite ‘full’” (Warren 2009, 263; 1984), with every possible piece of land terraced and planted, as in the case of the island of Pseira off the northern coast of Crete.



Figure 12.3. Painted scene on the Hagia Triada sarcophagus. Betancourt 2007, pl. 12A.

The Role of Piracy and Its Suppression

A Minoan seal found in a MM IA context ca. 2000 B.C.E. just prior to the erection of the first palaces in MM IB (Fig. 12.4), showing a vessel with a square sail as well as rowers, provides the earliest depiction of sailing in the Aegean (of course sailing may have preceded its depiction on this seal). Earlier Cycladic depictions show long-boats with rowers only. Middle Bronze Age ships of ca. 1800–1700 B.C.E., one with armed warriors aboard, are depicted on clay jars found at the site of Kolonna on the island of Aegina (Fig. 12.5). It may be that these were, or were among, the pirates whom the navy of Minos is said to have swept from the seas, in which case the walled citadel depicted in the Siege Rhyton could be Kolonna (Fig. 12.6). Bronze Age texts describe piracy in the Mediterranean. Tuthmosis III describes seizing two ships “equipped with their crews and laden with every good thing including male and female slaves, copper and lead” while returning home from his fifth Syrian campaign in 1450 B.C.E. (assuming an accession date of 1479 B.C.E.). The text preserves the first recorded act of piracy and the transport of captives by sea. In the reign of Amenophis III (ca. 1390–1350 B.C.E.) one of his chief officials reports on his efforts to fortify the mouths of the Nile against pirate raids (Helck 1979, 133; 1984, 272; I am grateful to Manfred Bietak for these references). Hittite texts of the period or



Figure 12.4. Middle Minoan I seal depicting a ship with sails and oars. Oxford, Ashmolean Museum 1938.761. Courtesy Ashmolean Museum.

shortly thereafter complain of pirate raids against their vassal states on the Anatolian coast (Laroche 1971, no. 105; Bryce 1998, 140–147, 244–248). Piracy of course has been endemic in most periods of Aegean and broader Mediterranean history. Herodotus states that Polycrates, the tyrant of the island of Samos from ca. 538 to 522 B.C.E., with a navy of 100 ships of 50 oars, plundered the Aegean islands and the cities of the Anatolian coast, including Miletus, and enslaved the navies of Miletus and Lesbos (Hdt. 3.39). The Carthaginian naval empire of the later sixth century B.C.E. consolidated port sites throughout the central and western Mediterranean, and, with Etruscan aid, in 535 B.C.E. drove the Greeks from their notorious pirate base at Aleria on the island of Corsica, which was established by the Phocaeen Greek colony of Massalia (Marseille).

Piracy was the *casus belli* for both the Roman and Ottoman conquests of Crete and other Aegean islands. Cilician pirates were described as a threat to the Roman Empire. Cretan harbors became pirate bases in the Hellenistic period, and again notoriously in the ninth century C.E. (Horden and Purcell 2000, 156–158). Crete throughout its history was also often the victim of devastating piracy. While Crete flourished during periods of secure control of the sea, as in the Minoan Neopalatial, Roman, and Byzantine periods, at other times the fertile coastal plains were deserted as the population fled inland, as in the middle of the 13th century B.C.E. during the raids of the Sea Peoples and again in the late 15th and 16th centuries C.E. (see generally Rackham and Moody 1995, 197–200). At times the threat of piracy in the Aegean was so severe that the islands of the Cyclades were largely abandoned. Conversely, when there has been a dominant naval power willing and able to suppress piracy, whether Athens, Rhodes, Rome, Byzantium, Venice, the Ottoman Empire, or the British navy in the 19th century, many of the islands, and the Aegean in general, flourished. A good illustration of the principle can be found through a comparison of island subsistence practices in various periods. Ottoman tax records from the period just following the establishment of Ottoman control disclose that the proportions of

various crops grown in the main Cycladic islands were very similar, with each island poor but self-sufficient. By 1885 the traveler J. Theodore Bent was able to report that the volcanic island of Thera

grew 70 varieties of grape while importing its wheat, barley, and legumes (Bent 1965, 121–122); that is to say, it felt secure enough to specialize.

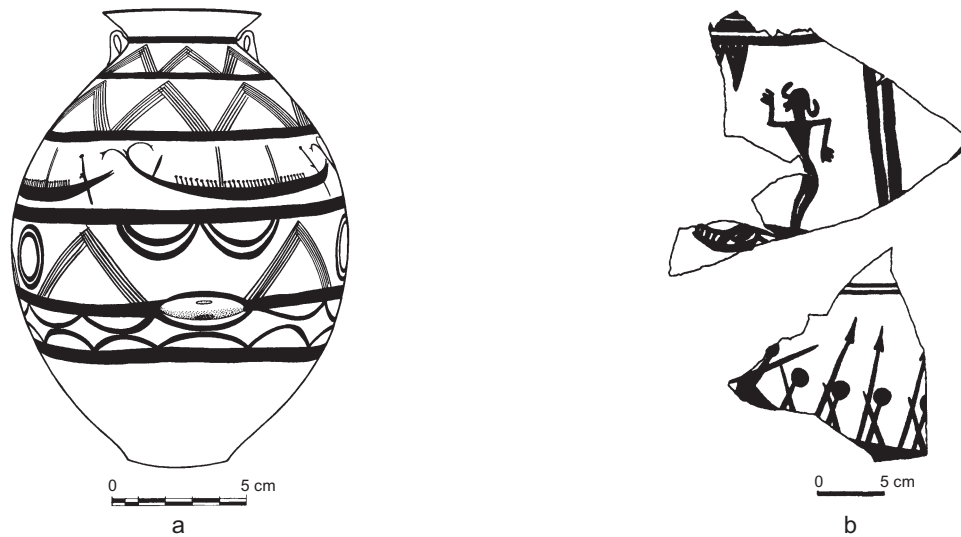


Figure 12.5. Middle Helladic Aeginetan pottery: (a) jar depicting ships; (b) sherds showing armed sailors. Courtesy Ägina-Kolonna Excavations.

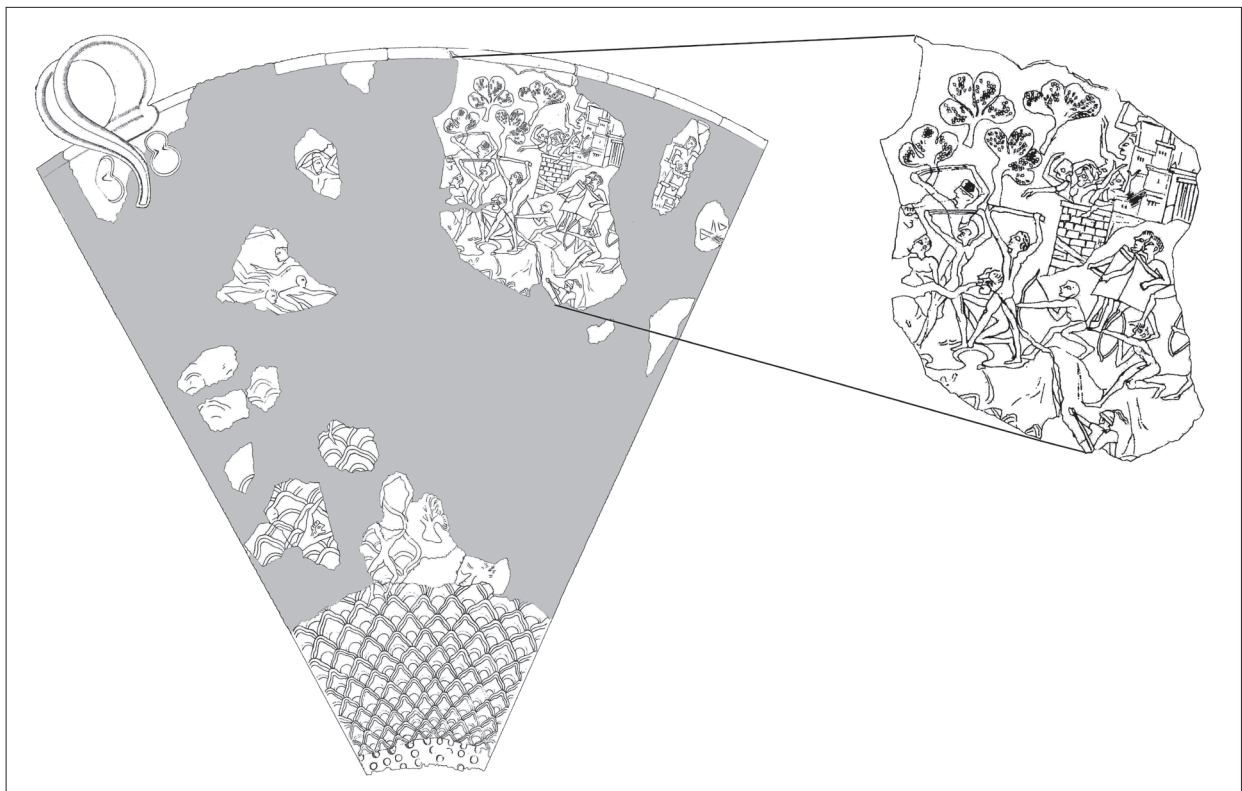


Figure 12.6. The Siege Rhyton. After Vermeule 1964, pl. 14.

The Minoan Thalassocracy in Later Greek Legend and Its Archaeological Correlates

Kea plays a prominent role in the later Greek tradition of a Minoan thalassocracy. Thucydides begins his history with Minos of Crete, who is described as building a great navy, ridding the seas of pirates, and establishing his sons as governors of the islands (Thuc. 1.4). The fifth-century B.C.E. Kean poet Bacchylides speaks of a Minos who sailed to Kea with 50 ships, wedded Dexithea, daughter of the Kean king, and left her with half his accompanying warriors (Bacchyl. *Ep.* 1.80–120).

Such foundation legends are frequently viewed suspiciously today as inventions serving the purposes of their recounters, for example, as a justification for the Athenian naval empire of Thucydides' day. Crete was then at its nadir, however, as a result of constant, brutal internal warfare, and it was considered a wild and barbarous place by other Greeks. Knossos itself seems to have been occupied sparsely at best in the Archaic and Classical periods. Accordingly, it is hard to see what contemporary interest an invented Kean claim of Minoan descent would have served or why anyone elsewhere in the fifth century B.C.E. would have regarded a Cretan precedent as a justification for the Athenian empire. Athens itself credited its hero Theseus with ending

the barbaric demand of Minos for seven Athenian young men and seven young women annually to be sacrificed to the Minotaur. In any event, centuries earlier, both Homer and Hesiod, neither of whom was an Athenian, described a Minos who ruled over a wide area. Hesiod, writing around 700 B.C.E., portrayed a Minos who was the most royal of all kings, who ruled over most of mankind (attributed to Hesiod by Plato, see Pl. *Minos* 320d). Herodotus said that he had heard in various places that Minos used his subjects on the Aegean islands to man his ships when required (Hdt. 1.171). (Herodotus would certainly have found such accounts credible, for in his day both the Athenian and Persian empires employed ships crewed by subjects or provided by subject polities, and Greek polities frequently enslaved the inhabitants of port sites they had conquered.) Ephoros of Kyme on the Anatolian coast, writing in the fourth century B.C.E., said that the site of Miletus was founded by settlers from Crete, led by the brother of Minos (*FGrH* 70F127). In LM IA, Miletus was a Minoan colony in all respects (see above) and abundant Minoan material has been found at Erythrai farther north, a port site with its own tradition of Minoan foundation (Paus. 7.3.7).

Conclusions

Clearly, there were varying degrees of Minoan domination, colonization, influence, and contact in LM IA, ranging from Kythera, Kea, Trianda on Rhodes, and Miletus, where the Minoan element seems all encompassing in this period, to the somewhat different situation on Thera, where certain local traditions are observable, to Iasos in Caria, Mikro Vouni on Samothrace and Koukonisi on Lemnos, where local populations and practices are clearly evident. That such differences in degree and extent of Minoanization exist between sites is unsurprising and indeed inevitable, given the differing trajectories, inhabitants, and functions of the sites. Of course local rulers and elites also differed, along with their connections to Cretan rulers and elites. Finally, a measure of agency must be

allowed to artists, artisans, and craftspeople, along with other inhabitants at each site.

How should the commonalities and differences in Minoanization at the various sites be assessed in considering the likelihood of a Minoan thalassocracy at the beginning of the Late Bronze Age? Could the general Minoanization of the sites discussed be the result not of the arrival of Cretans, but rather of the total absorption by Cycladic elites and populace of Minoan culture, indeed a desire to proclaim oneself Minoan, a sort of "Grand Versailles effect"? Preexisting peripheral elites often see the presence of more powerful, wealthy and culturally advanced neighbors as beneficial to their local interests. For island polities, the diminution of piracy and a consequent dramatic

increase in sea trade would provide special benefits. A “tithe to Minos” may have seemed a reasonable price to the inhabitants of the island sites for participating in Minoan prosperity. Moreover, Minoan religion and ritual may have been attractive, both in themselves and from the standpoint of the local ruler for the accretion of prestige and authority that direction of, or participation in, such rituals may have provided. Empires for their part often choose to maintain control through local elites. Aegean history provides examples from the Roman, Byzantine, and Venetian periods.

The prominent role of religious belief and cultic ritual in Minoan culture and society requires special attention. Evidence of cultic activity is omnipresent on Crete, from the great capital and cult center at Knossos to the other major sites from Chania in the west to Hagia Triada in the south to Zakros in the east, and to the great sanctuaries/cult centers at Juktas and Kato Syme, cave sanctuaries, the numerous villas, country houses, and rural feasting sites such as Nopigia (Drapanias), discussed above. The nature of the space at palatial and other main buildings devoted to cultic activity, the cultic paraphernalia, such as bronze double axes taller than a human being and the horns of consecration, the treasures found in the Temple Repositories in the palace at Knossos, and the Neopalatial wall paintings, rings, and seals depicting religious activities all speak to the extent of the resources devoted to cultic observance. The massive evidence for Minoan cult practice at Akrotiri on Thera was noted above.

Jeffrey Soles (1995) has proposed that in the Neopalatial period Knossos was the center of the Minoan cosmological world. Annual religious festivals that included the presence of the whole population are known from Early Dynastic Mesopotamia (Pollock 2003, 25). If the great ritual events were calendrical, then it seems likely that they would have been celebrated simultaneously throughout the Minoan world, including sites on the Cyclades, Dodecanese, and Anatolian coast. As Minoan Crete under the direction of Knossos grew in power, wealth, technology, trade connections, numbers and quality of weapons, ability to muster large numbers, and general sociopolitical complexity, its cosmology and rituals spread throughout the Aegean.

Both processual archaeology and postprocessual, postmodernist critique have prioritized cultural

particularism, societal variability, and local perspectives as opposed to broader regional and inter-regional patterns. What requires explanation with regard to Aegean sites in LM IA, however, is not the inevitable differences between sites, but rather the common basic elements noted, covering so many aspects of daily life, of ways of making and doing, of cultic practice and iconographic depiction, and of administrative practice including Linear A script, sealing systems, dispatch of sealed documents from Knossos, and weights and measures. Acculturation occurs, after all, as a result of living together over time. Cretan ways of making and doing are often complex and not easily mastered. With respect to all the Aegean sites discussed, impulses apparently run almost exclusively in one direction, emanating from Crete. There seems very little transfer of aesthetics, beliefs, styles, technologies, or ways of behaving from the rest of the Aegean to Crete at the beginning of the Late Bronze Age. Few would deny that at least some of the sites discussed should be described as Minoan colonies, for example Kastri on Kythera and Miletus.

Moreover, it seems clear that Crete under Knossos was a “great power” in the Aegean world at the beginning of the Late Bronze Age, with an enormous advantage vis-à-vis other island sites in population, wealth, weapons, technology, literacy, administrative capacity, and access to the knowledge and skills of the Near East and Egypt. The population of Crete has been estimated at between 75,000 and 150,000 at the beginning of LM I, in contrast, for example, to about 250–300 at Hagia Eirene and less than 1,000 on the whole island of Kea. The advantage in numbers and weapons was surely relevant, if the depictions of warfare in such Minoan or Minoan-inspired works as the miniature maritime wall painting from Akrotiri (Fig 12.7), the Siege Rhyton (Fig 12.6), the inlaid daggers, various seals, and the Town Mosaic from Knossos are any indication. (The evidence for the universality, frequency and destructiveness of warfare in both pre-state and state societies in antiquity in general is set forth in detail in the classic work by Lawrence Keeley [1996].)

Prior to the apparent Knossian extension of control over all of Crete at the end of MM IIB, there is evidence of people fleeing to extremely inaccessible hilltop sites such as Katalimata in East-Central Crete to escape some severe threat, perhaps the



Figure 12.7. Detail of the Miniature Fresco from Akrotiri, Thera. Dumas 1992, fig. 26.

threat of captive labor under Knossos (Fig. 12.8). (The Katalimata ascent is so perilous that on one occasion a trained mountain-climbing guide refused to undertake it [Nowicki 2008, 77–80].) Indeed, there was even an attempt to construct a fortress at this site in MM IIB. The taking of captives for slave labor was endemic throughout the history of the Aegean Sea, and indeed of the Mediterranean (see generally Horden and Purcell 2000). The seizure of captives in great numbers at various times in the Classical period by Athens, Chios, Corcyra, and Delos provide obvious examples (Horden and Purcell 2000, 390–391). Captive labor/slavery is attested as early as the Late Uruk period ca. 3350–3000 B.C.E. and Early Dynastic IIIb (pre-Sargonic Lagash, ca. 2500–2340 B.C.E.; see Englund 2009, 5–6). Egyptian, Near Eastern, Hittite, and Mycenaean texts describe the taking of captives or their labors. It would be surprising if Minoan Crete were an exception to the common practice.

Minoan Crete is the only complex civilization in history to have arisen on an island distant from other centers. The power, wealth, and prestige of Crete, however, was dependent on overseas sources for the inputs of copper and tin required for the dominant technology of the Bronze Age. It hardly seems credible that a society such as existed on Crete in the Neopalatial period would have failed to act to secure the sea-lanes, the ports to serve both as stopping places and bases from which to attack pirates, and the entrepôts necessary to obtain the essential inputs. The planning and investment would surely have included: (1) providing ships

and crews suitable for long-distance trade, together with the necessary ship sheds, shipwrights, and supplies of everything from sails, ropes, and anchors to provisions; (2) producing goods for gift or exchange, including luxury objects such as those depicted arriving at the court of the pharaoh in wall paintings in the tombs of Egyptian viziers in the LM IB period (Matthäus 1995); (3) establishing relations with foreign courts and ports; (4) protecting trade routes through occupying potential pirate bases and, when necessary, raiding others; and (5) maintaining chains of colonies, settlements, or ports of call on the sea routes to the metal sources.

At the very least, none of the Aegean sites discussed could have acted in a manner opposed to the interests and desires of Minoan Crete at the beginning of the Late Bronze Age. Rather, it seems likely that each of the sites discussed played a special but complementary role within the Minoan ambit. Those who would deny the existence of a Minoan thalassocracy in any form must believe that Crete at the height of its power lacked either the ability or the incentive to dominate the Aegean Sea and establish colonies. The weight of evidence suggests that neither proposition can be correct. Cultural emulation via the agency of local elites and populace is not a satisfactory explanation for the degree and extent of Minoan impact.

A contrary position was set forth some decades ago by Colin Renfrew, the Disney Professor emeritus at Cambridge University and godfather of processual archaeology, in his work on peer polity interaction and competition. Lord Renfrew argued that the islands of the Cyclades could only have been prosperous if independent, reasoning that an imperial power or colonizer would seize all production beyond subsistence, leaving the islands impoverished. During the Minoan period, islands such as Thera clearly flourished; accordingly there could have been no Minoan empire (Renfrew 1978, 1986). Such a view appears profoundly ahistorical. Even within one imperial administration at one time, great differences may exist: consider, for example, the contrast between the benign Venetian rule in the Ionian islands with the harshness of Venetian rule in the Cyclades. For the most part the Cyclades have flourished when a dominant power was able to suppress piracy and warfare and encourage trade. Considering



Figure 12.8. View from southwest of Monastiraki Katalimata, East Crete: (C) Terrace C. Nowicki 2008, pl. 1B.

the Aegean throughout its history, it appears that Renfrew took the exception—the relative prosperity of the Cyclades in the eighth to sixth century B.C.E., when there was no dominant power—and turned it into the rule. As a general rule, the islands of the Aegean flourished when a dominant power was able to suppress warfare and piracy and secure the sea-lanes, as noted above.

We thus return to the grand themes set forth at the outset to contend that Minoan Crete, with its great skill in weapons manufacture and frequent depiction of warfare and sieges, provides an example of the ubiquity of warfare in human history; that participation in the Knossian Minoan thalassocracy was not always voluntary; that the establishment of secure ports of call and suppression of piracy, so frequently and significantly present in

the history of the Mediterranean, was a necessary condition for the creation of the thalassocracy; that the Minoan search for raw materials, in particular copper and tin, was a major impetus for the establishment of colonies of one form or another and/or control of critical port sites; that Minoan cultic ritual and feasting, as indicated by the major investment of labor and materials involved in the creation of urban, rural, mountain, and cave shrines and the routes of access to them, and the astounding numbers of conical cups present everywhere, was a potent factor in the integration of the Aegean sites we have examined into the Minoan realm; and, finally, that the best explanation for all the phenomena considered is the existence of Minoan colonization and a Minoan seaborne empire, the Minoan thalassocracy of Greek tradition.

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